



Financial accounts of Hungary

2014





Financial accounts of Hungary (Data, analyses, methodology descriptions)

2014



The purpose of this publication is to introduce the methodological background, content, compilation practice and possible use of financial accounts constituting part of the national accounts, in order to make this dynamically developing statistical area known by and useful for the largest possible number of users.

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Introduction

PURPOSE OF THE PUBLICATION

Pursuant to the division of labour between the statistical agencies, the compilation of financial account statistics being part of the national accounts is in Hungary the responsibility of the Magyar Nemzeti Bank. Since April 2003, the bank publishes quarterly, with a quarterly time lag the financial account statistics of the national economy and certain sectors, on the financial worth and on the components of the changes of it. The *Hungary's financial accounts 2005* publication was designed to draw the user's attention to the new statistics, which the central bank marked at once for summary, data bank and a tool aiding the analysis. The updated version of the publication published in 2008 renewed, updated the knowledge presented in the previous volume, and reviewed the developments and results of the past three years. In addition to carrying further the time series and analyses, the current publication reviews the impacts of the methodological changeover of 2014 on the statistics and takes a look at the financial accounts renewed and expanded based on ESA 2010.

DEVELOPMENTS

The developments of the past years in the area of financial account statistics in the European Union grouped around the comprehensive methodological changeover of 2014. Through the renewal of the methodology, the detailedness of financial accounts significantly increased, special purpose enterprises and other entities performing special activities had been transferred from the non-financial corporations to the sector of financial corporations, new financial instruments and sectors had been created, the

statistical recording of wealth transfers between pension funds and the state changed and the rules related to the establishment of general government deficit and debt. This publication reviews in detail the methodological changes which impacted the structure of the reports on the Hungarian financial account statistics, as well as the content of data and indicators. Linked to the methodological changeover there were also other developments in the statistics, which improved the data quality and the harmony between statistics. In the past year complete harmony was created between the central bank's balance of payments statistics, securities statistics and financial account statistics. Significant progress was made in the area of the observation of foreign financial instruments of households and of the more precise identification of inter-company financial relations.

DATA UPDATING

The information contained in this publication generally relate to the period between 1990 and 2014, and reflect the status of the financial accounts as of December 2015. In addition to own data collections and data receipts, the financial account statistics of the Magyar Nemzeti Bank relies vastly on statistical data sources and products of other central bank statistics, thus, the changes of all these modifies also the data on financial accounts. Accordingly, the disclosed data on financial accounts – primarily those relating to the last two years – may change in the subsequent publications. Therefore, it is advisable to cross-check the data included in the publication with the statistical data and time series published on the MNB's website and updated quarterly, and to use this latter in the case of possibly larger discrepancies.

1 Methodology

1.1 The place of financial accounts in the system of national accounts

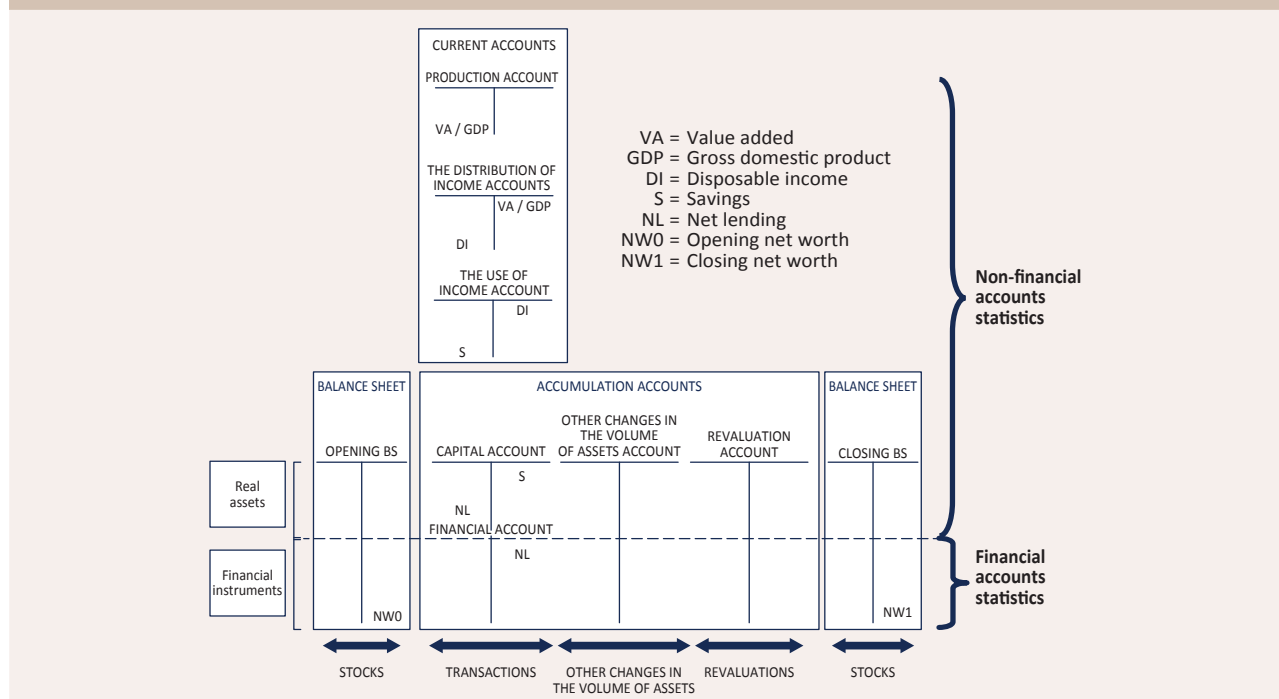
The system of national accounts includes such internationally accepted accounting recommendations based on economic principles, by means of which the functioning of an economy can be presented in full. The set of accounts presents the entire economic cycle from the production and income generation through the distribution and redistribution of the same to the use for end consumption. It finally presents the use of any amounts that remained in the form of savings, which can take place by the accumulation of both financial and non-financial assets¹. Within this accounting framework the changes in the income and worth accumulation made in financial assets are described by the integrated financial accounts statistics. Due to the close cause-and-effect relationship between the non-financial and financial accounts of national accounts – in order to

understand the role and features of financial accounts – it is worth reviewing the full series of accounts.

STRUCTURE OF THE NATIONAL ACCOUNTS

In terms of structure, the system of accounts can be divided into current accounts, accumulation accounts and balance sheets. Accounts describe the functioning of economic sectors (sub-sectors) – ultimately the entire economy – in a given period (year or quarter) in the form of flow data, while balance sheets show the status of the national economy in a given point of time (at the end of a year or quarter) through stock type data (Chart 1-1). Basis of the chain (series) of accounts is that each account shows the resources and uses², the difference of which is balanced by a so

1-1. Chart
Structure of national accounts



¹ Changes other than those arising from savings are supplemented by the *other changes of assets*. See below.

² In general, the resources are to be considered as the revenues, while uses as the expenditures of entities.

called balancing item, generally on the uses side of the account, and this balancing item is carried forward to the next account as the opening item of the resources of the account.

Current accounts describe the process of production (income generation), income distribution and redistribution, and the use of income. Accordingly, production account captures how *value added* is generated as the difference of output (entirety of products created and services rendered) and the intermediate consumption. Income distribution accounts show the (primary) income due to the economic operators for their contribution to the value added, and the transfers (secondary income) that supplements their *disposable income*. The primary income is the income received by resident units for their direct contribution to the production, as well as the income received by the holder of financial assets or natural resources in exchange for making the financial assets or natural resources available for another entity. The secondary distribution of income account (actually the welfare account of the national economy) shows the redistribution of the primary income balance of an economic sector in the form of current income-, wealth-, and other taxes and social contributions and benefits and other current transfers. The uses of income account records the proportion of disposable income spent by the economic entities on consumption. The balance of income is the not consumed (not used) income, in other words the *savings*.

In the series of accounts the *accumulation accounts* are used for monitoring the flow of saved income into real and financial assets. The reasons for the change in the real and financial assets are shown by the capital account, and its balance is the *net lending/net borrowing*³ obtained as the difference of savings and investments. The capital account allows to observe the extent to which the balance of the acquisition and

disposal of non-financial assets had been financed from savings and/or capital transfers. The balancing item of the capital account – in theory – must correspond to the balance calculated from the financial transactions recorded on the financial accounts. The financial account shows by type the changes in the financial assets and liabilities arising from transactions; the net lending/net borrowing of economic sectors (measured from the financing side) results from this.

The *other changes of assets account* shows the changes in the assets and liabilities of the entities which are not related to savings and the voluntary transfer of asset elements (i.e. not to transactions). The parts of the account type is the revaluation account and the account of other volume changes. The changes originating from the price changes of real and financial assets and liabilities are recorded on the revaluation account. The flows recorded on the account of other volume changes of assets impact the balance sheets mostly through the effects of the occurrence of special event of non-economic origin. Stock changes arising from other volume changes may be rating- or classification changes due to natural disasters or settlement reasons.

Balance sheets complete the series of accounts by showing the stock of financial and non-financial assets at the beginning and at the end of the accounting period. The balance sheet shows the value of assets and liabilities for a certain point of time (for the end of a year or quarter). The balance sheet is compiled at the beginning and at the end of a given accounting period; the opening stock at the end of the period corresponds to the closing stock prepared at the end of the previous period. The part of the balance sheet showing the stock of financial assets and liabilities is prepared within the scope of the financial account statistics. The balancing item of the financial assets and liabilities is the *net financial worth*.

³ The balance of capital transfers is also accounted on the capital account, affecting net lending/net borrowing.

1.2 The relation between the financial accounts and other central bank statistics

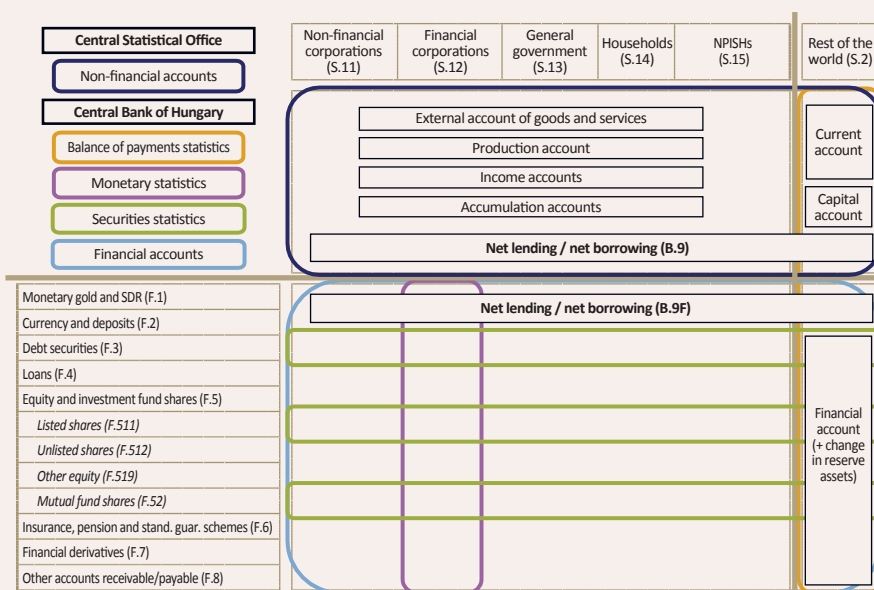
In Hungary, two institutions are responsible for the compilation of national accounts: non-financial accounts are prepared by the Hungarian Central Statistical Office (HCSO), and financial accounts are prepared by the Magyar Nemzeti Bank. The non-financial and financial assets are linked through the indicator of the net lending/net borrowing. Theoretically, the indicator calculated from two sides is the same, as they describe the same economic phenomenon by means of different methods. In practice, there is always a discrepancy between them, which stems from different statistical errors.

In addition to financial account statistics, the Magyar Nemzeti Bank prepares and publishes also balance of payments statistics, securities statistics and monetary statistics. All three statistical areas capture specific sections, sectors or instruments within the financial accounts which constitute the national accounts, hereby serving as an important source of data. The financial account and stock data 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 the securities statistics present the holder/issuer sector structure and flow data of major securities issued/held by residents, and the monetary balance sheet statistics comprise financial assets and liabilities of monetary financial institutions (central bank, credit institutions, money market funds) and of insurance companies and other investment funds. (Chart 1-2)

Certain central bank statistics include data partially for the same instruments and sectors. If data for a specific instrument or sector is available from multiple data sources, the data source hierarchy used when compiling the financial accounts will determine which data to include in the financial accounts. About the hierarchy of data sources Section 1.6 *Data sources of financial accounts* provides more information, but overall, it can be stated that, apart from a couple of exceptions securities statistics is at the top of the hierarchy, followed by the balance of payments statistics and the monetary statistics are at the bottom of the hierarchy.

Chart 1-2
The relation of financial account statistics to other statistics



In addition to being an important data source of financial accounts, all three central bank statistics have independent products as well. In terms of content, these products can be compared to the corresponding parts of financial accounts. However, the comparison is made difficult by *methodological and technical discrepancies*, which result usually in discrepancies also in the published data.

Although the system of national accounts represents the joint methodological basis of the statistical areas describing financial instruments, each statistical field has its respective methodology matching better the economic phenomena described by it and the needs of the target audience of users. The methodology of statistical fields consciously and permanently undertakes or accepts the discrepancies compared to the methodology of national accounts at an international level for presentation or other practical purposes. The resulting differences are called *methodological discrepancies*.

The reasons of methodological discrepancies can be attributed to the fact that, peer statistics had been created from the very beginning as monthly or quarterly statistical systems with short time lag in order to support quick analysis and decision making. These statistical fields therefore provide regular, prompt information on specific sectors or instruments, 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.

On the other hand, considering the 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 decade, in the absence of standard, comprehensive methodological regulations, in most countries these sub-statistics

merely supplement the traditionally compiled annual national accounts.

The *technical reasons* are mostly the local and temporary deviations of statistical fields from their respective current methodological requirements. 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.

DISCREPANCIES BETWEEN FINANCIAL ACCOUNTS AND SECURITIES STATISTICS

In 1997, the securities statistics of the MNB were expressly prepared for the purpose of supporting financial accounts and satisfying their data requirements. The main data sources of the securities statistics presenting the security stocks and the components of the changes in stocks issued by residents and non-residents broken down by holder and issuer sectors are, in addition to custodian reports, the direct data supplies of resident security issuers and security holders.

The securities statistics publication currently shows the data of instruments issued by residents, including investment fund shares, quoted shares, government securities and other debt securities (corporate, local government and bank bonds and mortgage bonds). In comparison with this, unquoted shares, other equity, as well as securities issued by non-residents but held by residents are presented in the financial accounts as an excess (from data sources other than securities statistics).

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 statistics). In the past years there were several changes that practically eliminated the discrepancies between the two statistics. The securities statistics presentation has also changed. The stock of quoted shares held by the issuer institution

is currently no longer part of the stock in circulation, it is indicated in the securities statistics products for information only. Furthermore, securities statistics present the impacts of securities repurchase and securities lending transactions between the different sectors in line with the methodological requirements of international statistics, thus, the securities statistics are now in line with the financial accounts also in this respect.

Only one significant methodological discrepancy remained between the two statistics, namely in the case of transaction data of shares. The securities statistics show only the actual purchase and sale turnover as transaction, while in the financial account statistics through the balance of payments used as primary data source the reinvestment of earnings – the direct investor's share of the retained earnings – forms the part of the transactions of foreign direct investments.

The single noteworthy technical discrepancy is related to the recording of transactions. Securities statistics show the transactions at monthly average price (in accordance with the transaction calculation principles followed in several statistics). On the contrary, financial account statistics present the securities transactions related to the general government at their actual transaction value. Namely, the general government belongs to the extremely monitored sectors, thus, it is necessary to ensure the most accurate presentation of transactions and the complete harmony of financial and non-financial accounts.

DISCREPANCIES BETWEEN FINANCIAL ACCOUNTS AND THE BALANCE OF PAYMENTS

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. Since the methodological changeover in 2014 there has been no significant difference in the methodology of the two statistics.

Despite of this, there are still *technical discrepancies* between the data reported by the two statistics in the periods before 2013. On the one hand, these reflect the previous differences of methodological requirements, namely, in the financial accounts the methodological changes have been introduced retroactively along the complete time series, while this was not performed

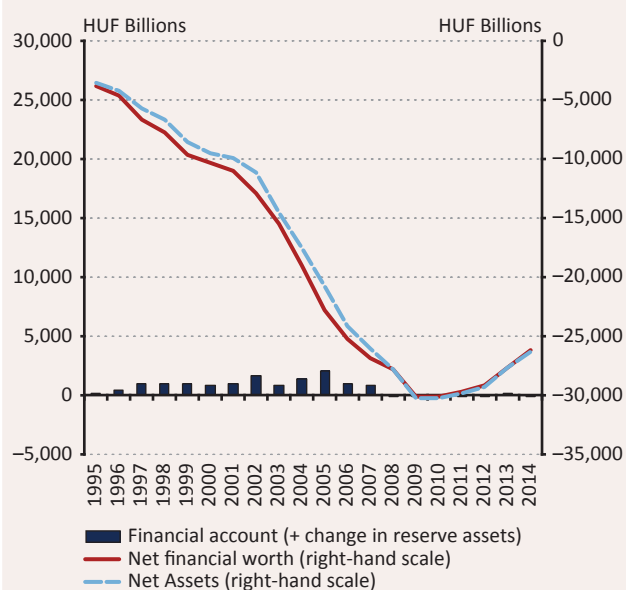
in the balance of payments. On the other hand, in the period before 2013, in certain cases the financial account statistics used data sources other than those of the balance of payments (for instance when determining the insurance, pension and standardized guarantee schemes). From 2013 on financial accounts statistics take all data related to non-residents from the balance of payments. Ensuring harmony between peer statistics namely overrode all previous considerations related to data source hierarchy, and the complete harmony of financial accounts and balance of payments has been realised. Although as a consequence of the differing data reporting and revision politics of the two statistics there may still be slight discrepancies, these however exist only temporarily, until both statistics carry over the modifying items in their respective figures.

In addition to the above, there are also *presentation discrepancies* between the two statistics stemming from the different function of the two statistics. Basically, the balance of payments statistics apply the *sectoral breakdown* defined in accordance with the methodology of System of national accounts; however, they consolidate the sectors in terms of presentation and distinguish only four sectors in their publications. Although from four of the main sectors in the case of two the breakdown to sub-sectors has also appeared in the balance of payments (the other monetary institutions sector was broken, and the other sectors were divided into other financial corporations and non-financial sectors), this does not in the least mean such a detailed breakdown as in the case of financial accounts. Considering *instruments*, a much greater discrepancy subsists. The instruments in the financial accounts can be compared to those included in the balance of payments publications only clumsily. Namely, the balance of payments statistics classify them into functional categories by the extent of ownership or control (direct capital investments, portfolio investments, other investments), while in the financial accounts the basis of the classification is the type of instruments (loan, deposit, securities, equity, etc.) which is displayed in liquidity order (table 1-1).

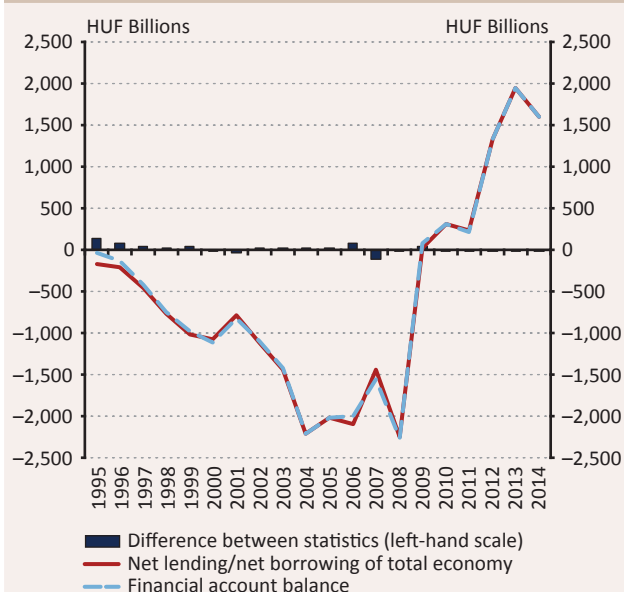
Due to the above detailed presentation discrepancies the two statistics can be compared in numerical terms at the level of balances. The concept of net financial worth included in the financial accounts corresponds to the concept of net assets in the balance of payments (Chart 1-3), while in the case of transactions the domestic net lending/net borrowing can be compared to the financial account balance of the balance of payments (Chart 1-4).

Table 1-1**Breakdown of financial accounts and balance of payments (financial account data of balance of payments) by financial instruments and sectors**

Sector breakdown		Instrument breakdown	
Financial accounts	Balance of payments	Balance of payments	Financial accounts
Central bank	Central bank	From Portfolio investments: Debt securities From Reserve assets: Securities	Debt securities
Deposit-taking corporations	Other MFIs		
Money market funds			
Non money market funds	Other sectors	Financial derivatives and employee stock options	Financial derivatives
Other financial intermediaries		From Portfolio investments: Equity and investment fund shares From Direct investments: Equity From Other investments: Other equity	Listed shares, Unlisted shares, Other equity, Mutual fund shares
Financial auxiliaries			
Captive financial institutions			
Insurance corporations			
Pension funds		From Direct investments: Debt instruments From Other investments: Currency and deposits, Loans, Insurance, pension schemes, and standardised guarantee schemes, Trade credits and advances, Other	Monetary gold and SDR, Currency and deposits, Hitelek, Insurance, pension and standardized guarantee schemes, Other accounts receivable
Non-financial corporations			
Households			
NPISHs			
Central government	General government	From Reserve assets: Monetary gold and SDR, Reserve position in the IMF, Currency and deposits, Other reserve assets	
Social security funds			
Local government			

Chart 1-3**Comparison of net assets of balance of payments and the net financial worth of financial accounts**

Sources: MNB.

Chart 1-4**Comparison of financial account balance of balance of payments and the domestic net lending/net borrowing of financial accounts**

Sources: MNB.

The primary reason for the still existing discrepancies between stock data in the period before 2013 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. Prior to 2004, differences in net lending/borrowing are mainly due to the (timing) differences between the cash-flow based and accrual accounting of EU funds. To a lesser extent, the different approach of securities accounting also caused discrepancies between the balancing items in the past.

Regarding the valuation of shares and other equity, there are technical differences between the stock figures presented in the balance of payments and in financial accounts before 2008. Due to the unique characteristics of the data collection system, until the 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 data sources (business accounting balance sheets, securities statistics reports). Although market pricing of unquoted shares is not enforced in financial account statistics, 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). After 2008, as a consequence of harmonisation such discrepancies no longer occurred.

Until 2004, balance of payments statistics included EU funds granted to Hungary based on a cash-flow approach. National accounts, and from 2004 also the balance of payments do not recognise 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.

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 also eliminated.

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, money market funds and insurance companies. Aside from the insurance companies, the source of data is the supervisory reports based on the accounting records of institutions, while in the case of insurance companies a special data collection required by the MNB. While the monetary balance sheet statistics generated from these data comply with the international regulations of monetary and financial statistics, they are not completely consistent with the methodology of national accounts.

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 shares and equities owned by monetary institutions are shown as financial assets on the assets side, on the liabilities side their own funds are shown as capital and reserves consistent with their accounting balance sheet. By contrast, financial account statistics record shares and other equities 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 Hungarian 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). Contrary to this, financial account statistics present interest-bearing instruments (deposits, loans and securities) at gross market value increased with accrued interest.

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.

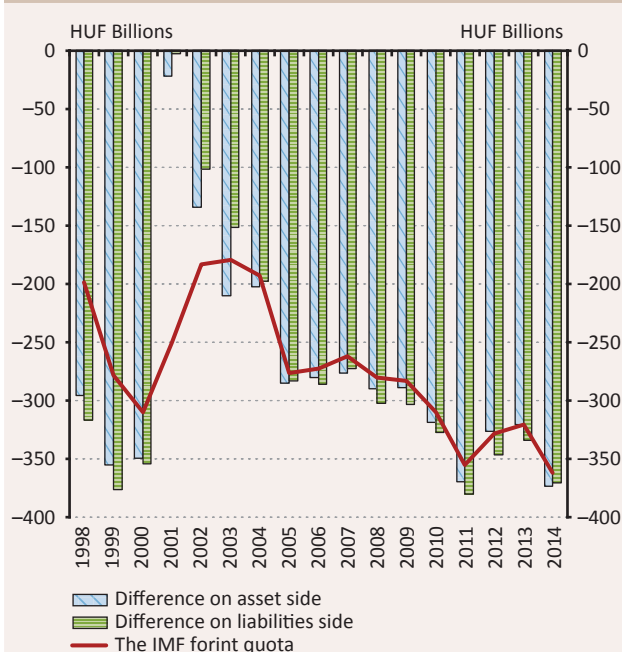
In monetary statistics, all business accounting balance sheet items, which cannot be classified under any existing instrument category, are presented as other assets and other liabilities. Therefore, in addition to accruals and technical items (as described above), provisions, value adjustments and valuation 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.

Based on this it is perceivable that there are many and significant methodological and practical discrepancies between financial accounts and monetary balances.

Among others, this also contributes to the fact that, monetary balances are at the lower level of data source hierarchy compared to the other statistics. As a consequence, when comparing monetary statistics and financial account data, more significant discrepancies can be observed.

Comparing the *statistical balance sheet of the Magyar Nemzeti Bank* being part of the monetary balance statistics with the financial account statistics, significant discrepancies can be detected both on asset and on liabilities side (Chart 1-5).

Chart 1-5
Discrepancies between the MNB data in the financial accounts and the total of the MNB statistical balance sheet



Sources: MNB.

The main component of the discrepancies between the two statistics is the forint part of the IMF quota shown on both sides of the MNB statistical balance sheet, but not shown in the financial accounts at all. Namely, this item is not included in the balance of payments statistics, thus, for the sake of approximating the two statistics, this item was derecognised also from the financial account statistics in 2011 with retrospective effect. (The contribution of IMF member states made in domestic currencies are re-invested, deposited at the national central bank, therefore it is shown both as receivables and liabilities in the balance sheet of the central bank. The methodological manual of balance of payments does not consider the part of the IMF quota paid in national currency as financial instrument due

to its conditional financial assets and liability character in economic terms, therefore it is not included in the balance of payments statistics.)

In 2001 and 2002 the impact of the discrepancy related to the forint part of the IMF quota was partially counteracted by the different recognition of receivables from the general government (HUF 250 billion and 83 billion) required due to the topup obligation of MNB equalization reserves in the monetary balance statistics and financial accounts. Based on the MNB Act (according to the currently valid provisions) negative equalization reserves generate payment obligation on the part of the central government to be reimbursed by 31st March in the next year. In line with the regulation, the topup obligation in the financial account statistics is recognised at the end of the given year, in contrast to the MNB statistical balance sheet, where these items are entered only subsequently. Thus, on the assets side in the financial accounts of the MNB receivables from the central governments was shown as a surplus while on the liabilities side the negative value of the equalization reserve being part of the instruments of shares was eliminated (topped up).

Discrepancies existing over and above the forint part of the IMF quota and the accounting for the receivables related to the topup of equalization reserve stem mostly from the different valuation rules, the majority

of which exists in the case of securities, shareholdings and financial derivatives.

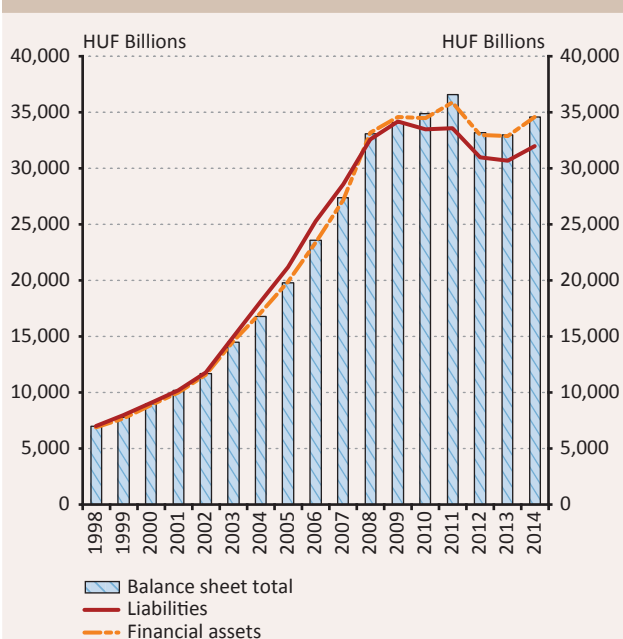
In the case of *credit institutions* we can conclude that the discrepancy between the balance sheet total in the monetary statistics and the value of financial assets in the financial account statistics is smaller than between the balance sheet total and the liabilities (Chart 1-6).

On the one hand, the reason for this is that the items on the assets side that are included only in the monetary statistics are smaller. On the assets side the most important such item was the impairment loss recognised on the assets side until 2010 and the value of real assets; this latter is insignificant in the case of credit institutions compared to the balance sheet total. The items not shown on the liabilities side are in the financial accounts the provisions and from 2010 the value of impairment loss of assets. As the consequence of this latter, the gap between the monetary balance sheet total and the value of liabilities recognised in financial accounts started to widen in 2010, because the value of impairment losses more than doubled in the past few years.

On the other hand, in the case of credit institutions the discrepancy between the data of securities (especially shares) recognised in the statistical balance sheet and in the financial accounts is significant as the result of their different pricing. Since the value of shares subject to market valuation (i.e. credit institution quoted shares) in the financial accounts 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-type differences, which are observed at the level of individual instruments or partner sectors and involve smaller amounts.

Financial account statistics distract the loan and deposit data of the central government from 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

Chart 1-6
Differences in the balance sheet total of credit institutions and the assets and liabilities figures in the financial account



Sources: MNB.

collections the effect of the reclassification can be enforced in a forward-dated manner only. For the transitional period financial account 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.

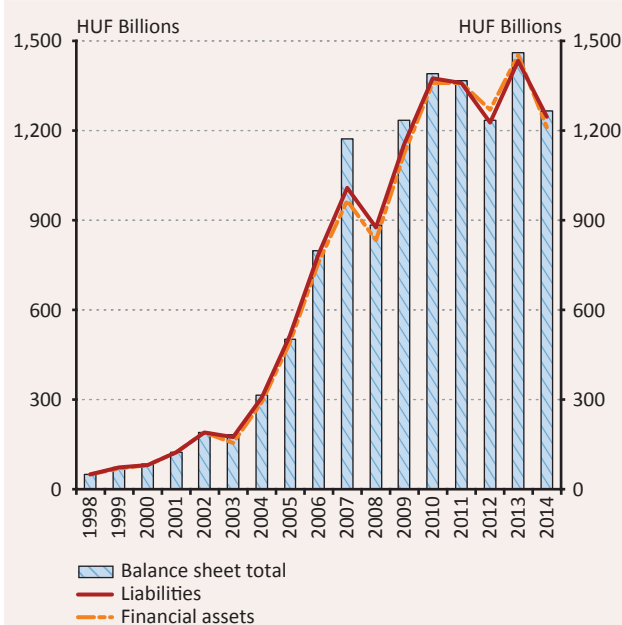
Another discrepancy concerning the relationship of central government and credit institutions is the differing treatment of the Hungarian Development Bank (MFB). In the financial account statistics, namely, special adjustments are accounted regarding the assets and liabilities of the MFB, as the investments made by the MFB on behalf of the state must be recognised as state investments and not as credit institutional investments. These investments and the underlying capital values on the liabilities side are derecognised from the MFB balance sheet in the financial accounts, thus the MFB balance value is lower in the financial accounts than in the monetary statistics.

In the case of credit institutions the consolidation difference between the two statistics result also in a technical discrepancy. The balance sheet data of monetary 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 rating the items on the liabilities side as higher quality data, and are presented those both as assets and liabilities. Considering the instruments involved (deposits, loans, other receivables), the consolidation error impacted only 3 percent of the stocks in the past years totalling to 20-80 billion forint. A similar consolidation error can be observed between credit institutions and money market funds, 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). In the relation of MNB and credit institutions the financial account statistics uses the data of the central bank, which again causes

discrepancies compared to monetary statistics relaying on the own reports of credit institutions.

As opposed to credit institutions the balance sheet total of *money market funds* shown in the monetary statistics approximates to the stock level of the liabilities in the financial account statistics (Chart 1-7), discrepancies are greater compared to financial assets. Financial account statistics do not use in essence the balance sheet data of money market funds shown in the monetary statistics, instead they integrate securities statistics, balance of payments and credit institutional balance sheet data in their products on both the assets and liabilities side. In the case of this latter consistency is to observe after all, because the majority of the money market funds' liabilities originates from investment fund shares issued by the funds, which are recognised both in the securities statistics used by the financial accounts and in the balance sheets of money market funds at identical (market) value, thus no discrepancy exists between the two figures. Other liabilities caused significant discrepancies only in 2007 and 2009.

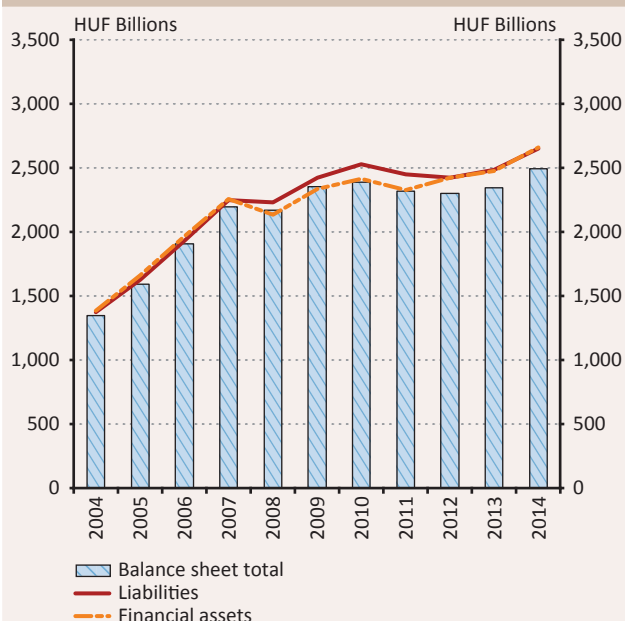
Chart 1-7
Differences in the balance sheet total of money market funds and the assets and liabilities figures in the financial account



Sources: MNB.

In the case of *insurance companies* (Chart1-8), both the financial assets and liabilities (i.e. stocks of financial

Chart 1-8
Differences in the balance sheet total of insurance companies and the assets and liabilities in the financial accounts



Sources: MNB.

accounts) are higher than the balance sheet total in the statistical balance sheet of insurance companies. Although in the case of insurance companies there are a few instruments (equities, insurance premium reserves, other receivables and liabilities) for which the financial account statistics use the figures shown in the balance sheet of the insurance companies for certain partner sectors, for the majority of them an alternative data source is used, where the assets and liabilities are recognised at market value and not at carrying amount. Although between 2008 and 2011 the value of financial assets in the financial accounts shrank to the balance sheet total (as the consequence of the crisis), the difference began to increase again in 2010 then settled at the previous level in 2012.

Institutional level discrepancy between the monetary statistics and the financial account statistics in the insurance sector is that this latter covers a wider scope of the insurance sector. In the insurance sector the financial accounts include also the insurance associations⁴, while monetary statistics does not include these institutions.

⁴ Insurance associations are voluntarily established entities supervised by the MNB, which operate on mutual basis in the form of association, perform insurance activity, but provided insurance benefits exclusively for their members in return for membership fee.

1.3 Methodological requirements and principles

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 global level. It provides a basis for the elaboration or revision of many other financial statistical methodologies, prepared in accordance with the IMF manuals (BPM and GFS) describing the compilation of the balance of payments statistics and the general government statistics, and the ESA manual representing the EU standard for compilation national accounts. The current 2008 version of the SNA will not contain any substantial modifications relative to the previously valid 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 (Regulation of the Parliament and Council) 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 currently valid manuals are the ESA2010, and SNA 2008 versions.

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 in the European Union by a Council Regulation, in that it details the contents of the Maastricht deficit (net borrowing requirement) and debt defined in the 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. From the end 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 applicable to national accounts govern the compilation and transmission of the general government's quarterly financial and non-financial accounts to the Eurostat.

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

The objective of statistics is to provide analysts, researchers and decision-makers with an undistorted picture of the financial processes and the 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 different from the valuation principles adopted in business accounting, where accounting value may be of several kinds, for instance it can be identical to purchase price or issue price. According to the approach applied for the preparation of national accounts, it is the current market value that best reflects the actual financial wealth of individual economic participants and at the same time allows for data comparison. The valuation of instruments is independent of which sector or economic operators they relate to, and whether or not they are on the assets or liabilities side of the balance sheet (symmetrical accounting and pricing). 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 is enforced irrespective of sectors and institution types in the national accounts, however, it is not necessarily identical to the method of business accounting. In statistics, the full smoothing of the “result” is not objective of accrual accounting, thus the effects of one-off events (extraordinary items, e.g. assumptions and releases involving capital transfer) are generally not spread in time. 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). When calculating interest, statistics follows the “debtor approach”, i.e. it calculates the income according to the conditions specified upon issue (nominal with coupon interest or issue discount/premium). 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 possibly 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 debt securities 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 income) and insurance technical provisions (regarded as other property income) 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 domestic 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 (balancing process). 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. Challenging the various data sources and the selection between them is not made generally when compiling the financial accounts (not as part of an equalization process), but only the figures of the selected data source (stable, high quality on the long term) are included in the financial accounts.

CONNECTION 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 (at the end of a quarter or year), 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:

opening stock + transaction + revaluation + other changes in volume = 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.

BALANCING INDICATORS IN THE FINANCIAL ACCOUNTS

The equal size of financial assets and liabilities in financial accounts ensures that the sum of the balance indicators computed as their difference is zero for the economy. (Taking account of the rest of the world 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 three types: flows resulting from transactions, revaluations and other changes in volume. Changes in net financial worth originating from transactions correspond to 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, funds, 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. (Accordingly, e.g. 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 sector 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.

1.4 Content of economic sectors

Institutional units are the smallest blocks of national accounts. These are economic actors, which own assets, incur liabilities, enter into transactions with other economic actors during the performance of their activities and independent accounting must be prepared for them. On the one hand, the classification of institutional units is based on the regional principle (resident – non-resident units), and on the other hand, the methodology classifies residents into sectors on the basis of their economic behaviour and characteristics. The main economic interest of residents is inside the territory of a specific country, while for non-residents it is outside of it.

RESIDENT SECTORS IN FINANCIAL ACCOUNTS

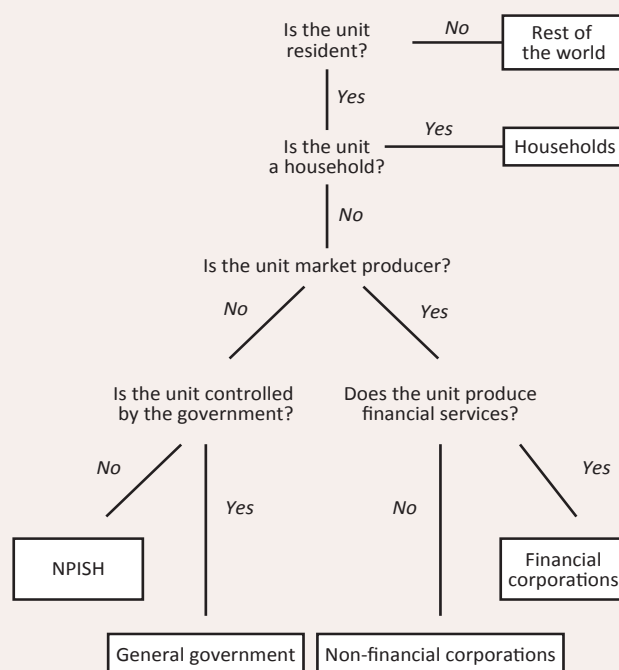
National account statistics classify resident economic actors into the five main sectors below (statistical codes in brackets): non-financial corporations (S.11), financial corporations (S.12), general government (S.13), households (S.14), non-profit institutions serving households (S.15). The Hungarian Central Statistical

Office, in charge of the sectoral classification in Hungary, separates the institutions in sectoral terms with the cooperation of the MNB, with special attention to the institutions to be classified into the general government (government sector) and the financial sector.

The classification of institutional units into economic sectors, the separation of sectors is done through a multi-level process (Chart 1-9). First, it is determined whether or not the resident economic entity is a household. The sector of *households* comprises primarily natural entities. These entities behave as the end consumers of goods and services and as the suppliers of the work force. The households sector includes individual entrepreneurs (sole proprietors) as well, as their economic behaviour (decision making and operations) cannot be separated from the private households which operate the enterprise. Persons or groups who produce goods and/or render services exclusively for own consumption are also included.

In the next step the institutional units which cannot be categorised into the households sector are separated

Chart 1-9
Process of classifying institutional units into sectors



according to whether or not they *pursue market-producer activity*. Market producer is any entity which sells the majority of goods and services produced by them at a price that impacts the volume of the products (and services) in supply and in demand on the given market. (To simplify this: the methodology does not consider as market producer the entities, whose sales revenue does not cover (on a longer term) 50 percent of the operational costs.) Market producers form the sector of financial and non-financial companies. Non-market producers are classified subject to the extent of governmental influence into the households or non-profit institutions serving households sectors.

From among the market producer enterprises *financial corporations* are the institutions which primarily pursue financial intermediary and/or auxiliary activity and provide financial services. Non-profit institutions helping the activity of financial service providers belong also to here. 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 Supervision and performing financial intermediary activity as a business. (In order to assist statistical data providers in their classification of their partners, the MNB publishes an up-to-date statistical list of all institutional units in the sector on its homepage).

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 and professional associations). Furthermore *notional corporations* which due to methodological reasons are not considered as institutional unity by the statistics are also recorded in the non-financial corporations sector. Such corporations are *notional corporations* established for the domestic real estate investments of non-residents, and the intervention organisation buying up agricultural products on behalf of the European Union.

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)
- credit institutions (S.122),
- money market investment funds (S.123),
- non-money market investment funds (S.124),
- other financial intermediaries (S.125),
- financial intermediaries (S.126),
- captive financial institutions (S.127),
- insurance companies (S.128) and
- pension funds (S.129).

The institutions of the financial corporations sector can be basically classified into three groups based on the type of financial service provided by them: financial intermediaries, financial auxiliaries and institutions providing other financial services not falling within the previous groups. Financial intermediation shall mean an activity where the institutional units acquire financial assets and assume liabilities through market transactions on own account. Financial intermediaries transform and/or re-group the acquired financial assets and assumed liabilities in their own balance sheet. Financial auxiliaries assist the financial intermediation by ensuring the circumstances and conditions of financial intermediation while not getting directly involved in the financial transactions (those do not affect their balance sheet). The other financial corporations group include institutions, which provide financial services only within a narrow scope, e.g. with the group of companies. In financial account statistics financial auxiliaries (S.126) and the other financial corporations (S.127) are independent sub-sectors, while group of financial intermediaries comprises seven sub-sectors. Financial intermediaries can be divided into monetary and non-monetary institutions. The central bank (S.121) and resident credit institutions (S.122), and money market investment funds compose the group of monetary institutions. In economic sense, this category includes those institutions which are capable of creating money. Non-money market investment funds (S.124), other financial intermediaries (S.125), and insurance companies (S.128) and funds (S.129) make up the group of non-monetary financial intermediaries.

The *central bank* (S.121) functions as the monetary authority of a specific country (the MNB in Hungary's case), which is responsible for the issue of the instrument of payment, the maintenance of its value, 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.

Credit institutions (S.122) are monetary financial institutions other than central bank, which participate in the financial intermediation by gathering deposits and/or substitutes for deposits, and through lending at own risk and/or securities investments. Banks, specialised credit institutions, cooperative credit institutions, home savings associations and branches of credit institutions belong to this sub-sector.

Money market investment funds (S.123) are institutional units, which issue shares as substitutes for deposits and invest at own risk primarily in money market shares, short term debt securities and deposits.

Non-money market investment funds (S.124) as institutional units issue shares— in contrast to money market funds—, which cannot be considered as close substitutes for deposits, and their investments are typically directed at longer term financial assets and real assets (generally real estate).

Other financial intermediaries (S.125) comprise the (non-monetary) financial corporations which participate in the business like financial intermediation but their liabilities are not shares, deposits or insurance premium reserves. This sub-sector comprises lending institutions dealing with long-term financing and institutions investing in securities, which collect their funds in the form of loans or securities. This sub-sector comprises primarily financial and investment corporations, stock market investment companies and securities issuers, furthermore Diákhitel Központ Zrt. (Student Loan Centre) is part of the sector as well. For practical reasons fund managers are recorded also in this sub-sector.

Financial auxiliaries (S.126) are financial corporations which do not participate in financial intermediation directly, but their activity facilitates financial intermediation. 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. Non-profit institutions harmonising or guaranteeing the activity of financial corporations (e.g. chambers, trade associations) belong also to here.

Captive financial institutions (S.127) are financial corporations established with a special purpose which provide neither financial intermediation nor financial auxiliary services. They do not pursue financial activity on open market or only within a narrow scope (mostly with the group of company), and have no real economy ties. This sub-sector is basically made up of holding companies and group financing entities. Typical assets and liabilities of the corporations concerned are loans and shareholdings (unquoted shares and equities). (Sub-chapter 2.6 provides detailed information about captive financial institutions.)

Insurance companies sub-sector (S.128) comprises all those financial corporations the main activity of which is financial intermediation realised in the form of sharing risks, mainly in the form of insurance or re-insurance. The services provided by insurance companies are individual or group life and non-life insurance (insurance related to insured events) and re-insurance for other insurers. The liabilities of insurance companies and associations classified in this sub-sector typically comprise insurance premium reserves, which they invest primarily in securities.

Pension funds (S.129) participate in sharing of the social risks and needs of insured persons: they provide pension like income making easier old age self-provision and help the savings for health protection and medical treatment. Similarly to insurance companies they undertake long-term (generally over 10 years) liabilities and provide insurance types services; their liabilities are pension fund reserves which are invested into securities portfolios. This sub-sector includes institutions such as private pension funds, voluntary mutual pension funds, health funds and voluntary self-assistance funds.

The *general government* (government sector) is divided into the below sub-sectors in line with the domestic government structure:

- central government (S.1311),
- local governments (S.1313) and
- 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 pursue non-market productive activities in the

areas of income redistribution, provision of certain non-market services and the management of state assets. The local government sub-sector includes the local, regional and local minority governments and their institutions (budgetary organisations). This group includes also corporations and non-profit organisations which are primarily funded and controlled by the local governments. The scope of corporations and non-profit organisations belonging to the general government is determined by the work group engaged in general government statistics controlled by the Hungarian Central Statistical Office. (For the information of statistical data providers, the MNB also publishes a list of all business organisations and non-profit institutions which are included in the general government sector).

Social security funds cover mandatory, state-organised social security (health and pension funds) and the related institutions.

Non-profit institutions serving households (S.15) consist of non-market producers of goods and services (public organizations) which are not under state or corporate control. 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.

1.5 Instruments of financial accounts

Financial instruments (other than monetary gold) are assets that are at the same time liabilities of other institutional units, thus the effect of economic events related to a single instrument is recognised in the balance sheet of them both, among assets for the one and among liabilities for the other. Accordingly, the block of financial account statistics is the financial instrument, which always connects two institutional units, hence, it is able to present the financing relations between the economic sectors in full. The financial accounting statistics classifies the financial worth of the national economy or of any part (sector or sub-sector) of it into eight main instrument categories, and within this it distinguishes a total of nineteen instrument types.

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)

Debt securities (AF.3)

Short-term debt securities (AF.31)

Long-term debt securities (AF.32)

Loans (AF.4)

Short-term loans (AF.41)

Long-term loans (AF.42)

Shares and equities (AF.5)

Quoted shares (AF.511)

Unquoted shares (AF.512)

Other equity (AF.519)

Investment fund shares (AF.52)

Insurance technical reserves (AF.6) (Reserves created for drawing insurance, pension and standardised guarantees)

Non-life insurance reserves (AF.61)

Life insurance reserves (AF.62)

Pension fund reserves (AF.63)

Provisions for calls under standardised guarantees (AF.66)

Financial derivatives (AF.7)

Other accounts receivable/ payable (AF.8)

Trade credits and advances (AF.81)

Other (AF.89).

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 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) are the central banks' special reserve instruments. Monetary gold (AF.11) comprises gold bullion and non-allocated gold account placed with non-residents, representing receivables for gold. The majority of transactions related to monetary gold comprise the sale and purchase of monetary gold between monetary authorities or between certain international financial institutions. SDRs (AF.12) are negotiable (international) reserve instruments, which had been created by the International Monetary Fund (IMF) and which may be used by the monetary authorities of IMF member states for supplementing their existing reserve instruments. The creation of SDRs through allocation and the termination of the same through withdrawal is considered as transaction in accordance with the new methodological standards introduced in 2014. The accounting of the monetisation and demonetisation of monetary gold and the allocation of SDR by way of transaction adjusts to the general methodological requisition that each financial instrument is the asset of a sector and the liability of another sector. This kind of management of reserve instruments eliminated the majority of discrepancies between the balance indicators of the national economy shown from the resident and non-resident side. (The unilateral accounting remained valid in the case of gold bullion.)

CURRENCY AND DEPOSITS

Currency and deposits are financial instruments which represent the liability 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 debtor. 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. According to the methodological recommendations, short term liabilities of monetary institutions must be considered as deposits, therefore, the short term loans which are extended by monetary institutions or other economic actors to monetary institutions, are recognised in financial account statistics under deposits.

DEBT SECURITIES

Debt securities are financial instruments with maturity, which are generally traded on the secondary market or at least 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.) Debt securities are generally interest-bearing instruments, 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. As a consequence of the methodological changeover in 2014, a key content change to the classification of financial instruments was that, the *debt securities* (AF.3) category replacing

the *securities other than shares* main instrument no longer includes the financial derivatives, this latter form now a separate main instrument category both among assets and liabilities (financial derivatives, AF.7).

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 liabilities 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. Short term loans drawn by monetary institutions are recognised in the financial account statistics under deposits.

SHARES AND EQUITIES

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, 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. Shares issued by venture capital funds or not recognised under investment fund shares in the statistics but under other shareholdings. Quoted shares and investment fund 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 (reserves set for drawing insurance, pension and standardised guarantees)

Insurance technical reserves represent mainly 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 (AF.62) and pension fund reserves (AF.63) managed on behalf of households or other insurance technical reserves (AF.61), where the beneficiary may be any insured sector. A new, previously unrecognised instrument, standardised guarantees (AF.66) was added to the Insurance technical reserves in 2014. Standardised guarantees are guarantees provided in large numbers, usually for small amounts and with identical conditions. There are three parties to these agreements, the borrower, the lender and the guarantor. Both the borrower and lender may conclude a contract with the guarantor to repay the loan to the lender in the case of default by the borrower. Reserves accumulated for drawing the standardised guarantees are generated similarly to the non-life premium reserves. In the domestic reporting with respect to standardised guarantees estimate is made only for the reserves related to the guarantees granted by the general government.

FINANCIAL DERIVATIVES

Previously financial derivatives were recognised among securities other than shares. In line with the new methodological requirements applied from 2014 these financial products must be shown in a separate main instrument category, and employee stock options were also added to this main category. Derivative products relate to special financial or non-financial instruments or indices through which it is possible to directly trade financial risks. Financial derivatives (AF.71) include options, forward contracts, swaps and credit derivatives. In the case of these there is not an (initial) capital amount linked to the instrument (i.e. typically there is no initial capital investment), upon maturity of the contract (upon closing the deal) the difference arising from the price change must

be paid or realised by the parties. Property income is not attached to financial derivatives according to the methodology of national accounts; the interest of option premium accounted by the economic actors must be recognised in the financial accounts as financial transactions. Employee stock options (AF.72) are agreements, under which the employees have the option to purchase equity stake/share from the employer company's shareholding at a specified data and at specified price. Employee stock options are new instruments in the financial accounts not observed so far, having currently minor role in the Hungarian practice, thus, for the time being no estimate is made for this in the statistics.

OTHER ACCOUNTS RECEIVABLE/PAYABLE

Other accounts receivable and payable 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 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. In the domestic financial accounts for certain sectors the most important items are highlighted among other receivables/other liabilities, thus for the central government the other long term liability from the statistical settlement of the asset transfer of private pension funds, which is shown parallel also among the other receivables of households. Unused amounts of EU funding, tax type receivables and receivables and liabilities due to the subsequent payment of wages are presented similarly in the detailed financial accounts of households, non-financial corporations and general government.

1.6 Data sources of financial accounts

Triggered by the publication of SNA93, the development of financial account statistics commenced in the middle of the 1990s. To this end, the central bank launched several new data collection procedures and expanded existing statistics, in consideration of the demands of financial accounts. Since 1997, the MNB's practice has been to define the contents and terms of submission of external reports using data supply guidelines. The data collections necessary for the operation of the central bank's information system are ordered based on the authorisation of the act on statistics under the National Statistical Data Collection Program (NSDC government decree), based on the MNB Act in the regulation of the president of the central bank or under the cooperation agreements conducted between the institutions.

INTERNAL AND EXTERNAL DATA SOURCES

Hungarian financial accounts statistics rely on more than 50 data sources, part 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 some two thirds of the information appearing in the products of financial accounts. The largest external data source is supplied by the National Tax and Customs Administration (NAV): 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 budget reports supplied by the Hungarian State Treasury, and from the data supplied by the Government Debt Management Agency. Corporate balance sheets provide data on shares and equity, inter-company loans and trade credits, as well as on other accounts receivable/payable, while budgetary data play an important role primarily in the presentation relationships within the general government, and the indication of loans, equity securities 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 NAV (8 months following the reference year for the preliminary data).

Main areas of origin of data sources:

- Central bank (MNB) statistics (balance of payments, monetary statistics, securities statistics)
- MNB report on its own assets and liabilities (accounting statements)
- Central bank reports of financial organisations (insurance companies, investment funds, Student Loan Centre (Diákhitel Központ Zrt.), pension funds, financial and investment corporations) with supervisory and statistical purpose.
- Corporate balance sheet data contained in the tax returns of corporations (NAV (tax authority) 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)
- Statistical reports of companies owned by the central government or local governments
- Statistical reports of asset manager and group financing corporations
- Data on non-profit institutions (data from the HCSO)
- 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. Own accounting and/or statistical balance sheet of the MNB
4. Monetary statistics of the MNB (credit institutions)
5. Data pertaining other financial organisations
6. Data on the general government, budgetary data
7. Corporate data (NAV database, reports, direct data collections)
8. Data of 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 accounts receivable/payable 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) and of certain government data, the 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.

1.7 Products and reporting 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 Data and Information* block, as indicated below: The press release is available under menu option *Statistical releases and notes*, under *Financial accounts for every sector*, and *Preliminary financial accounts of the general government and households* sub-menus. Detailed data and underlying methodological descriptions are available under the *Statistical Time Series* menu option as follows.

XII. Financial accounts (financial assets and liabilities of institutional sectors)

Comprehensive information

- Information on the financial accounts (textual description)
- Methodological notes on financial accounts
- Diagrams based on financial accounts data

Preliminary financial accounts of the general government and households

- General government data
- Households data

Full set of financial accounts (including all sectors)

Comprehensive tables on data of reference period (without SPEs)

- Comprehensive tables by sectors
- Comprehensive quarterly tables (sector matrices and cross tables)
- Comprehensive annual tables (sector matrices and cross tables)
- Methodological notes
- Diagrams based on financial accounts data

Time series tables by sectors (without SPEs)

Quarterly time series 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 quarterly time series by sectors

- Detailed financial accounts of non-financial corporations
- Detailed financial accounts of households
- Detailed financial accounts of the general government
- General government gross debt

Annual time series 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
- Methodological notes
- Diagrams based on financial accounts data

Time series tables by sectors (including SPEs)**Quarterly time series 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

Annual time series 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

- Methodological notes

- Diagrams based on financial accounts data

Other data related to financial accounts**Key financial data of state and local government owned non-financial large enterprises**

- Key financial data
- Methodological notes

Discrepancies between financial accounts statistics and balance of payments statistics

- Discrepancies between financial accounts statistics and balance of payments statistics

Discrepancies between financial accounts statistics and monetary balance sheet statistics

- Discrepancies between financial accounts statistics and monetary balance sheet statistics

Financial accounts of public corporations (owned by the state and local governments)

- Financial accounts of public corporations
- Methodological description

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 16th 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 indicator 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.

The data dissemination on the preliminary financial accounts of the general government and households becomes out-dated when the comprehensive financial account statistics are published one and a half months later. As there may be discrepancies between the data series prepared at two points in time due to the new information received meanwhile, the preliminary data are deleted from the MNB website when the comprehensive publication is released. However, the text of the press release on the preliminary data remains unchanged, it will not be deleted or updated upon the release of the normal publication. 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. The precise date of release of the textual information presenting the data tables and the data is included in the publication calendar on the MNB website. The data of financial accounts are published both in the form of *summary tables* covering individual quarters, and in the form of *time series tables* containing quarterly and annual data. The former are available under “Summary tables on the current period”, and the latter under “Time series tables by sectors”. Comprehensive, standard data releases present the sector of the national economy and the sector of financial corporations therein without special purpose entities (SPEs), but collective financial accounts including SPEs are also published in the time series data series.

Cross tables for individual periods indicate the key indicators of the national economy as a whole, in a breakdown by economic sectors and financial instruments. Cross tables provide a fast overview of stock, transaction or revaluation 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 in cross tables, which indicate the portion of instruments denominated in a foreign

currency (FX) on the one hand, and on the other hand, they present the relation of a specific sector to partner sectors. In addition to this tables detailed quarterly financial accounts are published on the general government, households and non-financial corporations, and on the stock of gross consolidated debt (Maastricht debt) of the general governments recognised at nominal value. Combined, such detailed data for individual sectors allow for an in-depth analysis of the financial and financing relationships of the national economy. In the annual time series tables stock data related to the year end are shown, while the annualisation of transaction data (transactions, revaluations) means the summing up the four quarterly data on the relevant year. The other changes in volume can be derived from the change in stocks (difference between stocks) by deducting transactions and revaluations.

As a default, the published data of financial accounts do not include data pertaining to special purpose entities resident in Hungary, 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 MNB website, under *Time series tables by sectors (including SPEs)*, which includes the financial accounts containing the data of SPEs as well. SPEs are corporations registered in Hungary, which have financial relations only to non-residents, and relate only insignificantly to the Hungarian economic processes. The activity of SPEs does not involve any sectors other than financial corporations and the rest of the world. Section 2.6 provides detailed information on how to handle SPEs in the statistics.

1.8 Applicability and limitations of financial accounts

Information included in financial accounts and balance sheets are used for multiple purposes. The most important pieces of financial account information are *net lending/net borrowing position of 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/borrowing indicator is of the utmost importance in general government as it is the indicator to which the Maastricht criteria must be applied.⁵

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 provides an important information for analysing the behaviour of economic actors, since revaluation has similar features as income (wealth effect): the consumptions-savings decisions of economic actors are influenced by the real value of their financial worth.

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 in the lack of direct observation (observability) transactions are often calculated from the changes in 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/

net borrowing calculated from bottom to top) is theoretically less precise than the transaction balance based on observed economic events (net lending/net borrowing calculated from top to bottom) rather than calculated from the direction of financial accounts.

An increasingly featured product of financial accounts is the *financing matrix* (flow-of-funds), which presents the stock or flow data of the individual sectors in a breakdown by partner sectors. As in the Hungarian statistics each financial instrument is observed in a breakdown by sectors and partner sectors, financing matrices can be full compiled. The most comprehensive presentation of matrices is the detailing of the net lending/net borrowing and the net financial worth of partner sectors. However, when using the data, it must be taken into consideration that the flow of funds matrix establishes a relationship between the debtor and the lender sectors (since the statistics presents each financial instrument in the relation of the issuer and the owner), however, in the case of instruments with secondary market (different securities) the financing processes are not necessarily linked to the issuer sector but take place between the holders. Therefore, the financial account statistics is able to present only with limitations which sector finances the operation of which other sector.

We provide examples below to demonstrate the impact of certain economic events considered as typical 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

⁵ The EDP Notification prepared in the framework of the excessive deficit procedure (EDP) to measure the above, must present the balance from top to bottom, from the non-financial accounts; moreover, the differences in net financing capacities calculated from top to bottom and vice versa, must be reported as well.

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/net borrowing 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.

1.9 The impact of methodological changeover on the data of financial accounts

Guiding methodological recommendations and requirements for the compilation of national accounts – and within that for the compilation of financial account statistics – are included globally in the System of National Accounts (SNA), and for the member states of the European Union in the European System of Accounts (ESA). As the consequence of the continuous change of economic environment and the users' needs the regular revision of the rules are needed, which takes place comprehensively every 15-25 years. However, the changes in the economic statistics is not at all as powerful and speedy as that of the processes they intend to describe. The methodological recommendations develop namely following the agreement of the statistical community as a whole, the achievement of which usually requires a lot of time. As a result, the revision of the recommendations requires several year's time, the acceptance of which is followed by an again lengthy preparation period. This was not differently either in the case of the last methodological changeover – that was closed in Hungary and in the European Union in 2014 –, where the changeover involved a switch from SNA 1993 version to 2008 and ESA 1995 version to 2010.

The comprehensive revision of SNA93 started as early as in 2003, when it was established that due to the newly emerging economic phenomena partial updating of the methodology is no longer enough, a much deeper revision is required. The work lasted for five years, until in 2008 the new version of SNA was drafted, which was accepted in 2009. Parallel to this, the renewal of the ESA also started in order to ensure the harmony with the new SNA and the international comparability of economic statistics relating to the European Union and its member states. The revision of the ESA was closed with its acceptance in 2013, two years later as originally planned. Thus, in the strict sense, only one year was left for the member states to prepare for the changeover scheduled for September 2014.

Despite the lengthy revision, the new methodological manuals do not include essential amendments. The statistical community has not yet deemed necessary to change the fundamental categories and the

framework, and although a number of forward looking recognitions were drafted as regards the directions and areas of methodological changeover, the majority of these did not or only partially reached realisation. In the following we are going to describe the few changes the effect of which is conspicuous in the Hungarian financial account statistics.

Regarding financial instruments⁶ the methodological changes basically did not affect the content and structure of assets and liabilities in the financial accounts, most instruments are shown in the same way and with the same data content as before also in the new reports. Changes took place only in the case of monetary gold and SDR (AF.1), insurance, pension and standardized guarantee schemes (AF.6) and financial derivatives (AF.7), however, their affect is insignificant in the case of Hungarian statistics.

The most striking change impacting the financial instruments are related to the *monetary gold* and *SDR* instruments. On the one hand, the relevant methodological rules approximated also in the case of these instruments the regulations valid for the other instruments claiming that, each financial instrument is the asset of a sector and at the same time the liability of another sector. Hence, the discrepancy between the financial accounts of the national economy presented from the residents' and non-residents' side was basically eliminated which stemmed from the classification of monetary gold and SDRs among resident assets (central banks) without being offset by any non-resident liabilities under the old methodology. (Currently, the ambiguous accounting is valid only for gold bullion held by monetary institutions and classified into international reserves.) On the other hand, according to the new methodology the allocation and termination of SDR is made through transactions, and not through other volume changes. This implies that upon allocation SDRs will also become the liabilities of residents (central banks) not only their assets; in other words, SDRs are not created from scratch but are lent to monetary authorities. In the case of the rest of the world, the first change reduced, while the second increased the net

⁶ Content of financial instruments is detailed in Chapter 1.5 *The instruments of financial accounts*.

financial worth. Contrary to this, in terms of the national economy, only this last change had an effect, namely, the reduction of the net financial worth. Interesting is that, when examining the effects of changeover at the level of national economy – since any other changes are between the sectors of the national economy – this is almost the single change that can be perceived and only since 2009, when the IMF allocated SDR for the first time in Hungary. The change totals only to 1 percent of the annual GDP. Considering the net lending/net borrowing of sectors, only the first change has an effect and only to the rest of the world, as the previously unrecognised transactions are shown on the liabilities side of this. The transaction due to the allocation does not impact the net lending/net borrowing of any sector, since this has not been accounted for neither of the sectors at neither side earlier.

Due to its increasing importance, a previously not observed new financial element, the *standardised guarantees* (AF.66) was added to the instrument of *insurance technical reserves*. In the case of standardised guarantees the guaranteeing organisation (financial intermediary or the general government) issue standardised guarantees in large numbers, usually for fairly small amounts under the same scheme, and typically – as is the case with insurance transactions – it sets aside reserves (provisions) for these. With this change the methodology included the scope of guarantees in to the financial accounts that can be well captured through the accumulated provision. The extension in itself does not mean a significant change, however the extension of the scope of financial worth in terms of taking into account the so far off-balance sheet contingent liabilities can be considered as a progress. In Hungary, in the case of the general government state guaranteed home loan schemes had been identified, where private individuals participating in the scheme and taking out loans receive state guarantee in a standardised manner. The recognition of standardised guarantees reduced the net financial worth of the general government, while increased that of financial corporations.

In addition to standardised guarantees, the item of *employee stock options* (AF.72) appeared in the methodology also as a new element, and is recognised under *financial derivatives* taken out from debt securities and advanced to main instrument. As a financial instrument, an employee stock option represents households' claims against employers that offer a portion of their employees' compensation in the form of corporate stocks. In the Hungarian financial

account statistics the involvement of employee stock options however has not induced any change for the time being, as the role of these instruments is currently insignificant based on the examinations conducted.

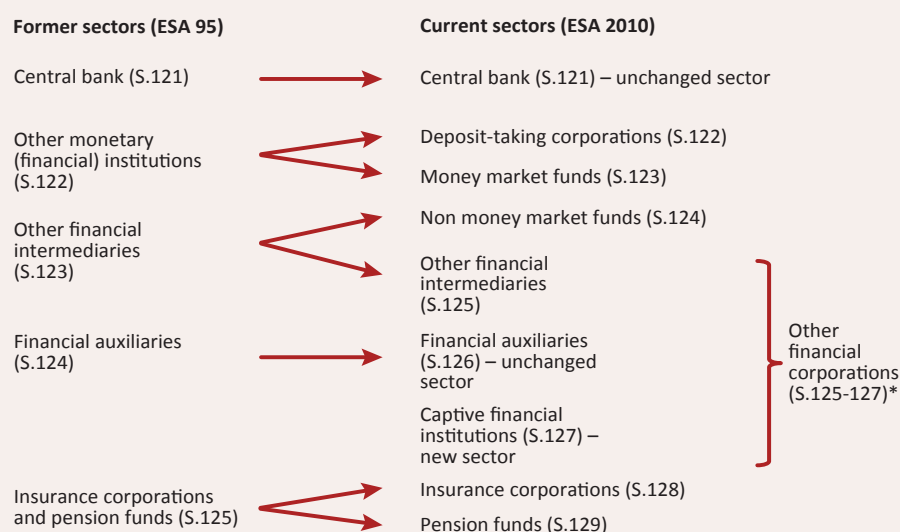
The renewal of the international methodological standards did not bring forth much news either in terms of valid sector classification⁷ in the case of financial accounts. A content change is that, in the financial accounts compiled according to the new methodology the borderline between the financial and non-financial corporations sectors changed, and as a structural change, the increase of detailedness of financial corporations and the emergence of new sub-sectors can be mentioned. The content and detailedness of the other main sectors did not change significantly. (The number of organisations classified under general government somewhat increased to the expenses of non-financial corporations as a result of the more stringent classification rules).

Based on the new methodological standards, the group of financial services in the statistical sense and, consequently, the contents of the financial corporations (S.12) sector had been expanded. Contrary to earlier practice, in addition to the financial intermediaries connected to the general public, corporations providing financial services to a limited group of clients, typically within a corporate group, must also be regarded as financial corporations in the new statistics. These corporations had to be reclassified from the non-financial corporation sector (S.11) into financial corporation sector (S.12), and within that into the newly created *sub-sector of captive financial institutions* (S.127). As the result of reclassifications the stock of financial assets and liabilities of the non-financial corporation sector declined, and accordingly, the financial worth of financial corporations increased in the financial accounts. This change however makes its effect felt primarily in the financial accounts including SPE. Namely, the majority of reclassified corporations composed of special purpose entities (SPEs) that are in relationship solely with non-residents and fulfil passive financial intermediary functions among non-resident corporate group members.

The *named sub-sectors of financial corporation sector* (S.12) multiplied with the introduction of the new methodology, within the sector now nine sub-sectors can be distinguished instead of the previous five sub-sectors (Chart 1-10). However, the new data supply requirements may be fulfilled also with consolidated

⁷ The description of economic sectors are included in Chapter 1.4. *The content of economic sectors*.

Chart 1-10
Breakdown of financial corporations (S.12) by old and new sub-sectors in the Hungarian financial accounts



* Contracted sector using in Financial accounts without SPEs due to reason of data protection and better transparency

reporting of the sub-sectors, as seen in the Hungarian report without SPEs. In the set of tables including the SPEs, however, financial sectors are shown in full detail.

When taking account of the effects of methodological changeover, one additional change must be mentioned, namely, the different recognition of *re-entries into the public pension scheme from private pension funds*. In the case of Hungarian financial accounts this is the most significant and far-reaching methodological change. According to the old methodological requirements applicable to national accounts, re-entries into the public pension scheme from private pension funds, the transfer of the assets of private pension funds by the state had to be recognised as a one-off capital transfer, which improved the net lending/borrowing position of the general government with the amount of transferred assets and deteriorated that of the households with the same in the period of asset transfer. According to the new methodological rules, the one-off asset transfer cannot influence the balance of sectors; other liabilities (AF.89) must be recognised in the balance sheet of the central government vis-à-vis the households in the amount corresponding to the amount of transferred pension assets. This other liability must be decreased in the period of pension payments. As the result of the change, net financial worth of the general government decreased from 2011 by some 10 percent of the annual GDP, and that of the households increased to the same extent. Net lending/net borrowing position of the sectors involved changed

significantly only at the time of the most significant private pension asset transfer in 2011⁸.

It must be noted here that, statistical time series published prior to and after the methodological changeover, do not only include methodological modifications, as in addition to applying the changes of the international methodological standards, a comprehensive data revision took also place in the statistics. The changeover provided a good chance to integrate new data sources, to correct data and revise the applied estimation and computation processes, which primarily concerned the data of households (S.14) and non-financial corporations (S.11). Estimates related to the not directly observed foreign assets and investments of households, thus, the stock and flow data on the foreign funds, deposits and shareholdings of households changed. The modification of the previous estimates regarding these was justified by the availability of new data sources (tax return, foreign bank data). Furthermore, the data on the loans lent to and borrowed from non-financial corporations by households changed, as well as the estimates regarding the corporate shareholding of households, which was necessary due to the more intense use of annual business reports and the refinement of calculation procedures. The more complete utilisation of administrative corporate data sources (tax returns, annual reports) and data corrections allowed for a more accurate distinction and estimation of inter-company loans, equity and other accounts receivable

⁸ For more information on the statistical recording of private pension withdrawals see Section 2.7.

of non-financial corporations. The next chapter deals in detail with these and other important estimates applied when compiling the financial accounts.

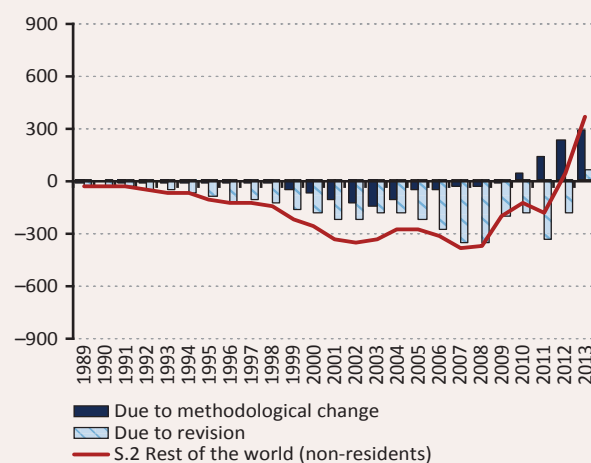
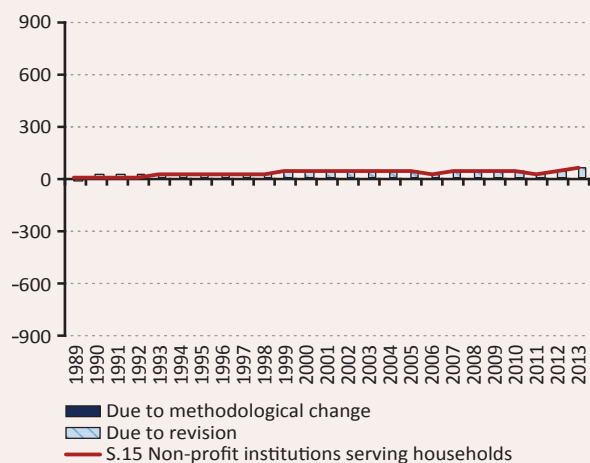
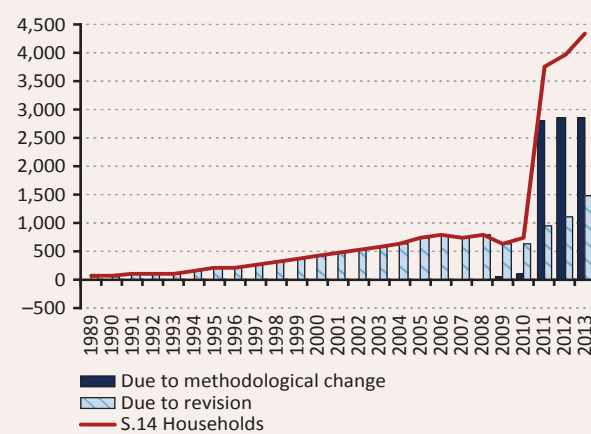
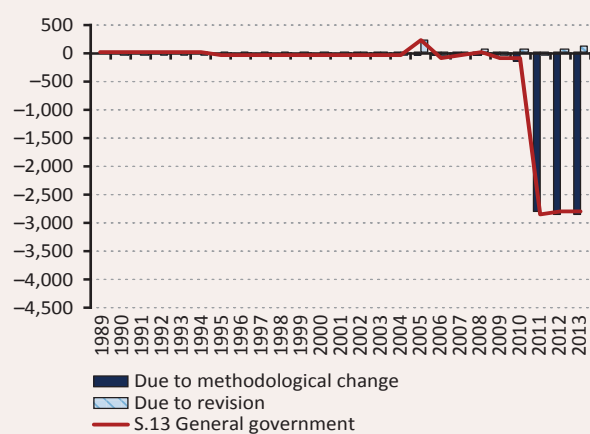
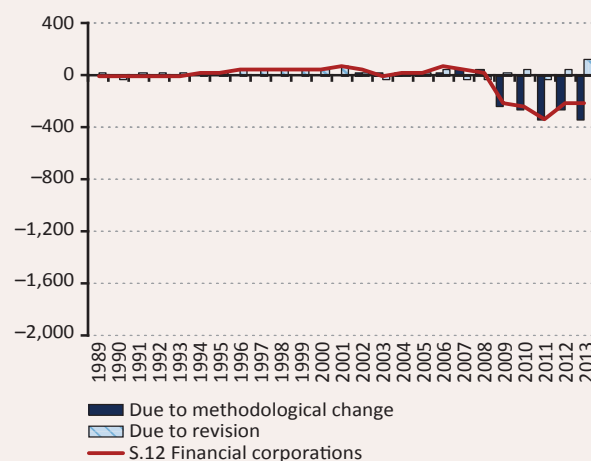
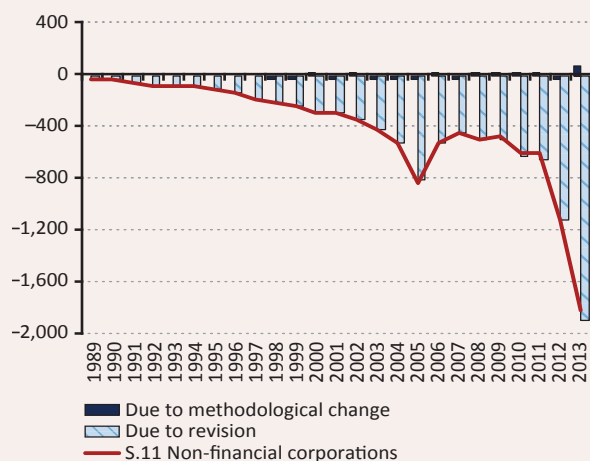
The total change of the net worth and net lending/net borrowing position of certain economic sectors

compared to the last comprehensive financial accounts prepared according to the old methodology is illustrated by Charts 1-11 and 1-12. The diagrams show separately the effect of changes stemming from the methodological changeover and revision in billion forints.

Chart 1-11

Changes in the net worth of the main sectors of the economy due to the methodological changeover and revision in 2014, billion forint

(compared to the published comprehensive data of 2013Q4)

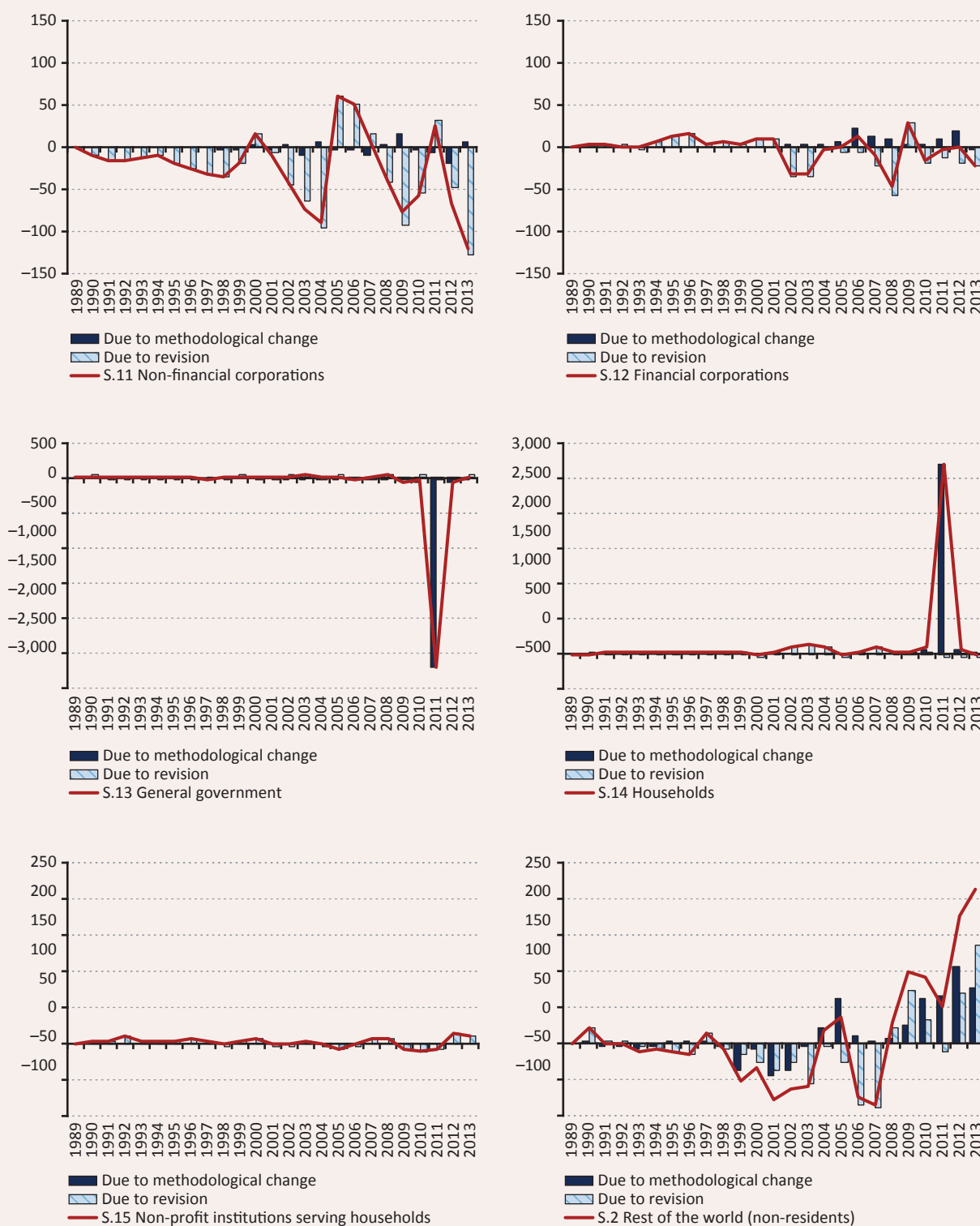


Sources: MNB.

Chart 1-12

Changes in the net lending/net borrowing position of the main sectors of the economy due to the methodological changeover and revision in 2014, billion forint

(compared to the published comprehensive data of 2013Q4)



Sources: MNB.

2 Estimates used in the financial accounts

2.1 Estimation of the forint and foreign currency holdings

Cash shall mean the banknotes and coins emitted by the monetary authorities (central banks and government agencies) served as legal tender. In the financial accounts, forint cash emitted by the MNB (representing the MNB's liability) and currency emitted by non-resident monetary institutions (representing the liability of the rest of the world) is recognised. Cash holdings are shown in the financial account statistics at nominal value (denominational value). In the case of forint cash, the stock change provides the periodical transaction value, and for the foreign currency, in addition to the transaction, the holding expressed in forint changes also due to the revaluation.

Cash may be held by any sectors (Table 2-1), the data sources available for the statistics however are not complete, they are supplemented through estimation methods. When taking account of forint

cash holdings, the starting information is the stock of banknotes and coins emitted by the MNB and in circulation, which is established based on the flow data (emission, redemption, withdrawal), therefore, cash holdings include also banknotes and coins lost or destroyed in the meantime. Information on this latter may be obtained only upon a possible withdrawal of denomination, therefore until then, these are recognised in the financial accounts as amount actually in circulation. The accounting of cash held by financial corporations, the general government and non-financial corporations based on reported data, and the cash holding remaining after deducting this amount from the full stock in circulation will be recognised in the household sector. There is no information available on the forint cash holdings of non-profit institutions and non-residents, currently we consider this in the financial accounts as insignificant.

Table 2-1
Year-end forint cash holdings of the different sectors
billion HUF

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Non financial corporations	235,5	270,2	315,2	313,9	323,6	250,6	276,0	317,8	416,2	477,3	556,8
Deposit-taking corporations	111,0	113,9	129,5	134,3	171,5	148,6	159,7	158,1	183,7	201,7	200,7
Other financial intermediaries	1,6	2,1	1,6	1,5	1,7	1,5	1,2	2,1	1,7	1,7	1,7
Financial auxiliaries	0,2	0,3	0,3	0,3	0,3	0,3	0,0	0,0	0,0	0,0	0,0
Insurance corporations	0,1	0,0	0,0	0,1	0,1	0,1	0,1	0,2	0,2	0,0	0,0
Pension funds	0,0	0,0	0,0	0,3	0,1	0,0	0,0	0,0	0,0	0,0	0,0
Central government	0,7	0,7	0,8	1,0	0,8	0,9	1,0	0,9	1,8	1,7	1,7
Local government	1,2	1,2	1,2	1,2	1,4	1,4	1,1	1,0	1,2	1,8	1,6
Households	1 102,3	1 325,7	1 519,2	1 749,7	1 809,3	1 784,5	1 938,9	2 229,5	2 132,7	2 518,4	2 986,7

The establishment of cash held by non-financial corporations includes also a certain degree of estimation. While for the financial sector and general government quarterly data sources are available, for non-financial corporations only end-of-year cash holding data are known. The data source of this is the balance sheet in the tax return (NAV data) of corporations applying double-entry bookkeeping, which is available on yearly basis and with a lead time of 8 months, therefore, it is not suitable for the precise description of quarterly processes. In the knowledge of year-end data, the evenly estimated quarterly data are adjusted subsequently, retrospectively.

The establishment of forint cash holdings pertaining to the household sector is made on a residual basis, thus, the uncertainties of allocation of banknotes and coins in circulation to the different sectors will show in this sector. Therefore, the cash holding of households is overestimated in the financial accounts, but the net cash circulation influencing the households' financial savings (transaction arising from the changes in cash holdings) does not significantly distort the data.

Only indirect information is available also for the foreign cash holding of resident household sectors. The basis of establishing the stock data in the financial accounts is the currency conversion made related to the introduction of Euro cash in 2002. Before converting their cash denominated in the discontinuing currency of member states to Euro, households deposited it, then withdrew the majority of this in Euro. The stock at the end of 2002 was established based on this, which was fixed retrospectively denominated

in foreign currency, thus its value expressed in forint shows a change in the previous period only due to revaluation. In the period after 2002 estimate is made also for Euro transactions stemming from the large value purchases of sales of households. Conclusion regarding the order of magnitude of the households' currency conversions may be made based on the sales data of currency exchange offices. Household currency of regular quantity purchased from currency exchange offices is accounted as travel expenditures; transaction estimates other than zero in the financial accounts is only made, when at the foreign exchange offices irregular currency selling or buying can be observed.

The quantity of foreign exchange held by the financial corporation and general government sector is entered into the balance of payments statistics and financial accounts from the supply of statistical data by the sectors. We do not have any information on the foreign currency structure of the cash holdings of non-financial corporations. An estimation was made for the establishment of their currency holdings in 2009 (in a volume of HUF 30 billion) by using a corporate survey conducted on a small sample and a collection of statistical data covering large companies with financial relations to the rest of the world. The thus established foreign exchange holdings is shown since then in unchanged quantity in the financial accounts, transactions are not recognised and the stock expressed in forint changes only as the effect of revaluation. The currency holdings of non-profit institutions serving households are considered as insignificant.

2.2 Estimation of foreign deposits and loans of households

Data sources stemming directly from the sectors are not available for the observation of the financial assets and liabilities of households. Information on the financial assets and liabilities of the sector is obtained from the different reports of partner sectors of financial intermediaries. The statistical recording of the households' financial relations to other domestic sectors is realised basically completely by using the data of the general government, the financial and non-financial corporations. However, foreign financial assets and liabilities can only be measured in full based on the information received from foreign partners, as the observation of Hungarian financial intermediaries provides only partial coverage (by the recording of foreign assets purchased and held in Hungary).

In the statistical data collection system before 2008, transaction data regarding the assets and liabilities of households in the financial account of the balance of payments, and through this also in the financial accounts, had been provided by transfers made through the Hungarian banking system (settlement system). Stock data are cumulated from the flow data. From the observed payment transactions only a minimum amount of receivables from deposits and liabilities from loans accumulated as the households' claims from and liabilities to the rest of the world suggesting that, data collection based on bank transfers is not sufficient for the observation of the households' foreign bank deposits and loans. From the beginning of 2008, the reporting system based on banking payment transactions and with this, also the sole domestic data source of the foreign deposits and loans of households ceased to exist. In order to make up for the lack of data and the more complete observation of foreign investments of increasing importance, the MNB contacted foreign central banks and the NAV with the intention to launch data transmissions with statistical purpose. In 2010 based on the information of foreign partners, the stocks of deposits placed and loans drawn by households abroad had been established and the pertaining interest income which had been added to the statistics retrospectively back until 2003. On the occasion of the statistical methodological changeover in 2014 the data on the households' foreign deposits

and loans had been also revised, and the time series had been extended back until 1989 in the financial account statistics. In the 1990's in the lack of other information stocks fixed in Euro are shown both for the foreign bank deposits and bank loans of the households in the financial accounts.

The following data sources are available for the establishment of the data on foreign deposits and loans of households:

- Adoption of statistical data from NAV on the annual data of countries supplying information about the withholding tax deducted at source on the interest income realised by private individuals and on interest income regarding the Hungarian private individuals, from 2005 (based on the 2003/48/EC directive of the Council, with annual frequency),
- Data request from the Austrian, German and Slovak central banks about data kept in their statistics regarding the deposit and loan portfolio of Hungarian households, from 2005 (quarterly frequency),
- Data supply on the website of the Swiss central bank on the deposits placed by non-resident non-banking clients in Swiss banks in a breakdown by countries, from 2002 (annual frequency),
- Data request from the Bank for International Settlements (BIS) on the deposits placed by Hungarian non-banking clients in a breakdown by countries, from 1995 (quarterly frequency).

The most comprehensive data source on foreign interest-bearing financial assets of households held abroad (at financial institutions) covering each European countries is the data collection of the tax authorities on the interest tax (withholding tax), and on the realised annual interest income (within the scope of the data exchange between tax authorities). Based on the relevant EU directive, member states provide information to one another on the interest income of foreign private individuals in order to allow the resident tax authority to check the interest tax return.

Countries which cannot yet meet the requirement, must deduct the withholding tax from the interest income of foreign private individuals realised there. Provisions of the directive must be applied from the second half of 2005, the information of tax authorities are available also from this period.

Data from the data supply by foreign central banks are used in full in the financial accounts (in the case of Austria, Germany, Slovakia and Switzerland), and regarding the countries not reporting directly the stocks are established based on the information of the tax authority and BIS. Based on the available information, the most significant interest income on bank deposits can be attributed to three countries (Austria, Germany and Switzerland); these countries

account for some 80 percent of the total interest income of Hungarian households received from abroad. Stocks are established for each country involved uniformly in Euro, as the majority of bank deposits placed abroad are denominated in Euro.

Data on loans drawn abroad by households are established based on direct data supply by the foreign central banks, the observation of loans granted and drawn abroad outside of the banking system is impossible. In the data supply by foreign central banks data is received in addition to the deposits also for the loan portfolio, which is added in full to the balance of payments and financial accounts publications. In addition to the reported data, estimation is not made in the lack of information regarding other countries.

Table 2-2

Estimated stocks of foreign bank deposits and loans of households in the financial accounts

million EUR

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Deposits held abroad	269	330	391	461	509	644	766	860	1 031	1 087	1 153	1 397	1 804	1 837	2 065
Data of foreign banks	240	290	333	382	410	486	558	664	772	831	889	1 111	1 468	1 492	1 692
Estimated data based on other sources	29	40	58	79	99	158	208	196	259	256	264	287	335	346	374
Loans from abroad	32	60	88	113	169	231	289	321	293	287	295	288	282	261	245

2.3 Estimation of foreign equity holdings of households

The balance of payments statistics and financial account statistics have traditionally little information on the foreign equity holdings of households (foreign shares and other equities held by resident households). Since neither the households, nor the foreign businesses owned by them are data suppliers of the central bank, statistics can only rely on indirect information regarding foreign capital investments of Hungarian private individuals. Considering the categories of the balance of payments statistics, foreign equity holdings of resident households (or generally the investors) are composed of three groups: *portfolio investments* (typically quoted shares and shares of investment funds), *direct capital investments in foreign companies*, and *foreign*

real estate considered as direct capital investment (business shares of quasi corporations created in the statistics due to the foreign real property of residents).

Until the end of 2007 flow data of equity holdings representing the direct capital investments and portfolio investments of households were added to the balance of payments from the collection of statistical data based on the observation of bank transfers. Stock data are cumulated from the reported turnover. In 2008, the data collection based on bank transfers ceased, however, a direct data collection from the households has not been introduced. Data source of the *portfolio investments* became the MNB securities

Table 2-3
Stock and transaction data on the foreign shareholdings of households
billion HUF

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Stocks	98,5	108,9	123,2	157,6	201,9	278,6	379,0	509,2	564,8	638,6	680,7	729,8	651,2	616,4	729,9
Listed shares	7,5	7,5	6,4	5,2	21,7	57,8	90,0	128,0	80,2	160,6	146,6	146,7	149,3	151,8	165,9
Unlisted shares and other equity, of which	91,0	101,4	116,8	152,4	180,2	220,8	289,0	381,2	484,6	478,0	534,2	583,0	501,9	464,7	564,0
estimated based on personal income tax declarations	84,0	91,0	101,5	134,0	159,4	195,5	265,6	357,6	383,3	376,6	424,2	491,6	454,7	439,8	526,8
estimated based on tax amnesty	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	77,4	77,5	86,0	67,4	0,0	0,0	0,0
estimated based on other assumptions	7,0	10,5	15,3	18,4	20,8	25,3	23,4	23,6	23,9	23,9	24,0	24,0	47,2	24,9	37,2
Transactions	14,0	12,5	36,0	43,8	66,1	45,9	133,5	165,1	108,4	46,9	-12,3	-29,9	-38,2	-31,4	23,1
Listed shares	7,4	0,3	-0,2	-1,2	17,2	35,2	40,0	40,1	36,9	53,8	-18,5	-3,0	-0,1	-3,9	12,1
Unlisted shares and other equity, of which	6,6	12,2	36,3	45,1	48,9	10,6	93,5	125,0	71,5	-6,9	6,2	-26,9	-38,1	-27,5	11,0
estimated based on personal income tax declarations	4,2	8,8	31,5	41,9	46,5	6,2	95,4	124,8	-5,8	-7,0	6,1	2,1	3,6	-4,1	-1,5
estimated based on tax amnesty	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	77,0	0,0	0,0	-29,0	-62,0	0,0	0,0
estimated based on other assumptions	2,4	3,4	4,8	3,2	2,4	4,4	-1,8	0,2	0,2	0,0	0,0	0,0	20,3	-23,4	12,5

statistics, and as regards the direct foreign investments, estimates were made for the balance of payments and the financial accounts based on the carryover of the last available data (relevant to 2007). While the securities statistics containing foreign securities in custody in Hungary provides sufficient cover even on the long term regarding portfolio investments, for the data on direct capital investments – observed fragmentedly even in the banking transfer system – new data sources and estimation procedures had to be found.

More recent information on *foreign real estate investments* of resident households is not available, thus, the part of the direct capital investments involving real property is created by the carryover of

the amounts observed in the banking transfer system until the end of 2007. At the same time, for the part of the foreign direct capital investments involving *business shares* statistical estimates are made with the use of two data sources: conclusions are made for the stock of foreign business shares held legally from the income stated in the aggregated annual personal income tax returns of private individuals, and the stock of foreign capital investments not observable based on the tax returns are estimated based on the size of assets repatriated within the scope of tax amnesties.

The results of the new estimates had been introduced in the balance of payments and financial accounts during the methodological changeover in 2014 retrospectively (Table 2-3).

2.4 Calculation of the data on domestic equities

Equities and investment fund shares (AF.5) instrument category comprises the equities (AF.51), within this quoted shares (AF.511), unquoted shares (AF.512) and other equities (AF.519), and investment fund shares (AF.52) instruments, respectively. In the financial account statistics the data on quoted shares and investment fund shares are obtained based on the information of securities statistics. Data on unquoted shares and other equity securities (business shares) are established based on the use of various data sources, as detailed below:

Shares are issued by corporations operating in the form of private limited company. Other equities represent the liabilities of companies with corporate forms other than private limited company, which is considered in statistics as financial instruments incorporating ownership. The separation of shares and equities as financial instruments is thus made based on the legal form of the issuer companies. While the data on quoted shares are available at market value, stocks of unquoted shares and equities are in general entered into the publications at the adjusted book value of the issuer companies' shareholders' equity containing the amount of approved dividend.

From issuer's side, the data on equities *issued by non-residents* and held by residents stem from the balance of payments statistics, from its data supply, and (in lack of direct data collection from households) with respect to households data are available based on what is stated in Section 2.3. Almost all resident sectors hold non-resident unquoted shares or equities. As the balance of payments statistics does not contain the detailed breakdown of shares and other equity by type, the breakdowns in the financial accounts are based partially on estimates and assumptions. Thus, in the case of households and the general government, non-resident unquoted shares (as portfolio investments) and equities (as direct capital investments) are recorded in the financial account statistics. In the case of non-financial corporation and financial corporation sectors the data on shares and other equity obtained from the balance of payments are added to the quoted and unquoted shares, and as regards the central bank and captive financial institutions, direct foreign capital

investments obtained from the balance of payments are recognised in other equity instrument.

Data on shares and other equities issued by residents and held by non-residents are also obtained from the information in the balance of payments. Since in the balance of payments only quoted shares are highlighted from the shares and other equity, the distinction of unquoted shares and equity is made in the financial accounts by means of company level testing both with respect to stocks and transactions.

From among the resident sectors non-financial corporations and financial corporation sectors issue unquoted shares and/or equity securities. There must not be shares and other equity on the liabilities side of the general government, households and non-profit institutions serving households. The main source of data of the issued shares and other equity is the balance sheet disclosed in the corporate tax return and consistent with the annual report, in which the value of subscribed capital is available in a breakdown by holding sectors. This breakdown by holding sectors forms the basis of the establishment of stock data in the case of the general government, households, non-profit institutions serving households and the non-financial corporations as holding sectors. With respect to the financial sectors as holders, almost complete stock data regarding shares and other equity are available from their balance sheets. If there is no data available from the reports of financial organisations in the case of any partner sector either, the relevant balance sheet items of the corporate tax return are used.

The sectoral breakdown of adjusted shareholders' equity including also approved dividends, i.e. the value of shares and other equity by holder sector is calculated through proportioning by means of the breakdown by holder sectors in the balance sheet in the corporate tax return. These data are however available only with yearly frequency for the year-end, quarterly data are generated through linear distribution between the end of two years, and/or until the receipt of the fact figures for a specific period linear pre-estimation is required. In the case of private limited companies

and limited liability companies instead of a negative shareholders' equity zero value is used in the financial account statistics, unlike in the balance of payments, where the negative value in the annual report is not adjusted. Due to taking over the data on the rest of the world from the balance of payments, in order to ensure consistency between the two statistics, however, the adjustment of the stocks of companies with negative shareholder's equity is applied in the financial accounts statistics only to resident holder sectors. Another smaller discrepancy from the stock values established from the issuer's side is caused by the fact that in most cases the share and business share stocks taken from the respective balance sheets of holder companies are recognised at cost, therefore, the adjustment of these (taking into consideration the current shareholders' equity of issuer companies) is limited. In the case of state and local governmental companies the value of state assets managed is also added to the shareholders' equity at carrying amount, which is recognised in the balance sheet of companies since 2001 not in the shareholders' equity, but in other long term liabilities.

In the context of shares and equity we can speak of a *transaction* at issuer's side if the capital is increased, decreased, a company is founded or terminated. In any other cases the change in stocks will be shown in revaluations. Similarly to stocks, we may state that in general, the balance sheet of the annual corporate tax return provides information for the estimation of transactions. Besides this, in the case of financial corporate holder sectors more precise data are received from the central banks' data supply, and the transactions involving the general governments are established based on budgetary data supplies (actual payment transactions). With respect to unquoted shares and equity securities issued by resident companies held by non-financial corporations and households (disregarding a few specific, known transactions), only the estimate prepared from the balance sheets of corporate tax returns provide information on the transactions. Annual transactions at corporate level are generated based on complex calculation, and are available through the even distribution of quarterly transactions shown in the financial accounts.

2.5 Inter-company loans 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 shareholdings (shares and business shares) are presented in Section 2.4.

SEPARATION OF LOANS AND TRADE CREDITS

The fundamental difference between the *loan-type instruments* recorded in financial accounts (AF.4) and *trade credits* (AF.81) 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, lending 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. The loan instrument comprises in addition to cash loan also the financial leasing, factored, and repurchase type receivables and non-banking deposits (cash-pool). Trade credits and advances instrument comprises temporary receivables and accounts payable originating from the delivery of products or the provision of services (trade debtors, creditors) or advances and prepayments (advances received from clients, advances on investments and inventory purchase) and outstanding due to subsequent payment between the trade partners.

Loans and trade credits occur among the financial assets and liabilities of any economic sector. Economic

operators extending loans to the public as a main business activity and the large companies lending within a limited scope are classified in the financial account in the financial corporations sector. Other companies granting intra-group loans are classified in the non-financial corporations sector. 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 (write-off of receivables).

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.81 – 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 2014, according to financial account statistics. *Shares and other equity* represent the largest part of inter-company assets and liabilities (33 percent). Similarly to loans, the *stock of*

trade credit and advances account for one fourth of the total inter-company claims and liabilities. Other receivables and other liabilities represent 9 percent. The proportion of *securities* other than shares issued and owned by corporations is negligible (Chart 2-1).

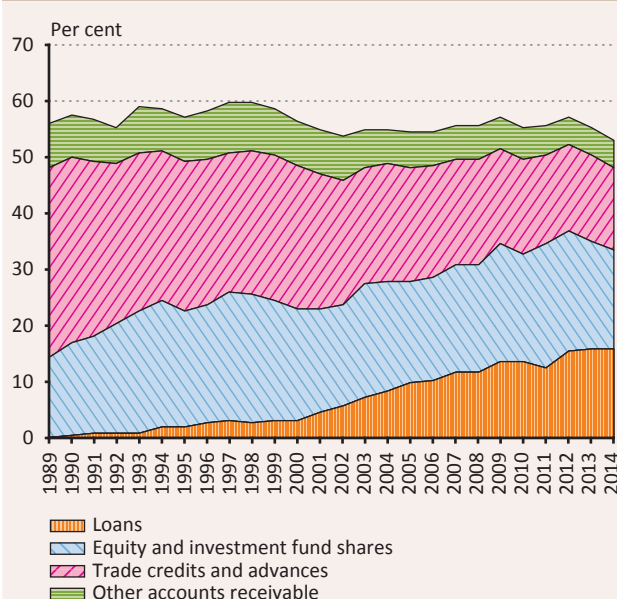
As direct statistical or accounting data sources are not available to measure the size of *assets and liabilities within the sector*, in financial accounts this information is typically a residual figure, calculated as the difference between total (non-consolidated) and external (consolidated) data. 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 liability side of the business 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, non-quoted shares and other equities. *Inter-company relations other than 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 6,000 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. Thus, loans granted are recognised in the balance sheet prepared according to the Hungarian accounting rules, among the investments and receivables (debtors),

Chart 2-1
Development of inter-company receivables within the total financial assets of corporations



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

and are composed of loans granted to group undertakings and other affiliated entities. While according to expert estimates 30 percent of short term inter-company loans are foreign exchange loans; direct information is not available in this regard. Long term intra-company loans granted are classified among forint loans bases on the known items of large amount.

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, since the portion of revenues not yet paid is recorded as a claim. In addition to specified clients, the larger part of trade type 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 10,000 billion at the national economy level according to the balance sheets of the Hungarian accounting reports. The majority of the

Chart 2-2

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

Corporate balance sheet (annual report)	Balance sheet of financial accounts
Intangible assets	
Advance payments for intangible assets	Trade credits and advances
Tangible fixed assets	
Advances for assets under construction	Trade credits and advances
Financial investments	
Long-terms loans to entities in group undertakings	Long-term loans
Long-term loans to other affiliated entities	Long-term loans
Other long-term loans	Long-term loans
Inventories	
Prepayments on inventories	Trade credits and advances
Receivables	
Trade receivables	Trade credits and advances
Receivables from entities in group undertakings	
<i>Trade receivables, advance payments</i>	Trade credits and advances
<i>Loans granted, cash-pool</i>	Short-term loans*
<i>Other receivables (dividends, fees)</i>	Other receivables
Receivables from other affiliated entities	
<i>Trade receivables, advance payments</i>	Trade credits and advances
<i>Loans granted, cash-pool</i>	Short-term loans*
<i>Other receivables (dividends, fees)</i>	Other receivables
Other receivables	
<i>Loans granted</i>	Short-term loans*
<i>Advances paid</i>	Other receivables
Accrued assets	
Accrued income and deferred expenditure	
<i>Trade receivables, advance payments</i>	Trade credits and advances
<i>Other receivable</i>	Other receivables

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).

stock represents inter-company receivables, while its smaller portion is comprised of receivables from non-resident suppliers. Based on the year-end data of 2014, the liabilities of the general government and households vis-à-vis corporations is around HUF 540 billion and HUF 90 billion, respectively. Trade advances include advances paid on intangible assets, investments and inventory purchase, which is generated for companies without detailed annual

report partially through estimation. Trade credits and advances are divided between receivables from non-residents and residents based on the annual net sales revenue (breakdown by export and import). The year-end stock of inter-company receivables is obtained by deducting the liabilities of the general government, the households and financial corporations from the resident part, which is considered as outstanding entirely in forint. (Chart 2-2)

2.6 Special purpose entities (SPEs) in financial accounts

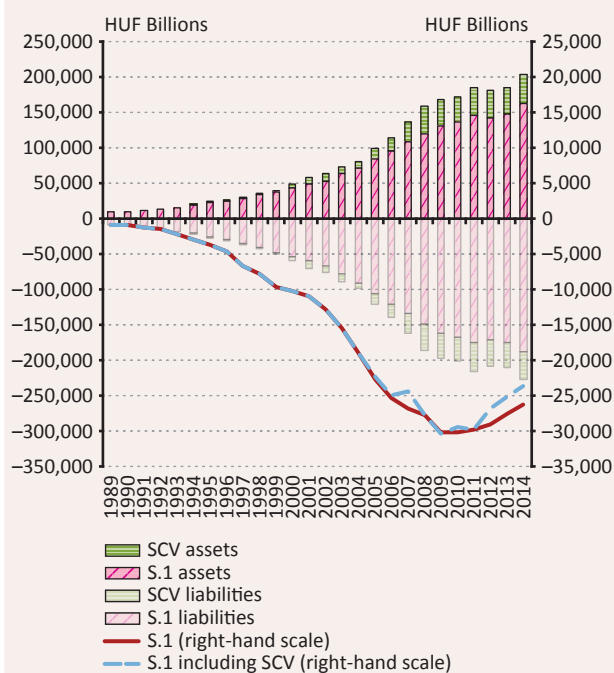
In general, special purpose entities (special purpose entity – SPE, special purpose vehicle – SPV) are corporations established by their owners for carrying out a *special task*. This task may be the financing of a specific project, the separate management or securitisation of different components of 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 (registered in Hungary) of non-resident owners, which perform a *passive, financial channelling* 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). Before

2006, financial channelling took place typically by lending sources received in form of equity 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).

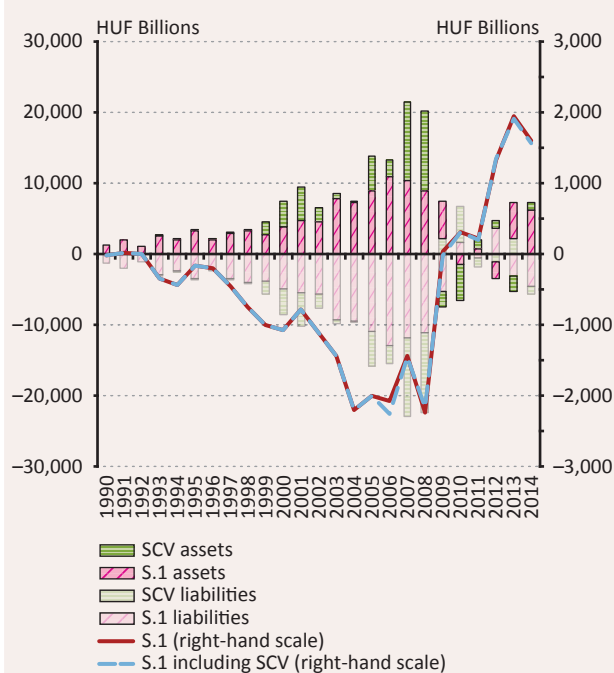
As SPEs do not represent an independent legal category, in statistics they may be identified and separated on the basis of their business accounting or statistical indicators (non-resident owners, small number of employees, low revenues, significant financial assets and liabilities existing exclusively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

Chart 2-3
Stock data of the financial assets and liabilities of SPEs relative to that of the national economy



Sources: MNB.

Chart 2-4
Transactions in financial assets and liabilities of SPEs relative to that of the national economy



Sources: MNB.

have a rather significant share in Hungary. Stemming from their financial channelling function, the assets and liabilities of special purpose enterprises is almost identical – disregarding from one or two years – their net financial worth is around zero. The transactions of assets and liabilities are nearly identical in volume, resulting in a net lending/borrowing near to zero. As a result, the recognition of SCVs in the statistics has no significant impact on the balancing items, however, it increases the stock (Chart 2-3) and transaction (Chart 2-4) of the assets and liabilities without reason. But, eliminating SCVs allows for the presentation of normal economic processes.

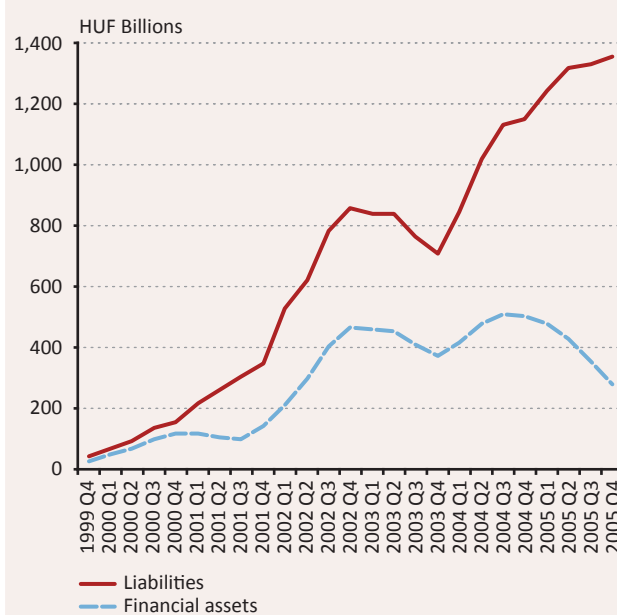
In Hungary, the legal and taxation category of *off-shore companies* existed until the end of 2005. Based on their tax office license, those companies were listed under this category, whose business contacts were exclusively non-resident partners. Since domestic financial statistics did not consider off-shore companies as resident economic operators, until the end of 2005 data pertaining to these companies were included either only through netting, or were excluded completely from the national accounts, the balance of payments, and the financial accounts. Off-shore companies registered in Hungary typically performed a passive financial intermediation within a non-resident enterprise group, or traded intangible assets (rights) 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 in Hungary.* 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.

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 engaged in passive financial intermediation 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 percent of this amount was represented by companies trading rights (and thus excluded from the SPE category), the number of which was 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

Chart 2-5
Stock data of non-SPE off-shore companies added to the balance of payments until the end of 2005 as presented in financial accounts



Sources: MNB.

the ‘whole’ economy and corporate sector including SPEs. 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 established on the basis of their annual reports, corporate tax returns and previous balance of payments data.

With the methodological changeover in 2014, in line with the new methodological rules, in addition to the financial intermediaries connected to the general public, corporations providing financial services to a limited group of clients, typically within a corporate group, must also be regarded as *financial corporations*. These corporations had to be reclassified from the non-financial corporations (S.11) sector to the financial corporations (S.12) sector. A holding or group financing company that engages in passive financial intermediation within the corporate group – if qualified

as an independent institutional unit – must be classified into the category of captive financial institutions (S.127), a newly created sub-sector within the financial corporations sector (S.12). The corporations pertaining to the new sub-sector are not connected to the financial markets neither on the assets not on the liabilities side. Based on the changes, the Hungarian SPEs to be considered as financial corporations (with large financial instrument) are recorded also in the new sub-sector of captive financial institutions. As the result of reclassifications, the stock of financial assets and liabilities of the non-financial corporation sector declined significantly, and accordingly, the financial worth of financial corporations increased in the financial accounts. The change was applied in financial account statistics retrospectively to the entire time series back until 1989.

2.7 Statistical recording of the exits from private pension funds

Transactions of social security schemes and private (corporate or financial intermediary) pension funds are accounted for in the national accounts with different methods. Therefore, when tasks are transferred between the two schemes, statistics has to resolve also any contradictions between the two methods. Social security schemes are treated in statistics as such income distribution systems which distribute the income as state institution between the different generations of society. Contribution payments are government revenues, while pension disbursements are government expenses. With the payment of contributions claims are not generated for employees vis-à-vis the social security, and the social security system does not recognise liability vis-à-vis households. However, private (corporate, employer's, financial intermediary) pension funds invest the individual contributions and the pensioners' income will depend partially on the size of accumulated contributions and partially from the yield on investments. Thus, in the case of these institutions contribution payments are accounted for in statistics as the financial investment of households, while pension payment as a decline in financial investment.⁹

When members, assets and liabilities are transferred from the pension funds to the social security, the transactions related to pensions change their character and transform financial transactions into income distribution transactions. However, not this change is the one that causes methodological issues, but the transfer of the assets and liabilities of pension funds. Pension payment obligation of pension funds vis-à-vis households (insurance technical reserve) is namely not applicable to social security schemes.

In Hungary, there was possible in a rather narrow scope for specific groups to leave the private pension scheme established in 1997 re-enter the social security scheme. This limited re-entries basically did not affect

either the assets accumulated in the pension funds, or the indicators of the government sector. Re-entry was possible for a wider scope for the first time in 2009 for persons aged over 55, then in 2011 the re-entry option opened generally, as the result of which the majority of private pension fund members re-entered the social security pension scheme. Private pension funds transferred the assets of exiting members to the state, which assumed also the related pension payment obligation.

The method of accounting of the exits from private pension funds differs according to the old and new statistical methodology. The national accounts method used until 2014 treated the transfer of assets as a one-off budgetary revenue, as a transfer. At the same time, the funds' pension payment obligation vis-à-vis households terminated. Hungarian statistics illustrated this process in a way that, households withdrew their receivables from the private pension funds, and paid the thus acquired assets into the government sector. Total pension assets to be transferred improved at the tie of asset transfer the balance of the government sector (net lending/net borrowing), and deteriorated that of households. The households' financial assets accumulated in the insurance technical reserves declined, while for the general government the financial assets that were in the portfolio of pension funds appeared.

The renewed methodology of national accounts breaks with its old approach which recorded the transfer of the claims and liabilities of pension funds by focusing on the features of social security scheme. The new methodology aims rather at retaining the features of the funds before and after the asset transfer. The government sector takes over a pool of assets with matching liabilities at the same time, meaning that the balance of the general government does not improve but remains unchanged upon the asset

⁹ The fact that in national accounts the contributions paid to the pension funds are recognised among the total contributions paid by households and the pension paid from the funds is also accounted for as the households' pension income does not contradict this statements. Although these items are shown in statistics in the income distribution account, their effect is neutralised by an adjustment – "adjustment due to the changes in assets of pension funds" –, therefore, these items can be accounted again as financial transaction also on the financial account.

transfer. When elaborating the new methodology, the fact that the transferred funds will not continue their operation in unchanged form, but will be merged into the social security scheme had to be also taken into consideration. The social security system is still construed as an income re-distributing system, i.e. pension obligation can still not be recognised in the government sector.¹⁰ Therefore, statistics does not record pension obligation in the government sector, but “*other liabilities*” and within this, “*social security advance contribution*”. Namely, the payment and use of contributions under the social security scheme coincide, since the pension system is an income re-distribution system. Thus, the case where a one-off payment is made which is not paid right away as pension, can only be construed as advances collected for future pension payments.

This advance contribution can be accounted later on as transfer revenue received from households and the liabilities of the general government recognised as social security contribution advance can be reduced by the amount accounted as revenue as until the liabilities are used up. Recording as revenue must be scheduled in a way that matches the pension payments to former fund members in connection with their membership. (It is accounted as current transfer and not as contribution revenue, because it had been already imputed previously as contribution, when the private pension fund contribution was paid.)

In addition to this, the new methodology requires *interest to be imputed* on the other liabilities (social security contribution advance) continuously during its existence. Liabilities are namely assumed – according to the argumentation of Eurostat – at net present value, therefore this must be continuously valorised. (As opposed to the regular other receivables or other liabilities, this is a rather long term instrument.) The argument of Eurostat according to which the transferred financial assets generate interest income in the government sector (or the reduction of interest expenditure, if spent on the government debt) is likewise for the interest imputation and this real interest income (decline in interest expenditure) is offset by the imputed government interest expenditure. According to the requirement, the interest rate must correspond

to the prime interest rate of long term government securities. These interests are added to the generated government liabilities (are paid to households as interest income, who reinvest it in their claims), and will be accounted as government revenue, when advance contributions are accounted as revenues in line with the pension payments. Thus, imputing interest in the initial period continuously improves the balance of households, while in the subsequent period it exerts exactly an opposite effect.

This rule would represent an especially spectacular temporal financial re-grouping in case of taking over a pension fund at which pension payment has not yet even commenced at the time of the assumption of pension payment obligations. Until the commencement of pension payments transfer revenues could not be accounted, only interest payments. In addition to this, statistics had to take account of the volume of pensions paid in the different periods to the former private pension fund members in consideration of their pension contributions paid to pension funds. Therefore, an easing option was included in the methodological manual of Eurostat¹¹: if scheduling the future pension payment runs into difficulty, the *linear increasing* application of transfer revenues can be assumed for the next 20-25 years. In the Hungarian statistics a model was developed which takes advantage of this easing option.

The accounting period of the model set up in the Hungarian national accounts is 35 years (between 2012 and 2046) and the prime interest rate is 3 percent *p.a.* The thirty-five-years period which is rather lengthy compared to the manual’s recommendation is justified by the fact that, in 2011 the Hungarian pension funds were very young institutions and were actually in the accumulation phase. Pension payment to members has not yet commenced, actually, significant payments will not be made to former fund members in the first decade after the transfer, either. The accounting period of 20-25 years recommended by the Eurostat was increased by this period lost in terms of pension payments.

Annual transfer revenue was established by evenly distributing the assets totalling to HUF 2,856 billion between 2009 and 2013 for 35 years and valorising

¹⁰ Upon the renewal of the international methodology unifying the accounting methods of corporate and private pension funds and social security schemes was raised. Recommendations aimed at accounting social security schemes similarly to the corporate pension funds. Finally a compromise has been reached. The contributions and pension payments of social insurance will continue to be recognised as income distribution items, but a satellite account had been created for keeping record of all so called implicit pension obligation. In the European Union these satellite accounts will be disclosed for the first time in 2017.

¹¹ Manual on Government Deficit and Debt, Implementation of ESA 2010, 2014 edition.

it by annual 3 percent. By doing so, the requirement of the methodology to account the transferred assets with annual linear increase, was met. In addition to the easy computability the advantage of the set up model is that the balance of imputed interest and accounted transfer revenue does not have in any of the years negative effect on the balance of the general government (Chart2-4).

The balance of government revenue and interest expenditure accounted until 2046, thus the net balance effect will be HUF 2,856 billion, i.e. it corresponds to

the amount of assets taken actually over by the state and which was accounted in total as balance improving item during 2009-2013.

The new methodology significantly modified Hungary's national account time series. Thus, as the result of the methodological change the balance improving effect of asset transfer is shown in the national accounts spread across 35 years. Due to the effect of interest imputing, the balance improvement does not improve the balance evenly in the accounting period but to an extent increasing year-on-year.

Table 2-4
Revenue of the general government and imputed interest expenditure
billion HUF

	2011	2012	2013	2014	2020	2030	2040	2045	2046
Stock of transfered pension obligation	2791	2846	2855	2851	2766	2 286	1 150	218	0
Annual transfer of pension obligation	2700	55	10						
Government revenue		84	87	89	106	143	192	223	225
Imputed interest charge		84	85	86	84	71	39	13	7
Impact on net lending/net borrowing		0	1	4	23	72	153	210	218

Table 2-5
The effect of methodological change on the retrospective data of the general government

	2009	2010	2011	2012	2013
Change in the general government net lending/net borrowing (billion HUF)	-26	-65	-2700	-55	-10
In percent of GDP	-0,1	-0,2	-9,8	-0,2	0,0
Change in the government liabilities (billion HUF)	26	65	2700	55	9

2.8 Creation of data related to standardised guarantees

Within guaranties, the renewed methodology of national account distinguishes *individual and standardised* guarantees. Standardised guarantee shall mean a guarantee, where the guarantor (typically a financial organisation or general government) concludes the same type of guarantee agreements in a large number for a fairly small amount (see ESA 2010 5.1.2 (b)). A unified methodology applied to the accounting of guarantees until 2014. The system treated all guarantee types uniformly as contingent assets. Contingent assets are generated as a consequence of contracts which condition the execution of certain financial transactions to meeting one or more conditions. National accounts record contingent assets (considers as financial assets) only if they are transferable and have a market value (see ESA95 5.05 and ESA2010 5.08). The most recent methodological revision retained the general rule applicable to contingent assets, but excluded standardised guarantees from the scope of this rule. Although when considering the standardised guarantees individually they do not qualify as contingent assets, but since they are concluded in large numbers, considering all guarantees of the same type issued by a single guarantor collectively, the activation of guarantees (future financial transaction) has a well calculable positive likelihood. According to this logic, standardised guarantees are not contingent assets, but instruments similar to insurances. Standardised guarantees must be recognised in national accounts as part of the AF.6. Insurance technical reserves instrument, as the liabilities of the guarantor institutions. If standardised guarantees are concluded by market operators, the value of standardised guarantee in statistics corresponds to the amount of the provisions accumulated for this purpose by the guarantor institution. The recording of standardised guarantees corresponds to the accounting method of non-life insurance contracts.

The government sector may also grant standardised guarantees. If these guarantees were granted on market basis, their accounting would not differ from the accounting of guarantees granted by

market operators. However, the guarantee premium – if any – is generally much lower than what would cover all future expenditures related to the guarantee. Thus, by granting guarantee, the general government provides a transfer for the beneficiaries. The methodology of national accounts in this case consider the creditor as beneficiary. Since the methodology unified the accounting of standardised guarantees, these transfers must be accounted at the time of undertaking the guarantee. Transfer provided at the time of undertaking the guarantee is offset by the increase of governmental liabilities (F.66 provisions for standardised guarantees). Accordingly, at the actual activation of guarantees exclusively a financial transaction, the reduction of governmental liabilities takes place. Herewith, the methodology restructures the governmental expenditures between the years.

In Hungary, the governmental guarantees undertaken for home loans are considered as standardised guarantees undertaken by the general government. Currently, four governmental standardised guarantee schemes have budgetary effect:

- demand guarantees undertaken by the state for home loans of public sector workers;
- demand guarantees undertaken by the state linked to the home loan of young people (“Nesting Program”);
- demand guarantees undertaken by the state for home loans (bridging loan);
- demand guarantees undertaken by the state for overflow credit lines on FX loans of private individuals (overflow credit line).

Common feature of the programs is that in the case of all four programs the period of guarantee has been closed and currently guarantees are only activated. Due to this, the estimation of transactions and stocks was easy upon the changeover in 2014.

1. The first period of programs where the guaranteed loan portfolio was increasing, was considered simplified as the period of guarantee undertaking.

The second phase, where the guaranteed loan portfolio was decreasing was considered as the period of drawing the guarantees.

2. We first examined the periods of drawing the guarantees. We calculated the percentage of loan portfolio decrease attributable to drawing the guarantees in these periods.
3. In the period of guarantee undertaking the amount of guarantees issued yearly had been multiplied by the above ratio. Thus, we arrived at the amounts of transfers issued in the individual years, which had been accounted as budgetary expenditures. The amount of transfers increased the amount of

governmental liabilities named AF.66 provisions for standardised guarantees.

4. The expenditures of the general government due to drawing guarantees were accounted as the reduction of the above liabilities in the national accounts.

The last row of the table illustrates that due to guarantees granted until 2014 guarantee activation amounting to approximately HUF 21 billion is expected. However, according to the new methodology these payments will no longer deteriorate the balance of the general government.

Table 2-6

Key annual data on the standardised guarantees of the general government

billion HUF

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Government expenditures of guarantee call on cash basis	0,0	0,0	0,0	0,0	0,0	0,2	1,0	1,6	6,9	2,8	3,2	7,0	1,9
Government expenditures of guarantee granting on accrual basis	1,6	3,4	1,0	7,9	16,1	9,7	2,0	1,6	0,4	1,7	0,0	0,1	0,1
Provisions for calls under standardised guarantees	1,6	5,0	6,0	13,9	30,0	39,4	40,4	40,4	33,9	32,9	29,7	22,7	20,9

2.9 Financial derivatives in financial accounts

Financial derivatives are recorded in financial accounts 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 financial accounts, derivatives must be recorded for each contract *at market value*. Assets and liabilities pertaining to the same deal are shown in the data balanced, as net amounts in a way that transactions showing negative market value are recognised in liabilities, while those with positive value in financial assets. Similarly to the stocks, transactions realised at the same time are also shown as net deals either among receivables or among liabilities. Typically stock decreasing cash movements, repayments take place in connection with derivative transactions, thus for the majority of transaction the sign is negative, as the closing of the deal or in the case of stock exchange deals the payments related to daily settlements decrease the stock of the deal with market value to zero. There are however also stock increasing movements linked mainly to interest payments on interest rate swaps, option premium payments or to the purchase of derivative position with positive market value.

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. 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.

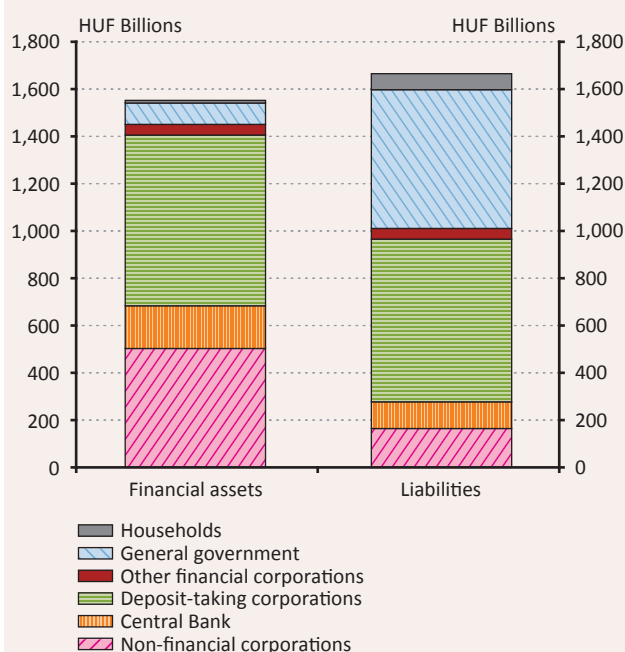
Despite the difficulties involved in characterising the statistical observation of this instrument, the data

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 financial institutions (MNB and credit institution)
- Non-financial corporations – with respect to their transactions with the rest of the world
- Investment funds
- Insurance companies
- Pension funds
- Central government (ÁKK)

Financial derivatives are registered in the financial accounts in the sector of *credit institutions* with the largest stocks and flows (see Chart 2-6). The stock of derivatives is rather significant for *non-financial*

Chart 2-6
Stock of derivatives at the end-2014 by sectors



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

corporations and the *general government* as well. Overall, the liabilities of the national economy at the end of 2014 exceeded their assets, within this non-financial corporations, the central bank and the credit institutions had larger derivative positions on the assets side while the general government, the households and non-monetary financial intermediaries on the liabilities side. All three sectors displaying significant stocks maintain contact dominantly to 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. Credit institutions recognise some 70 percent of their derivative transactions vis-à-

vis non-resident business partners, and two thirds of the remaining part covers resident inter-bank stocks.

The central bank has been collecting market value stock and transaction data on credit institutions and its resident partners since 2007. Data on derivatives in the precedent period had been established by using the daily FX flow reports of credit institutions. As regards the derivative transactions of non-financial corporations concluded with non-residents until 2007 only transaction data are available in the balance of payments statistics; in the financial accounts an estimate was made for stock data based on subsequent stocks and transactions.

2.10 Statistical recording of EU funds

In the case of statistical recording of EU funds, two key methodological requirements are to recognise EU funds directly in the sector which is the *final beneficiary* of the transfer, and to take into account transfers based on *accrual accounting*. Since the majority of received funds flows through the central budget, grants used by the general government must be distinguished from the transfers directed at other sectors. The budgetary revenues and expenditures pertaining to the former must be eliminated, and the budgetary side of the latter must be adjusted to the expenditures thus ensuring that the indicators of the general government are not distorted. Accrual accounting means that EU funds must always be accounted as revenue at the time of use and not at the time it arrived in the country. Regarding this, (in technical terms) three financing forms can be distinguished:

- the beneficiary receives directly the funds from abroad (internal policy subsidies, their weight is minor),
- the funds are received by the Hungarian State Treasury, but payments (agricultural subsidies) do not affect the budget (do not flow through it),
- the EU transfers received through the Hungarian State Treasury are entered into budget accounting (other subsidies).

EU agricultural subsidies are items financed from a separate account of the Treasury, and are received by the beneficiaries without transferring it through the budget (only households and corporations may receive agricultural transfers). The entire EU agricultural intervention and part of the EU agricultural subsidies are advanced by the Hungarian State from the separate account of the Hungarian State Treasury. These items are not entered in the budget and have no effect on

the official budgetary deficit. Funds flowing through the separate account of the Treasury may be product or other production subsidies, their disbursement to economic actors is the advance provided by the central government to the European Union. Accordingly, EU transfer is the repayment of the advance, i.e. a financial transaction.

Within the subsidy scheme of the common agricultural policy the EU guarantees producers a fixed buying-in price (intervention price). If the internal market price is below the intervention price, the price difference will be refunded. Accounting of intervention expenses in the system of accounts has specific rules. Inventories are namely not presented in the methodology as the property of the EU, but creates a quasi corporation which the stock-piling activity is attributed to. Intervention expenses and price differences not yet refunded by the EU are considered as advances granted to the EU, which is funded by the intervention organisation from the loan of the budget (is presented as part of the non-corporate sector).

The beneficiary of subsidies used through the central budget may be any sector, not only the central government. EU transfers are accounted until their use as advances, as other accounts payable of the central government vis-à-vis the rest of the world. If use precedes the EU funding, the advance granted by the Hungarian party to the EU (other receivables vis-à-vis the rest of the world) must be booked. Other receivables from and other liabilities to the European Union are recorded in the financial accounts in line with the balance of payments statistics and are highlighted in the detailed financial accounts of the general government (see Table 2-7).

Table 2-7**Stock of assets and liabilities related to EU funds in the financial accounts***billion HUF*

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Central government claims against EU	29	49	29	84	135	229	326	216	191	235	261
Central government liabilities against EU	114	117	118	307	313	451	332	689	459	331	291
Non-financial corporations' claims against EU due to the subsidies	44	11	45	38	40	33	23	74	78	85	87
Non-financial corporations' claims against EU due to the intervention fund	0	56	65	19	28	32	36	38	38	39	0
Households claims against EU	24	6	24	20	21	18	12	98	103	118	120
Central government's claims against the notional unit	0	141	203	33	26	46	44	32	32	33	0
Central government's liabilities against the notional unit	0	4	14	0	0	0	0	0	0	0	0

3 Analyses

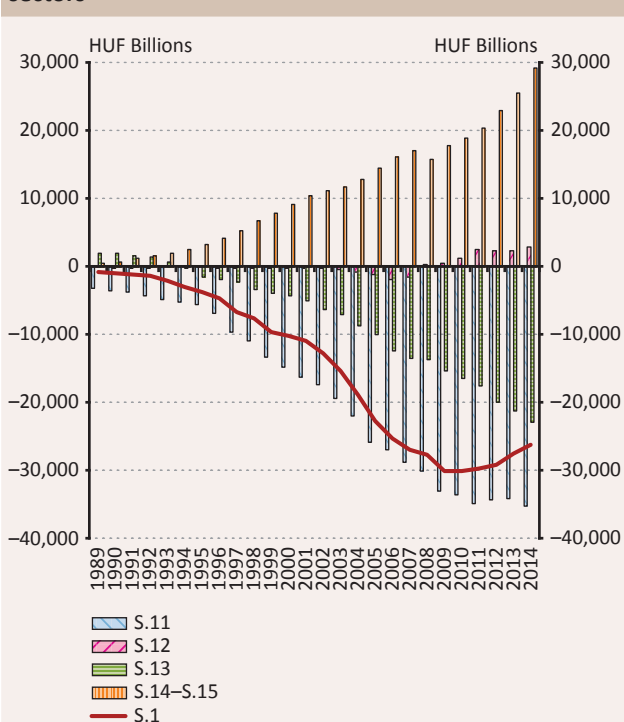
3.1 Developments in key financial account indicators of economic sectors

Main products of financial account statistics include the financial worth and net lending/net borrowing relations of the national economy without the *special purpose entities* (SPE) resident (registered) in Hungary. The reason for the exclusion is that SPEs engaged in typically passive, financial intermediary activities, through which they perform financial operations with non-resident partners in considerable volume would unreasonably increase the stock and flow data of the financial assets and liabilities of financial corporations. Although special purpose entities form also part of the national economy, and according to the methodological requirements their data are included in the international data reports and also in the

Hungarian data supplies, the chapters on the financial accounts of the individual sectors present *data without SPEs*. By eliminating the SPEs the regular economic processes are easier to interpret and understand.

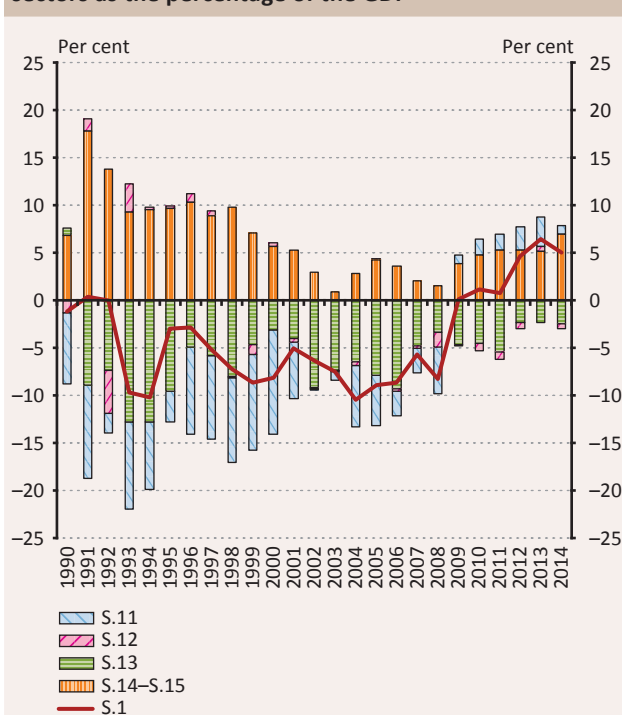
The two main balance ratios of financial accounts are the *net financial worth* (Chart 3-1) and the *net lending/net borrowing* (Chart 3-2) position. While the former should be calculated for the individual economic sectors as the difference of the stock data on financial assets and liabilities the latter is the balance of the transactions of financial assets and liabilities, i.e. the change in net financial worth stemming from transactions during a specified period. Both indicators

Chart 3-1
Changes in the net financial worth of major economic sectors



Sources: MNB.

Chart 3-2
Changes in the net lending/net borrowing in the main sectors as the percentage of the GDP



Sources: MNB.

are characteristic of each sectors of the national economy.

The *net financial worth of non-financial corporations* (S.11) is a negative figure, as these corporations invest a significant part of their funds in non-financial assets: tangible and intangible assets and inventories. The value of net financial worth for *financial corporations* (S.12) approximates zero because they either lend out or invest a large part of their borrowings in financial assets and hold only limited amount of non-financial assets. In the Hungarian statistics the net financial worth of financial corporations was really near zero until 2002. Between 2002 and 2007 however a smaller negative value shows which is due to mainly to the asset increase of real estate funds. On the other hand, between 2008 and 2013 the net financing worth of the sector becomes positive, which is attributed primarily to the different pricing of asset elements on the assets and liabilities side. Net financial worth of the *general government* (S.13) 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. *Households* (S.14+S.15)¹² in turn, have a typically positive net financial worth, as this sector holds a significant stock of financial assets compared to its liabilities. Overall, *net financial worth of the country* (S.1) shows a negative amount similar to that of non-financial corporations, i.e. meaning a net liability vis-à-vis the rest of the world, which grew continuously until 2009, and in the years following the financial crisis, it began to decline (see Chart 3-1). Changes to the net financial worth – by disregarding revaluations – is closely related to the changes in the net lending/ net borrowing position of sectors.

The net borrowing of *non-financial corporations* peaked during the nineties and in 2000 due to the booming investments in the period of economic growth. During this period, apart from a couple of years, the net borrowing measured in the financial accounts fluctuated around 8-9 percent of the GDP. In the following period, the net lending of non-financial corporations became volatile, but remained negative until 2008. Starting in 2009, as the result of financial crisis, non-financial corporations became – rather unusually – savers. 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 similarly due to transactions. In the reviewed period, the *general government* regularly spent more than it earned in revenue, therefore a net borrowing arose, the size of which fluctuated periodically. Net borrowing per cent of Hungary's GDP of the general government was the largest, some 13 percent, between 1993 and 1994. Net lending reached the next historic low in 2006, where the deficit was as high as HUF 2,200 billion, totalling to 9 percent of the GDP. Since 2012 the governmental deficit has been below the 3 percent threshold. As opposed to other sectors, net lending of *households* is positive along the entire time series. Through their financial savings they contribute significantly to the financing of the other resident sectors of the economy. Prior to the financial crisis households achieved the highest GDP proportionate net lending ratio between 1991 and 1998, but even in those years their financial savings were unable to meet fully the borrowing needs of other resident sectors. Between 2002 and 2009 the GDP proportionate value of the sector's net lending ratio dropped for a while. After 2009, the net lending ratio of households began to grow again, which together with the increasing savings of non-financial corporations proved to be sufficient for financing the national economy. Net lending ratio of resident sectors (national economy) became positive once again in 2009 for the first time since 1991 and it has been steadily increased since then, i.e. from then on the resident sectors have been financing in net terms the non-residents economic operators, the value foreign funds drawn by the Hungarian economy since 2009 is less than that of repayments (see Chart 3-2). This is reflected also in the changes to the net financial worth of the national economy, the dynamics of which changed direction in 2009 and the deficit began to decline slowly.

The balance ratios of financial accounts can be used also for observing the financial positions of economic sectors vis-à-vis one another and the flow of assets between the individual sectors. For analyses of this kind the net financial worth and net lending/net borrowing position of the individual sectors vis-à-vis all other sectors must be established for the periods

¹² For the purposes of this analysis, households (S.14) shall mean households (S.14) and non-profit institutions serving households (S.15) collectively. The insignificant net financial worth and net lending/ net borrowing positions of non-profit institutions serving households does not require to present the sector separately.

subject to analysis (financing matrix). The Hungarian financial account statistics provides data from 1989 until today on the financial assets and liabilities of the individual economic sectors broken down by partner sectors. The coverage and detailedness of statistics is complete, i.e. the financing relationship of each economic sector vis-à-vis all the economic sectors is observed on the full scale of financial instruments.

As regards the Hungarian economic processes, from among the periods covered by statistics, it is worth to look at the changes in the financing relationships between four points of time. The starting date is the turn of 1989-1990, the time of the political transformation (see Table 3-1). In the period following the political transformation Hungary underwent fundamental political, social and economic changes, resulting in significantly transformed financing relationships. Privatisation took place between 1990 and 1997 and the door opened for the inflow of foreign capital, the financial intermediary system began to develop, by 2002 the foreign exchange liberalisation was complete and Hungary prepared for the accession to the European Union. Thus, during the period between 1989 and 2003 (Chart 3-3) dominated by processes other than those in the subsequent periods, significant changes took place. Hungary's accession to the European Union in 2004 was followed by a fairly relaxed period characterised by economic growth. This period ended with the financial crisis unfolding in 2008 which fundamentally changed the behavioural patterns of economic sectors (Chart 3-4). Finally, from 2009 on the period of recovery commenced (Chart 3-5).

The financial worth of the sectors of Hungarian economy had been for assessed overall the first time in financial account statistics by *the end of 1989*. Net financial worth of *non-financial corporations* vis-à-vis the other sectors was at this time HUF -3,264 billion. In line with the economic and political situations of preceding years the sector had insignificant relations to the rest of the world. Its liabilities vis-à-vis financial corporations and households are higher. The stock of loans drawn from financial corporations (then only from credit institutions) was higher than the total of deposits placed with them and the cash holdings of non-financial corporations. The assets vis-à-vis the households stems in majority from equity instruments, owing to the non-share equity in cooperatives, to start-up small enterprises and to the spontaneous privatisation between 1987 and 1989¹³. At the same time, it is clearly the position vis-à-vis the general government that can be considered as a dominant relationship. 89 percent of net liability can be attributed to the general government, since major part of the enterprises is owned in 1989 still by the central or local government. *Financial corporations* have insignificant positive net financial worth. As regards the sectoral relationships however, something interesting can be observed, which well represents the intermediary role of the financial sector. While its net liability vis-à-vis the rest of the world is HUF 1,054 billion, its receivables from the general government is of the same volume. Namely, at this time the Hungarian state borrowed from abroad mostly through the central bank. Actually, the *general government* sector had liability to the rest of the world through the intermediation of the financial

Table 3-1

Net financial worth of the main economic sectors vis-à-vis one another, year-end stocks of 1989

(billion HUF)

		Non-financial corporations	Financial corporations	General government	Households and NPISHs	Rest of the world	Net liabilities
		S.11	S.12	S.13	S.14-S.15	S.2	
Non-financial corporations	S.11		180	2 903	256	-75	3 264
Financial corporations	S.12	-180		-1 110	206	1 054	-58
General government	S.13	-2 903	1 110		-35	-23	-1 851
Households and NPISHs	S.14-S.15	-256	-206	35		-39	-467
Rest of the world	S.2	75	-1 054	23	39		-917
Net receivables		-3 264	58	1 851	467	917	

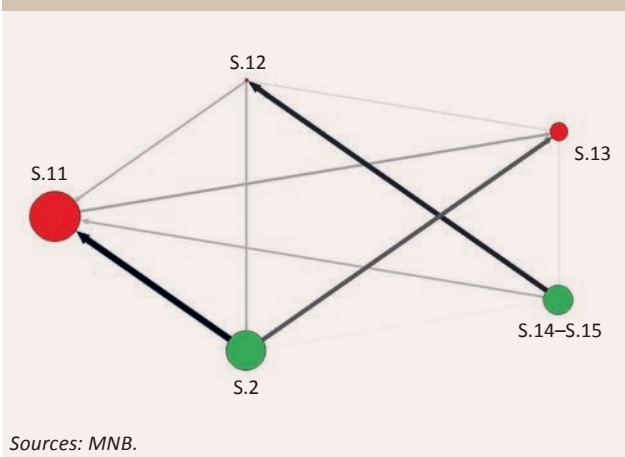
Sources: MNB.

¹³ Before the centrally controlled privatisation a so called spontaneous privatisation took place during which the management of state owned companies acquired part of the assets owned by the state through partnering with Hungarian private individuals and foreign investors.

sector (within that through the intermediation of the central bank).

The chart on the *financing net* describing the financing relationships of the main economic sectors provides several pieces of information¹⁴. In the *period between 1989 and 2003* the financing relations between the sectors were fairly balanced. The relationship was rather weak only between the rest of the world and households, and was extremely strong between the rest of the world and non-financial corporations, while it was average between the other sectors (Chart 3-3).

Chart 3-3
Financing relationships of the main economic sectors
between 1989 and 2003



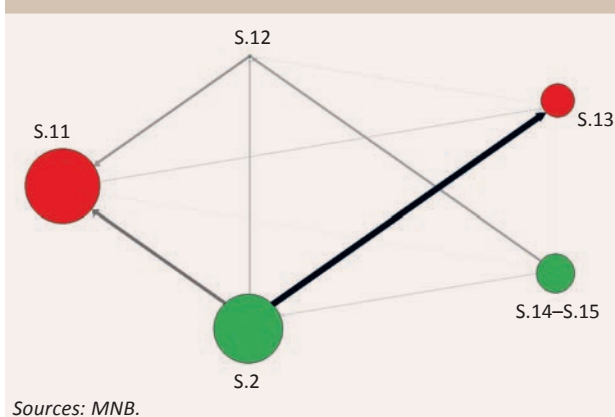
Net liability of *non-financial corporations* sextupled in the period between 1989 and 2003. It is however important to note that only half of this stems from financial transactions, the other half is due to the revaluations of assets. During this period majority of funds drawn originated from the rest of the world (S.2) amounting to some HUF 5,800 billion. Funds arrived mainly in the form of equity investments and loans. Net borrowing of non-financial corporations vis-à-vis financial corporations and households are almost the same. However, the form of financing differs in the case of the two sectors. While financial corporations provided sources to non-financial corporations to the greatest part through loans, households did this in addition to small shareholder's loans rather through the acquisition of shareholding. Similar in volume but opposite in sign is the net lending/net borrowing vis-à-vis the general government. When interpreting

the financing relationship between non-financial corporations and the general government however, the features of secondary market transactions must be taken into account. The almost HUF 2,300 billion shown here namely does not mean that it were the non-financial corporations who financed the governmental sector, but as the result of privatisation non-financial corporations dropped out from the ownership of the general government resulting in the decline in their liabilities to the general government through transaction, while sectors buying up the companies ensured the sources for the general government through secondary market transactions and purchase of equity.

In the period surveyed, the typical intermediary role of *financial corporations* is well visible, their net financial worth was insignificant. Sources drawn from households – in majority in the form of monetary assets, investment fund shares and various insurances – the value of which totalled to nearly HUF 5,000 billion were re-channelled to the non-financial corporations in the form of loans, the foreign loans drawn through the central bank had been repaid and the financial sector invested the free sources into various foreign money market instruments and Hungarian government securities. Compared to the deposits placed, households took out insignificant volumes of loans during this period.

In the period surveyed, the *general government* had net borrowing vis-à-vis all sectors, but it was the largest

Chart 3-4
Financing relationships of the main economic sectors
between 2004 and 2008



¹⁴ The size of colourful circles representing the sectors illustrate the size of net financial worth of the individual sectors at the end of the period, while the colour of the circles suggests the sign of the net financial worth. Red circles represent negative net financial worth for the specific sector (net liability), while green represents positive net financial worth (net receivables). Arrows on the chart point always to the direction of the sector to which financial resources flow from the specific sector (which is lent to) and the thickness (and shades) of arrows represent the financial transactions between the sectors, i.e. the extent of net lending position considering the entirety of period covered.

in the case of the rest of the world, foreign sources totalling to some HUF 4,000 billion was drawn by the general government through the issue of government securities and foreign borrowing. Net financial worth of the general government declined by some HUF 9,000 billion by the end of 2003 of which the change stemming from transaction is rather significant, HUF 8,250 billion.

The *period between 2004 and 2008* significantly restructured the financing processes. Practically, only a single significant net financial relationship can be observed among the main sectors, which is the net borrowing of the *general government* vis-à-vis the rest of the world amounting to nearly HUF 6,000 billion. By the end of this period the net foreign debts of the general government almost reached HUF 9,950 billion as opposed to the net domestic debts amounting to only HUF 3,770 billion. However, in the case of the general government we can state that, the revaluation of assets impacted positively during this period, towards the reduction of liabilities.

The rest of the world acted as financier also in the case of *non-financial corporations*. Non-financial corporations borrowed nearly HUF 3,500 billion foreign funds. As the result of this, the net foreign liability of corporations approximated HUF 16,000 billion at the end of 2008, the net liability vis-à-vis resident sectors was only slightly lower (HUF 14,000 billion). Although non-financial corporations borrowed less foreign funds compared to the general government, their situation was deteriorated by the fact that the significant portion of their foreign liabilities was denominated in foreign exchange. Thus, the weakening of forint at the period-

end significantly contributed to the increase of their net liability. The revaluation of net worth exceeded the value of net transactions.

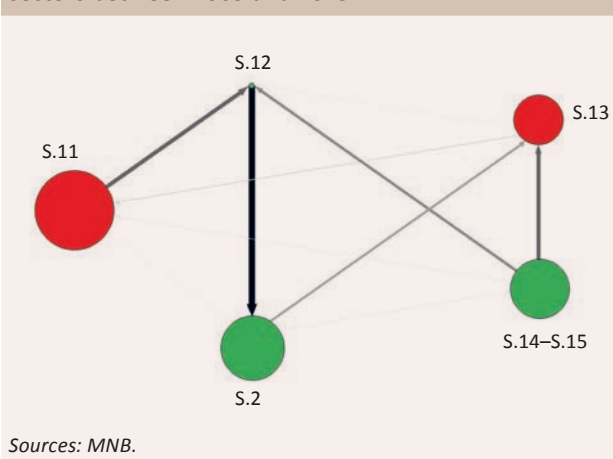
All these illustrates well that the financial crisis emerging in 2008 hit the Hungarian economy in a very vulnerable condition.

The relationships reorganised once again in *the last examined period*. Practically one powerful (between financial corporations and the rest of the world), two medium strong (between the non-financial corporations and financial corporations and the households and general government, respectively) and two low intensity (between the households and financial corporations, and the rest of the world and general government, respectively) financing relationships can be observed between 2009 and 2013. The financing relationship between several sectors has become almost completely balanced certainly not meaning that transactions were not made, it only means that the relationship is fully balanced, i.e. between the individual sectors the changes in the assets was fully offset by the changes in the liabilities.

The financing role of *the rest of the world* ended, foreign sources ceased flowing or non-residents withdrew significant assets through the financial sectors. In particular, the stocks of financial assets placed with credit institutions were reduced and expired credit institutional bonds were not replaced by new ones. Although through selling government bonds the general government sector managed to borrow sources from abroad, the volume of this was much lower compared to previous periods.

The loss of foreign sources was partially counter balanced by the financial assets flowing *from the resident households* to the general government sector, namely, the households' demand for government bonds increased as a consequence of the higher interest income and tax exemption (health care contribution). A significant transaction item due to the transfer of assets of private pension funds was accounted also during this period (mainly in 2011) between the households and general government. Due to the transaction, re-entries into the social security scheme resulted in an increase of the net financial worth of households vis-à-vis the general government by nearly HUF 2,700 billion. This transaction however did not represent a real financing need, it only

Chart 3-5
Financing relationships between the main economic sectors between 2009 and 2013



expresses the transformation of the financing structure between the sectors.

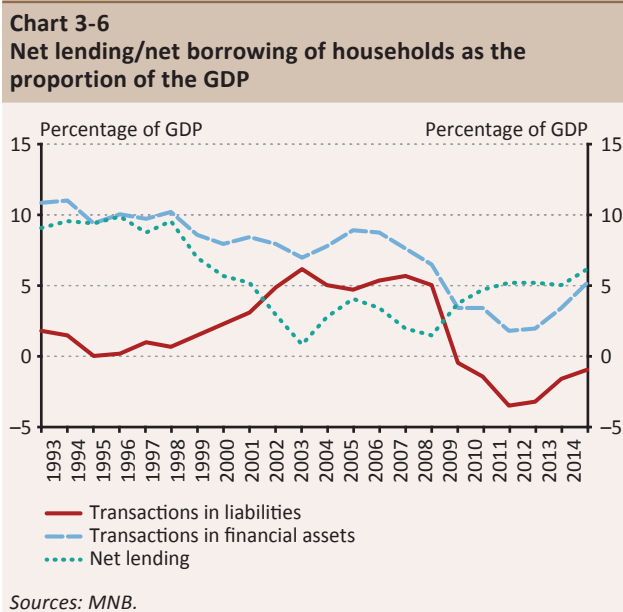
During this period post-crisis balance sheet adjustment processes can also be captured in the changes in the financing network. The direction of the relationship between non-financial and financial corporations reversed. Financial corporations narrowed their credit supply and parallel to this, non-financial corporations decreased their investment expenditures, and the thus freed sources were spent on the repayment of loans. The situation is the same also in the case of households, who, by changing their previous behaviour, became net loan re-payers. The households' strong loan repayment efforts are however concealed by the transactional effects of the aforementioned transfer

of private pension fund assets emerging vis-à-vis the financial corporations sector.

The increased loan repayment of *non-financing corporations* is however not reflected in the net financial worth of the sector. Namely, net revaluation appearing as a consequence of the further deterioration of HUF exchange rate was almost double and of opposite direction, thus net liability of non-financial corporations continued to increase despite the loan repayments. The adverse effect of exchange rates can be captured also in the *general government* sector. Unlike before (due to the restructuring of the forint and foreign exchange financial assets and sources of the general government) the net liability of the general government increased significantly as the effect of net restructuring.

3.2 Financial worth and financial savings of households

The net lending/net borrowing of households sector is typically positive, that is, it generates financial savings over and above its consumption and accumulation expenses, therefore it contributes to the financing of other resident sectors of the economy (general government, non-financial corporations). Between 1993 and 1998, the net lending of households in terms of GDP was rather stable at around 10 percent; however, by 2003 it gradually dropped to 0.8 percent. The value of the index changed slightly in the subsequent period, then following the financial crisis in 2008 it increased to approximately 5 percent. (Chart 3-6)



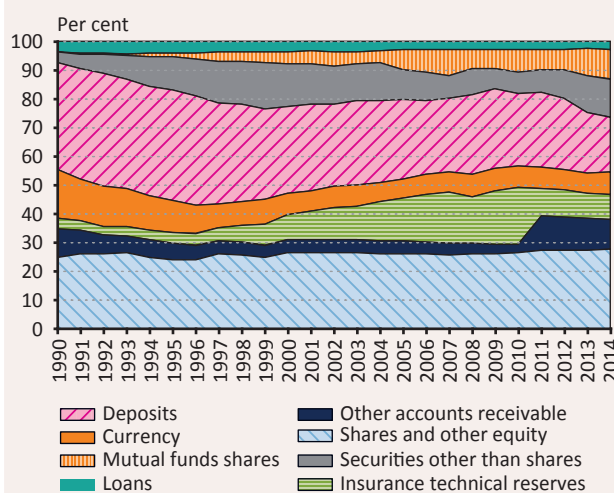
In the 1990s the changes in the net lending/net borrowing of households was almost completely determined by the investments into financial assets; the transaction of liabilities measured as the proportion of GDP was around zero. Following this, however, the indebtedness of households grew dynamically, triggered between 2000-2003 by the state subsidisation of home loans and following the termination of this by the boosting of FX lending between 2004 and 2008. The transactions in the financial assets moved basically in opposite direction compared to the transaction of loans until 2008.

Following the financial crisis, however, households became net loan re-payers, they were more likely to spend their savings on the repayment of loans and this determined also the changes to the net purchase of financial assets. Thus, the transactions of assets and liabilities measured as the proportion of the GDP changed to the same direction in the past years.

STRUCTURE OF FINANCIAL ASSETS

In the financial assets of households the other equity (shares and equities) other than deposits and investment fund shares were the utmost. It is characteristic of the period covered by the financial account that, while the ratio of shares and equity in the financial assets of households is fairly stable, around 25 percent, by the extension of financial instruments the ratio of deposits declined significantly (from 40 percent to 20 percent). Namely, as regards the forms of savings offered to households, the role of non-banking financial institutions (insurance companies, pension funds, investment funds) and the central government grew in addition to that of credit institutions. At the end of 2014, insurance technical reserves, mutual investment funds shares, debt securities and cash

Chart 3-7
Structure of the financial assets of the household sector



had nearly the same ratio in the financial assets of households (Chart 3-7).

During the past period (of some 25 years) the most spectacular development was observed in the area of investments in insurance and pension fund savings. Following the elimination of the monopoly situation 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. The continuous growth was also driven by the fact that insurance technical reserves represent long-term investment serving self-care purposes; and households are either not allowed to change investment portfolios prior to maturity date, or they may do so with significant losses. The ratio of this financial assets grew by the end of 2010 from 4 percent to 20 percent. The rapid growth in this period was primary due to the compulsory character of private pension fund payments. In the voluntary branch the supplements to the membership fees by the employers represented a considerable increasing factor, and this type of investment is claimed also by the personal tax allowance applicable on the paid amount. Within the life insurance premium reserve the ratio of unit-linked life insurances grew in this period, where investors have the option to choose between portfolios representing different risks.

There was an important change in the system in 2011, which changed the structure of financial assets. The compulsory private pension fund payment ceased, namely, and with the re-entry into the social security system the majority of existing private pension fund assets were transferred to the central government, which were subsequently recognised in the financial accounts under other receivables instrument. The savings of the households in insurance technical reserves declined by HUF 2,900 billion, thus the ratio of insurances and pension fund savings dropped significantly (9 percent), while those of other receivables increased (12 percent) within the financial assets.

Within the financial assets of households the ratio of investment fund shares grew to 10 percent by the end of 2014. The growth is not however continuous, the portfolios impacting mutual investment fund shares had restructured several times in the past period. There was a rather significant decline in stock for the first time in 2003; on the one hand because the stocks were revaluated to adjust for exchange rate changes, and on the other hand, the gradual growth of market

yields resulted in the withdrawal of significant amounts of the household savings from bond and money market funds. Following the outbreak of the financial crisis in 2008 the households' financial assets underwent similar re-grouping. The sector significantly reduced its investment fund share portfolio in a short time, while increasing its savings in bank deposits. From 2012, however, (related to the reduction of deposit interest and to the increase of investment fund yields) the households' savings in investment fund shares have been significantly grown. Within investment funds, households tend to increase their savings held in bond funds, which is encouraged by the exemption of interest income paid by investment funds investing in government securities from the health care contribution since August 2013.

Debt securities in the financial assets of households are linked basically to two issuer sectors: to the resident credit institutions and to the central government. At the beginning of the 1990s credit institutional securities had a larger proportion in the investments of households, later the purchase of government securities became increasingly preferred. During the period between 2008 and 2010 the households' demand for bank bonds increased once again, and at the end of this period the share of bank bonds and government securities was already the same within investments. In the last years, the role of households has intensified in the direct financing of the general government. Larger demand shows for short term treasury bonds accounting for some two thirds of the stock in 2014. The higher-than-bank deposit interest income paid by this instrument contributed to the growth of demand and the exemption from health care contribution further increased its interest edge vis-à-vis deposits.

The ratio of cash within the financial assets of households has basically remained unchanged over the past several years (7-8%). As falling inflation rates have reduced the losses of holding cash, there is less motivation for households to use other forms of investment. The transaction duty introduced at the beginning of 2013, and the option to withdraw cash with no duty up to the amount of HUF 150,000 contributed also to the increase of cash stocks by households.

In the households' share and equity portfolio, equity-type assets were dominant which are four times as high as share assets. Households gradually increased their holdings of other equities via capital increases and

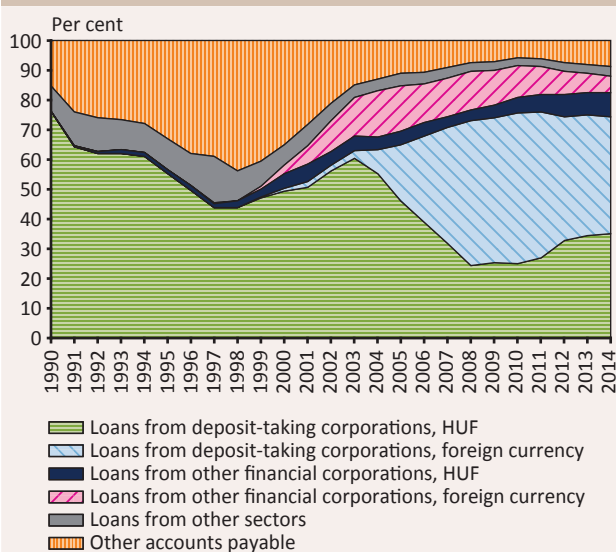
acquisitions, and currently households have a share of around 30 percent of the total value of non-share equities issued by domestic companies not operating in the form of a shareholding company.

From among shares and other equity, quoted shares are the ones held by households for investment purposes. The ratio of this instrument within the financial assets of households is however only slightly over 1 percent. The ratio of quoted shares was the highest in 1997 (4.8 percent). Then, on the one hand, the stock increased due to the share purchases with privatisation purpose (which were associated with favourable payment terms), and on the other hand, due to the increase of stock exchange prices significant revaluation gains were realised on the investments. Although in 2008 households extremely increased their share portfolio due to the transaction, the stock measured at market value remained unchanged as a consequence of accounted revaluation loss.

STRUCTURE OF LIABILITIES

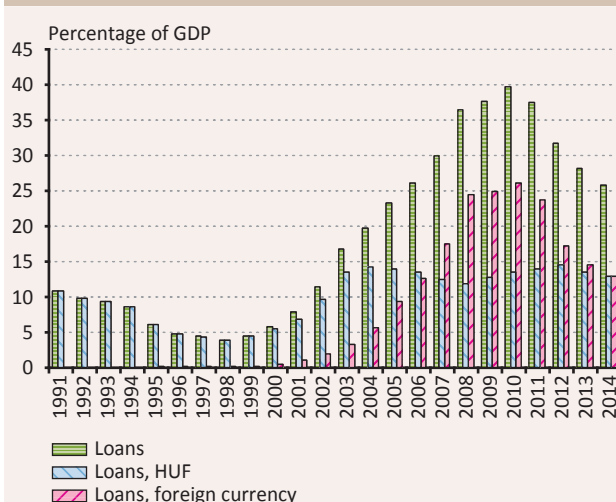
Majority of the households' liabilities comprise credits and loans (see Chart 3-8). This, at the beginning of the period under examination meant typically debts vis-à-vis credit institutions, then from 2000 on the retail lending activity of financial corporations (primary leasing companies) strengthened. In 2014, the loan portfolio was made up in 80 percent of loans extended by credit institutions, while in 15 percent by other financial corporations (loans of leasing companies, consumer credits, student loans).

Chart 3-8
Structure of the liabilities of households



Retail lending boosted between 2000 and 2008, where the portfolio grew to its 20-fold and at the end of the period it was as high as 36 percent of the GDP (Chart 3-9). Initially forint lending grew by the introduction of state subsidised housing loan schemes. In 2004, however, demand for forint housing loans dropped due to the tightening of subsidised housing loan conditions, and to compensate this decline, credit institutions began to offer foreign exchange products with small instalment amounts both concerning consumer credits and housing loans. The boosting of foreign exchange lending was further strengthened (in 2006-2008) by the households' increasing borrowing to prevent a decline in consumption stemming from the reduction of real income. At the end of 2008 two thirds of the loans was foreign exchange loan with lower interests and thus lower instalment amounts as compared to forint loans, which were primarily denominated in Swiss Franc. As a consequence of the financial crisis in 2008 however, the situation changed as a result of the weakening of forint and the increase of interest and fees the monthly instalment amounts grew significantly. As a consequence of the long term adverse income prospects, the loan demand of households fall back, they became net loan re-payers. Governmental measures related to lending, i.e. the prohibition of foreign exchange based mortgage lending (in 2010), the introduction of early repayment program (in 2011-2012) and the conversion into forint (2015) promoted a faster reduction of foreign exchange loans. The loan portfolio of households reduced by HUF 1,350 billion (5 percent of the GDP) under the early repayment at preferential exchange rate, and related to this, HUF

Chart 3-9
Loan portfolio of households as the proportion of GDP

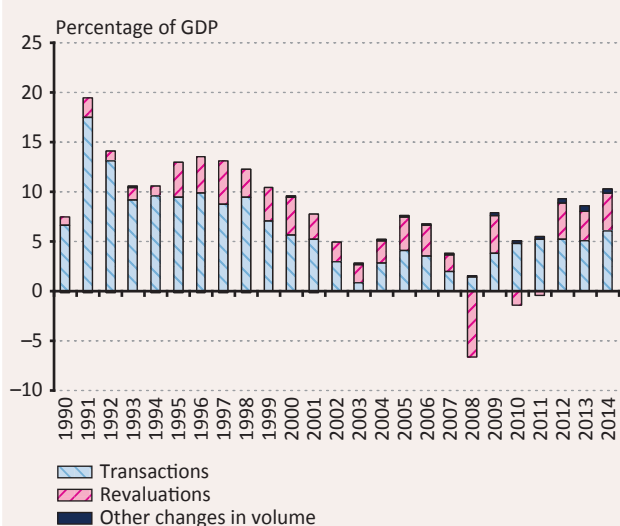


370 billion capital transfer had been accounted from the financial corporations and the general government to the households. By the end of 2014 the ratio of foreign exchange loans within the loans reduced to 50 percent, and as the result of the conversion to forint in 2015 to 5 percent.

REVALUATION DEVELOPMENTS

The changes in net financial worth of households (difference of assets and liabilities) depends basically on two factors: the transactions and the revaluations (the third component is the other volume changes, but the extent of this is insignificant, it basically contains the write-off of loans. Revaluation indicates the impact of market prices and exchange rate changes on the size of the net financial worth (Chart 3-10).

Chart 3-10
Components of the change in the net financial worth of households as the proportion of the GDP



Sources: MNB.

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 households started to include more and more financial instruments (such as quoted shares, debt securities, investment fund shares, insurance fee reserves), whose strongly fluctuating market prices resulted in revaluation gains or losses on the specific instrument. Permanent revaluation had the greatest impact within the financial assets on the instrument of other equities. This can be attributed to the fact that on the one hand, this is the instrument with

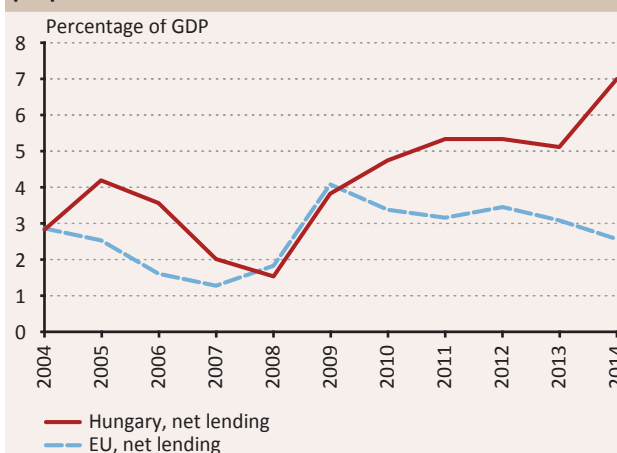
the greatest share among the financial instruments of households, and on the other hand, profits left in corporations – through the increase of equity capital – leads to a significant appreciation of the equities of households. Revaluation gains realised on the instrument generally compensates for potential losses realised on other instruments. Changes in the loan debts of households (in the case of high foreign exchange loan proportion) is considerably impacted by the changes of the forint exchange rate.

Revaluations in general increased the net financial worth of households in each year of the period surveyed from 1990. With the exception of 2008, where as the result of the financial crisis households realised huge revaluation losses, and revaluations reduced the net financial worth as well also in 2010-2011, as the revaluation of loans exceeded the revaluation gains accounted for financial assets.

INTERNATIONAL OUTLOOK

Net lending/borrowing ratio of households in relation to GDP is not considered as low in international comparison either, in fact, it mostly exceeded the EU's average (Chart 3-11). This can be typically explained by the different net borrowing trends, the ratio of financial assets in relation to GDP has namely changed similarly to those of EU member states. Although the net borrowing measured as the proportion of the GDP was in the pre-crisis years already as high as the EU average, following the crisis the demand for loans dropped more powerfully in the case of Hungarian households. Indebtedness of the Hungarian households, the 25 percent ratio of the loan portfolio

Chart 3-11
Net lending/borrowing position of households as the proportion of the GDP



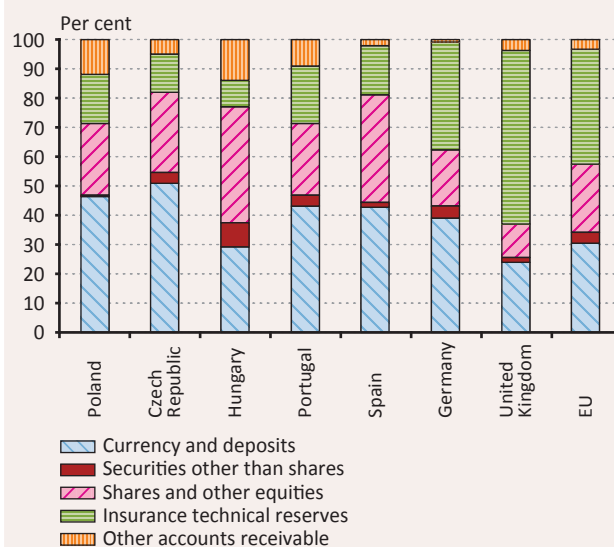
Sources: Eurostat.

in relation to GDP is far lower than the 65 percent level typical in the EU member states despite the dynamic growth of loan portfolio before the crisis. However, financial account statistics is only suitable for presenting the average values, it does not provide information about the structure of indebtedness, the distribution of financial assets and liabilities within the sector of households.

If comparing the structure of financial savings to the EU average, the difference is the largest in the instrument of insurance technical reserves (Chart 3-12). The ratio of receivables from insurance companies and pension funds is much higher, while the ratio of other receivables is lower in the EU member states. Accordingly, with the termination of the compulsory pension fund scheme the existing stock of receivables appeared in the Hungarian financial accounts among other receivables from the general government, which strongly influences the structure of savings.

The weight of bank loans and cash is lower in the Hungarian households while the weight of securities (debt and equity securities) is higher than the EU average. The differing ratio of various financial assets across countries reflects partially statistical accounting,

Chart 3-12
Structure of financial assets in the individual countries
(as on 31st December 2014)



Sources: Eurostat.

classification and also revaluation differences. The distortion effect of this may be especially strong in the case of other equity.

3.3 Financial accounts of the general government

In statistical terms, the sector of the general government (S.13) comprises in addition to organisational units functioning as budgetary institutions or extrabudgetary funds (general government in the legal sense) the corporations and non-profit institutions classified into the government sector. Within this, the central budgetary institutions, extrabudgetary funds (other than social security funds) and state owned, classified corporations and non-profit organisations make up the sub-sector of central government (S.1311), the budgetary institutions of local government and the classified corporations and non-profit organisations owned by them make up the sector of local governments (S.1313), and the social security funds and their institutions make up the sub-sector of social security funds (S.1314).

Although the balance that can be derived from the financial accounts of the general government (so called net lending/net borrowing calculated bottom up), i.e. the difference between the transactions of financial assets and liabilities theoretically corresponds to the balance calculated on the side of non-financial assets, i.e. from the difference of revenues and expenditures (so called net lending/net borrowing above the line), each of the two parts of national accounts provide different information about the processes of the general government: the explanation of the change in the balance (typically deficit in the case of the general government) is provided by the revenues and expenditure of non-financial accounts, while financial accounts show how this deficit was financed. Thus, from the perspective of financial accounts, the deficit (net borrowing) is a given condition; the information visible from the financial accounts is the way the deficit was financed, what kind of financial assets that were sold or liabilities undertaken.

FINANCING THE DEFICIT OF GENERAL GOVERNMENT

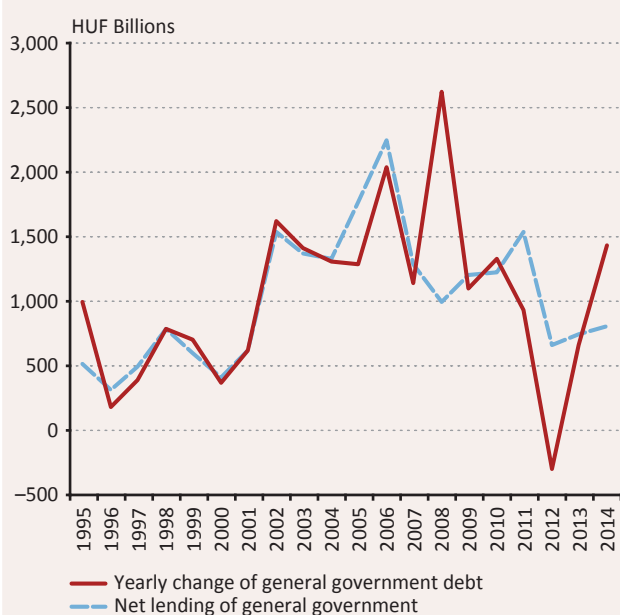
Covering the deficit, i.e. surplus expenses in excess of revenues can be realised in two ways: by the reduction of financial assets or the increase of liabilities. In practice, however, the sale of financial assets (sale of other equity, use of deposits, recovery of loans granted, sale of securities) is only a short term solution, and the decrease of other receivables or the increase of other liabilities mean also a temporary item representing temporal correction, thus, on the long term, only external funds (borrowing, issue of securities), i.e. indebtedness could be a solution for satisfying the net borrowing permanently. As a consequence, there is a close relation between government balance (deficit) and change in debt on a longer term.

The diagram¹⁵ based on statistical data of general government between 1995 and 2014 shows the yearly change of government deficit and the change in debt financing it. (Chart 3-13). The development of the two time series relative to each other illustrates well which form of deficit financing was dominant in the individual periods. In the period between 1996 and 2004 the change in the debt stock closely correlated with the development of net borrowing, i.e. the financing of deficit took place dominantly through increasing the debt type liabilities. From 2005, in addition to debt increase the assets side financing gained also a larger role resulting in widening the gap between the two time series. In 2008 the increase of debt was much larger than what was justified by the financing of deficit in itself, as it partially served as accumulation of financial assets. In 2011 the increase of other liabilities partially compensated the increased financial assets, thus the increase of debt was moderate. In 2012 the

¹⁵ In the analysis, the so called "Maastricht debt" term is used, see later for detailed explanation.

appreciation of the forint and the selling of certain financial assets allowed the reduction of the debt to a larger extent. In 2014 the increase of debt exceeded once again the amount required for financing the deficit, in this case the depreciation of the forint resulted in the appreciation of debt denominated in foreign currency. This debt increase however, does not have a financing role, but it increases the debt.

Chart 3-13
Changes in general government deficit and debt



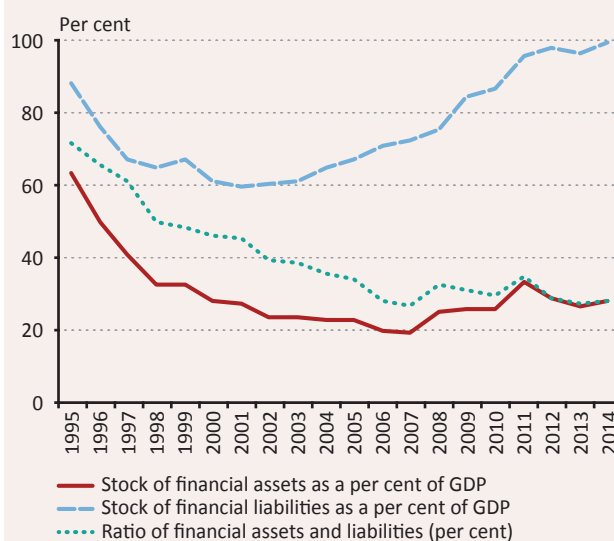
Sources: MNB.

FINANCING WITH THE HELP OF ASSETS

The consolidated stock of assets of the general government has shown since 1995 – with slight fluctuations–, a growing trend it changed nominally from HUF 3,500 billion to HUF 9,000 billion in this period. However, comparing the assets and liabilities of the general government, the picture is a bit more sophisticated: despite the enormous nominal growth the ratio of financial assets relative to the liabilities declined from 70 percent to 27 percent in the surveyed period, and similar trends appear compared to the GDP as well (Chart 3-14).

In the past period the composition of financial assets has significantly restructured, the weight of certain instruments decreased, while that of others increased

Chart 3-14
Stock of financial assets and liabilities of the general government in the percentage of the GDP

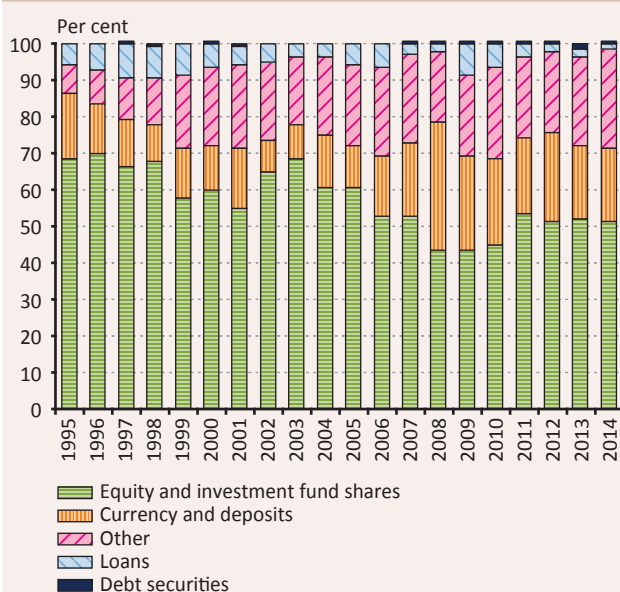


Sources: MNB.

(Chart 3-15). The largest share of the financial assets of the general government composed of equity (shares and other equity) during the entire period, although their weight decreased significantly within the receivables (from 69 percent to 51 percent) Their stock totalled to HUF 4,600 billion at the end of 2014. An opposite process took place in other receivables, where primarily the stock of the instrument containing receivables from taxes, contributions, transfers and trade credits totalled to some HUF 2,450 billion at the end of the period representing 27 percent of assets.

Deposits of the general government held with the central bank had a significant role in the recent period, which in terms of liquidity is the most suitable for financing the deficit on the assets side. From 2008 onwards, the stock of deposits held by general government with the central bank reached HUF 1,500-2,000 billion forints, vis-à-vis the level of 500-600 billion forints typical before. The foreign loan borrowed in 2008 namely exceeded the level required for financing the governmental deficit, thus part of the debt increment was channelled into deposit accumulation. Stemming from the nature of the instrument consisting in majority of current account type deposits, short term fluctuations within a year in accordance with the periodicity of net borrowing (different timeliness of revenues and expenditures) is characteristic of this instrument.

Chart 3-15
Breakdown of year-end stock of governmental financial assets by instrument type



Sources: MNB.

WHAT WE SHOULD KNOW ABOUT DEBT

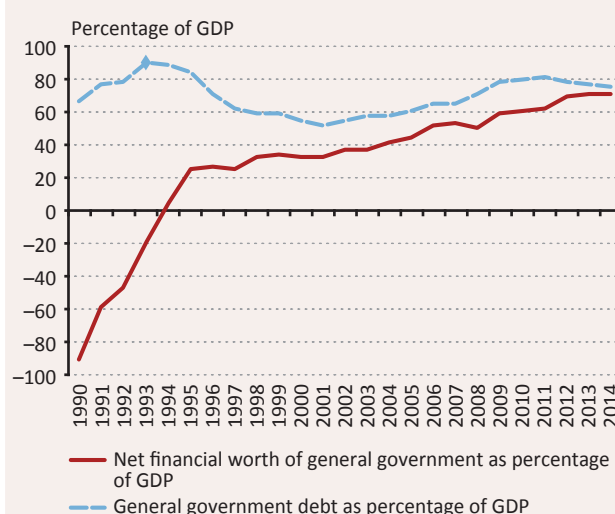
Comparing the changes in the government debt and deficit it clearly shows that although financial assets occasionally played major role in financing the deficit of the general government, the issue of securities and borrowing, i.e. the so called debt instruments constituted the dominant source of financing. In the years, where assets side financing was insignificant, the level of governmental deficit was financed entirely through the increase of governmental debt.

In the Magyar Nemzeti Bank the so called Maastricht debt¹⁶ of the general government is calculated parallel to compiling the financial accounts of the general government. This concept of debt considers the deposits held with the general government (Treasury), the stock of securities issued and loans borrowed by the government as debt elements. The debt of the general government in the Maastricht sense does not equal to the total debt of the general government, since this latter comprises also the so called other liabilities (liabilities on taxes, social contributions, wages, trade credits, liabilities due to the transfer of pension assets, advances received) and is not identical with the net liability of the general government either, which shows the difference between the financial

assets and total liabilities of the governmental sector calculated at market price. The Maastricht debt is a category calculated at nominal value, capturing only a part of the liabilities side, it is gross, i.e. not reduced by receivables. The most commonly used indicator to express the size of government debt is the debt ratio, i.e. the percentage rate of debts relative to the GDP, capturing the extent of indebtedness in relation to the economy's efficiency.

The development of the Maastricht debt of the general government can be traced from the financial accounts as of the end of 1989. Total debt at the end of 1989 totalled to HUF 1,264 billion, representing then 73 percent of the GDP. The debt at the end of 2014 at current price was HUF 24,514 billion, as high as 76 percent of the GDP (Chart 3-16). Since the political transformation the debt ratio was the highest at the turn of 1993-94, where it increased to over 90 percent, then it gradually decreased until 2001 to 52 percent. From 2002 the trend of decline of debt was reversed by the increasing of government deficit, and by the year of 2010 the debt ratio amounted 80% of the GDP. Since then, due to the improving budgetary balance a slow reduction is observable, manifesting primarily in the reduction of the indebtedness vis-à-vis the rest of the world.

Chart 3-16
The debt of the general government and net liability in the percentage of the GDP



Sources: MNB.

It is primarily the central government who contributes to the consolidated debt of the general government, but in the period surveyed the contribution of local

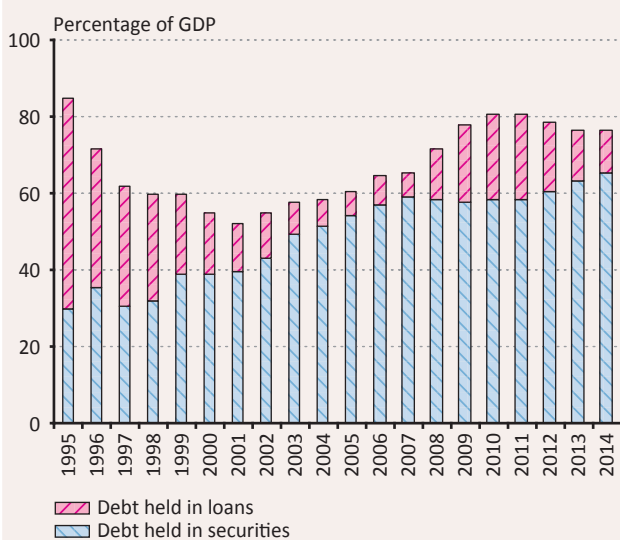
¹⁶ See the detailed methodological description of the concept in the next chapter.

governments grew slowly but continuously. In 2011, prior to the commencement of the consolidation of the debts of local governments, the governments' share in the general government debt was over 5 percent. At the same time, until 2001, with the purchase of government bonds the local governments contributed to the decrease of consolidated debt to a substantial degree relative to their own stock of debt. As the result of the settlement and assumption of the debt of local governments the debt issued by local governments totalled by 2013 only to 2 percent of the debt of general government, then in 2014 it reduced basically to zero.

CHANGES TO THE DEBT STRUCTURE

In the surveyed period the role of debt instruments played in financing changed significantly (Chart 3-17). In 1995 the weight of government bonds was only 35 percent within the stock of debt, while the stock of loans reached historical highs, it totalled to 55 percent of the GDP. After 1995 significant changes took place in the financing of the Hungarian general government (see later), as the consequence of which the situation reversed by 2005 and government securities represented 90 percent of the total debt while major part of loans had been repaid. In 2008 a new borrowing wave started, as a consequence of which the share of government bonds within government debt dropped to ca. 70 percent by 2010. In the period passed by since then, the focus was one again on loan repayment, thus, the value of loans relative to the GDP was only around 10 percent at the end of 2014.

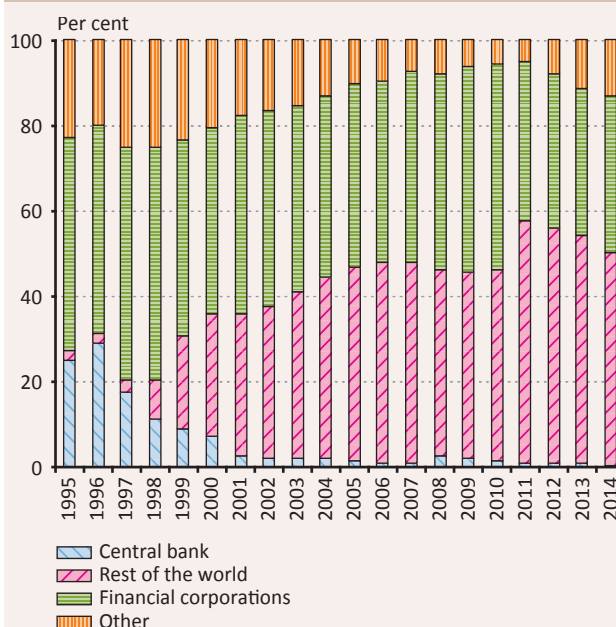
Chart 3-17
Securities and loan type debt elements as the percentage of the GDP



Sources: MNB.

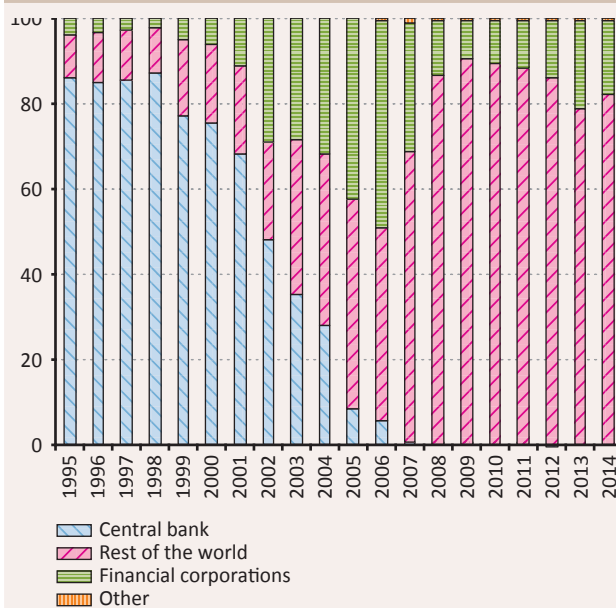
Changes impacted not only the distribution of debt by instruments, but the role of lending sectors restructured fundamentally (Charts 3-18 and 3-19). At the beginning of the period surveyed, in 1995 greater part of the government debt was outstanding vis-à-vis the central bank. Reason for this was that, until the beginning of the 1990s, the central budget was

Chart 3-18
Distribution of the stock of securities by main creditors



Sources: MNB.

Chart 3-19
Distribution of the stock of loans by main creditors



Sources: MNB.

financed almost exclusively by the MNB through forint loans. By 2007 the loans granted by the central bank had been repaid and the MNB's role in debt financing became insignificant. The central bank has never had a dominant role in the purchase of government bonds, however, the Hungarian credit institutions were from the beginning present in the bond market, their share was around 40-50 percent considering the period as a whole, and a restructuring is only observable from 2010 for the benefit of households and foreign investors.

As the central bank's role narrowed in the debt financing, the role of foreign investors gained value. 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. By 2011 65 percent of government debt was financed by foreign creditors, and within this, the share of 90 percent in terms of borrowing was outstanding.

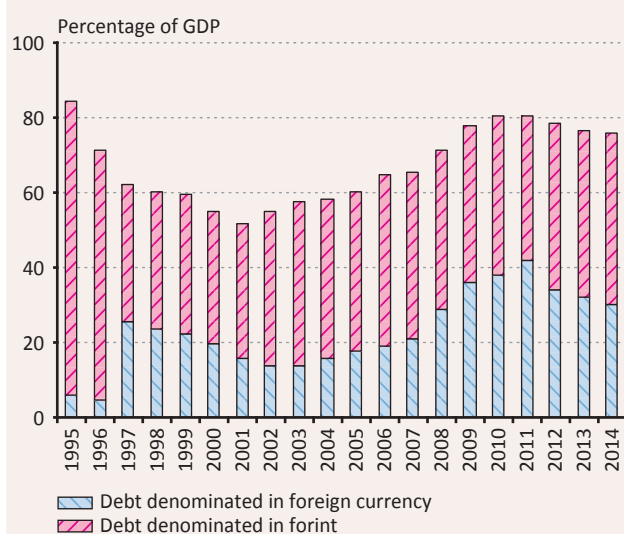
As a consequence of strengthening presence of foreign creditors and the market entry of FX bonds the significance of debt held in foreign currency increased from the mid-1990s (Chart 3-20). This was associated with the debt swap between the central bank and the state (from then on the central bank recorded its foreign debt vis-à-vis the general government in the form of foreign exchange loans), which in itself increased the foreign exchange debt by HUF 1,800 billion (to the expenses of forint debt), and hereby the ratio of foreign exchange items rose to 40 percent.

It is worth noting here that not all foreign debt is foreign exchange debt; subject to the yields and exchange rate risks foreign investors prefer from time to time government securities denominated in forint. The period between 2000 and 2008 was primarily characterised by high stocks of forint government securities held by non-residents, which was ended by the selling wave triggered by the economic crisis.

In the period following the debt swap up until 2002 the ratio of foreign exchange debt in relation to the GDP reduced year-to-year, and from 2003 it began to increase slowly. From 2008, as a consequence of the economic crisis, financing of the deficit of the general government was possible from domestic sources only to a more limited extent compared to the previous periods, therefore, the need for external funding increased significantly, which entailed the increase of foreign exchange debt. The ratio of foreign exchange debt within the government debt reached in 2008 again the level of 1997 (ca. 40 percent), and it continuously increased in the subsequent years (in 2011 more than half of government debt was in outstanding in foreign exchange). From 2012 the stock of foreign exchange debt showed again a decrease as a result of the repayment of previously drawn loans, to which also the strengthening of forint exchange rate contributed.

THE CHANGE OF DEBT AND FOREIGN EXCHANGE

Chart 3-20
Changes to the forint and foreign exchange debt of the general government as the percentage of the GDP

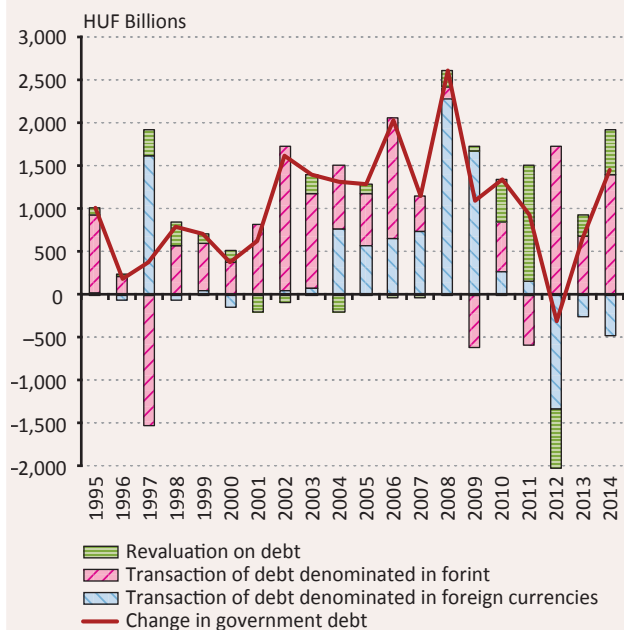


Sources: MNB.

With the increase of the weight of foreign exchange debt the revaluations due to the changes of exchange rates gained increasing role in the development of government debt. In the case of foreign exchange debt the net borrowing (transaction) associated with the financing need in itself does not explain the changes to the stock of debt: as a consequence of the weakening of forint the debt held in foreign exchange appreciates and it reduces if the forint strengthens.

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 percent. 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 so called zero interest debt.

Chart 3-21
Changes to and components of the stock of debt



Sources: MNB.

After the debt swap (1st January, 1997) changes in the exchange rates had direct impact on the development of the debt. Within the surveyed period, a number of appreciation and devaluation waive made their effects felt in the development of the debt ratio. In the period between 1997 and 2000, as a consequence of the continuous devaluation of forint, the debt appreciated by 1-3 percent of the GDP each year. Between 2001 and 2009, considering the period as a whole, the changes to the forint exchange rate did not influence considerably the development of debt. In 2010 and 2011 the weakening of the exchange rate in itself increased the stock of debt expressed in forint by 6,7 percent of the GDP, which was somewhat compensated by the strengthening of the forint in 2012. In the period passed by since then, as a consequence of the continuous weakening of forint the revaluation in itself had a debt increasing effect, but the decrease of debt held in foreign exchange stemming from transaction mainly compensated this, thus, the stock of foreign exchange debt expressed in forint remained basically unchanged.

3.4 General government deficit and general government debt

The Maastricht Treaty of 1992 founding the European Union aimed at introducing a single currency. The minutes annexed to the Treaty specified the economic requirements, which must be met by the countries wishing to accede. Two of the five criteria (extent of interest, exchange rate, inflation, government deficit and applies to the indicators of general government finance.

In order to allow for the measuring and verifying the convergence performance of the individual countries uniform indicators must be used. However, the dimension, system of institutions and recording of transactions of the general government differ from country to country. In order to achieve its objectives, the European Union needed uniform indicators, thus it either would have had to define uniformly the institutions system of the general government and the indicators in the requirements, or had to choose indicators which are available in each member state based on uniform methodology. Thus the lot fell on the data on general government derivable from the European system of national accounts. Pursuant to this, the concept of general government coincides with the concept of general government (government) in the national accounts, the budgetary deficit corresponds to the data on the ratios of net lending (net lending/borrowing position) in the national accounts and the government debt can be derived from the ESA financial instruments.

The rules of national accounts however are too general to suit the stringent fiscal control. In this system, the entire accounting of the national economy, in other words of all sectors of the national economy are compiled in the same way. The categories used in the system must be suitable for capturing and classifying the activities of each economic operators. In the system, the typical economic operator is the non-financial corporation. The rules adjust primarily to the activity of this sector, and modifications allow to apply them to the other sectors within the system of national accounts. The Eurostat being responsible for the data quality tries to eliminate the problem

by preparing and publishing various methodological notes in cooperation with the member states and the European institutions involved—the European Commission, the European Central Bank—and makes them to be applied compulsory for the member states. It publishes resolutions and guides¹⁷, which are then included in a methodological manual,¹⁸ and updated nowadays annually, thus the methodological notes is continuously extending. The general government has economic relations to each economic sector of the national economy. Each changes to the methodology of the sector impacts generally the data of at least one additional sector. Consequently, the frequent changes thus affect the complete accounting system of the national economy, i.e. if changes are not tracked back, the temporal comparability of the national account statistical indicators of the other sectors is reduced in the European Union.

EDP REPORT

The report on convergence (or Maastricht) criteria applicable to the general government must be submitted twice a year to the European Commission. The report is called as the abbreviation of its English name (excessive deficit procedure) EDP report. Eurostat audits the contents of the report, then publishes it. In Hungary, the full report is published by both the Ministry for National Economy and the HSCO.

The EDP tables contain actually two very special, statistical calculations. The first is the calculation of the Maastricht deficit from the official budgetary deficit. This calculation contains the corrections made by statisticians in order to produce the national account, i.e. Maastricht deficit from the deficit presented to the Parliament.

The second calculation, starting with the Maastricht deficit, compiles the variation of debt level for the given year, i.e. the annual change in debt. The deficit and debt are naturally linked categories, it is clear that

¹⁷ Currently there are 26 resolutions and 16 guides on the website of Eurostat.

¹⁸ Manual on government deficit and debt; sixth edition, 2014.

the change in debt is caused generally and on the long term primarily by budgetary deficit. The complicated calculation in the EDP report can be attributed to the fact that although both the Maastricht deficit and the Maastricht debt are derived from national account categories, they do not have the same approach. The calculation of the change in debt creates a bridge between two categories with different approach.

The report related to the excessive deficit procedure consists of four groups of tables.

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

Table 2: Calculation of the official budget balance, and the deficit/surplus of the government sector (by sub-sectors)

Table 3: Data supply on the impact of government deficit/surplus and other factors on changes in debt (total and by sub-sectors)

Table 4: Other data supply

The first table is of comprehensive nature, and the fourth table contains exclusively supplementing, informative data. 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.

In addition to the two Maastricht data, the table contains only two additional important indicators: the data on investments and interests (although certainly these are also available among the national account data compiled and submitted together with

Table 3-2

Table 1 of the report prepared for the excessive deficit procedure (EDP)

(Hungary, millions HUF, 30/09/ 2015)

	ESA 2010 codes	2011	2012	2013	2014	2015
		final	final	final	half-finalized	planned
Net borrowing (-)/ net lending (+)	B.9					
General government	S.13	-1 538 060	-662 283	-748 211	-812 165	-798 566
– Central government	S.1311	-1 732 738	-798 189	-1 637 516	-1 300 124	-876 284
– State government	S.1312	M	M	M	M	M
– Local government	S.1313	169 977	139 674	751 329	441 909	5 422
– Social security funds	S.1314	24 701	-3 768	137 976	46 050	72 296
General government consolidated gross debt		final	final	final	half-finalized	planned
Level at nominal value outstanding at end of year		22 720 746	22 414 051	23 076 245	24 514 179	25 601 413
By category:						
Currency and deposits	AF.2	23 280	33 404	33 469	34 739	
Securities other than shares, exc. financial derivatives	AF.3	16 335 071	17 277 773	18 948 244	21 012 961	
Short-term	AF.31	1 821 034	2 611 290	3 183 195	2 976 224	
Long-term	AF.32	14 514 037	14 666 483	15 765 049	18 036 737	
Loans	AF.4	6 362 395	5 102 874	4 094 532	3 466 479	
Short-term	AF.41	578 744	463 994	212 008	370 588	
Long-term	AF.42	5 783 651	4 638 880	3 882 524	3 095 891	
General government expenditure on:						
Gross fixed capital formation	P.51g	945 860	1 071 609	1 332 810	1 771 342	1 880 300
Interest (consolidated)	D.41 (uses)	1 172 418	1 314 429	1 363 495	1 300 965	1 188 665
Gross domestic product at current market prices	B.1*g	28 133 826	28 627 889	30 065 005	32 179 666	33 651 063

the report). Besides these, the GDP is also shown here, which is inevitable for the presentation of data and verification of the fulfilment of criteria. In accordance with the rules, the budgetary deficit of member states must not exceed 3 percent of the GDP, while debt must not be higher than 60 percent of the GDP.

CALCULATION OF GOVERNMENT DEFICIT OR SURPLUS

Table 2 contains the calculation that presents the way the Maastricht balance is derived from the official national budget balance approved by the decision-making authorities of the specific country. The difference between the two balances is known in the technical jargon as ESA-bridge. The ESA-bridge achieved by now an important role in budgetary planning, analyses and forecast. Therefore, the ESA-bridge is not only well known by statisticians but also by budgetary professionals and analysts.

In the report, 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 data in the first row of the table is the official budgetary balance of the specific sub-sector of the general government. This balance must be adjusted in five 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 transactions, which do not change the financial assets of the general government, do not have direct real-economy implications; for example lending, borrowing, placement and acceptance of deposits, security and equity operations, which must be recognised in statistics in the financial accounts. Official budget accounting, however, traditionally contains this kind of financial operations. Operations performed with the financial assets of the general government – such as lending and its reimbursement, capital investment

Table 3-3
Table 2A of the report prepared for the excessive deficit procedure (EDP)
(Hungary, millions HUF, 30/09/ 2015)

	2011	2012	2013	2014	2015
Working balance in central government accounts	-1 657 935	-481 082	-933 577	-810 967	-1 066 578
Basis of the working balance	mixed	mixed	cash	cash	cash
Financial transactions considered in the working balance	555 101	-18 198	1 914	73 730	-167 376
Loans, granted (+)	25 445	4 653	19 911	10 141	10 974
Loans, repayments (-)	-8 911	-6 214	-12 677	-17 098	-1 659
Equities, acquisition (+)	557 577	9 519	113 652	179 623	34 897
Equities, sales (-)	-1 195	-76	-25 846	-98	-92 127
Other financial transactions (+/-)	-17 815	-26 080	-93 126	-98 839	-119 461
of which: transactions in debt liabilities (+/-)	0	0	0	L	L
of which: net settlements under swap contracts (+/-)	-24 526	-26 623	-53 970	-85 748	-119 461
Non-financial transactions not included in the working balance	M	M	M	M	M
Difference between interest paid (+) and accrued (EDP D.41)(-)	-30 701	-24 532	8 559	-59 558	-10 237
Other accounts receivable (+)	29 790	-48 211	77 412	49 237	484 031
Other accounts payable (-)	-58 367	-149 313	-164 823	-115 749	-40 792
Working balance (+/-) of entities not part of central government	M	M	M	M	M
Net lending (+)/ net borrowing (-) of other central government bodies	-393 562	-46 455	142 614	-3 882	168
Other adjustments (+/-)	-177 064	-30 398	-769 615	-432 934	-75 500
Net lending (+)/ net borrowing (-) (B.9) of central government (S.1311)	-1 732 738	-798 189	-1 637 516	-1 300 124	-876 284

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.

At this point, however, following the general methodology of national accounts proves to be insufficient when measuring the Maastricht deficit, primarily in the context of state owned corporations. Indeed, governments may choose to use their financial transactions 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 requiring the repayment of these loans. It may also happen that governments compensate for the accumulated losses of state owned companies by capital increase. Therefore, the manual provides that, financial operations substituting such current subsidies must be sorted out from the financial operations and must be accounted as expenditure, transfer causing deficit. Thus, transactions of financial assets must be examined individually and strictly.

There are however operations with non-financial assets which are considered by statistics as financial operations. Dividend payment may be typically such an item. The manual—and also EAS10 since its introduction in 2014—sets strict rules regarding the statistical accounting of dividends. According to this, only dividends on current year's profit from transaction (i.e. not from the revaluation of asset) may be considered as dividend also in statistical terms. All other dividend withdrawal—dividends from the profits of the previous years and from revaluation—must be considered as financial operation.

The next row of the table deals with non-financial operations which are not included in the official balance, but must be taken into account in the Maastricht deficit. The operations of non-governmental organisations which are lead through the general government by the statistics, or the cash flow free operations, debt assumptions, debt cancellations of the government may be shown here. These items had to be previously recognised under other adjustments, thus they are shown still there in the Hungarian EDP report.

The next block presents the outcome of the application of accrual accounting on cash-flow type budgetary data. The budgetary accounting is traditionally cash-flow type accounting. Budgetary planning focuses on whether or not the revenues of a specific period cover the

expenditures of the same period, how many financial assets will remain or how much external funds need to be acquired for financing the excess expenditures. 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. In a few cases however, the rules of national accounts regarding the governmental statistics are applied specifically also here. For the generation of accrual accounting data of the various taxes, for example, the time adjusted cash method is used generally by the member states.¹⁹ In the case of EU transfers the basis of statistical accounting is the date of final use instead of maturity.

The fourth block of the table bridges the gap between the official and statistical interpretations of the general government (governmental sector) in terms of its scope. National account statistics classify economic participants on the basis of their economic behaviour rather than their legal form. The first line of the block contains the balance of institutions which are included in the official scope of the general government, but based on the national accounts methodology must be derecognised from the sector. These are budgetary organisations which are at the same time market producers. This line is empty for Hungary, we have not identified such producers. The second part of the block includes the balance of organisations classified into the governmental sector. These are state corporations which despite their form of operation are non-market producers (currently 63 such organisations are identified at the level of the governmental sector) and non-profit organisations under governmental control (currently 271 organisations). (The list of corporations and non-profit institutions classified into the government is available on the website of the central bank.)

As fiscal data were getting more attention over time, the method of reclassification became one of the key tools for measuring the budgetary deficit and the government debt. Governments namely had great propensity to assign their deficit and debt to state owned companies—in line with this, Eurostat looked for the possibilities to have the largest possible part classified into the governmental sector. ESA 2010 entered into force in 2014 includes a number of new classification criteria for non-financial corporations. Currently Eurostat focuses on developing methods by means of which financial corporations—within them state owned banks—could

¹⁹ For example, if taxes must be paid within 30 days following the current period, the accrual accounting tax revenues of the current period are established in a way that the revenues of the first month of the current month is disregarded and the revenues following the current period is taken into account instead.

be classified into the governmental sector. Certainly, the classification of banks and other non-financial corporations was not even raised in the original methodology of national accounts.

The last block of the table presents other adjustments. Hungary recognises the non-cash-flow items, which have been included in the sector's national accounts through imputation traditionally here. Such items include debt assumptions, debt cancellations, and increases of equity in kind. These are thus items, which are not accounted as expenditures in the traditional cash flow type budgets, but at the same

time impact the assets (e.g. cancellation of debt) or debt (assumption of loans) of the budget.

After having taken into account each possible adjustment, we arrive at the Maastricht balance of the sector, which coincides with the national account category of net lending and/or net borrowing.

FINANCING OF GOVERNMENT DEFICIT OR SURPLUS

The closing data of Table 2 of the report is the balance of net lending/net borrowing, and the starting data

Table 3-4

Table 3B of the report prepared for the excessive deficit procedure (EDP)

(Hungary, millions HUF, 30/09/ 2015)

	2011	2012	2013	2014
Net lending (-)/ net borrowing (+) (B.9) of central government (S.1311)*	1 732 738	798 189	1 637 516	1 300 124
Net acquisition (+) of financial assets (2)	1 126 139	-360 358	-509 996	157 352
Currency and deposits (F.2)	132 969	101 698	-524 061	179 324
Debt securities (F.3)	48 326	32 602	79 245	-116 318
Loans (F.4)	-147 386	-110 981	-120 271	7 203
Short term loans (F.41), net	-8 397	27 541	-111 768	18 871
Long-term loans (F.42)	-138 989	-138 522	-8 503	-11 668
Equity and investment fund shares/units (F.5)	1 211 193	-217 180	-115 416	164 557
Portfolio investments, net(2)	693 365	-192 118	-237 256	-970
Equity and investment fund shares/units other than portfolio investments	517 828	-25 062	121 840	165 527
Financial derivatives (F.71)	-74 437	-130 548	-114 080	-97 483
Other accounts receivable (F.8)	-44 490	-36 044	284 792	20 106
Other financial assets (F.1, F.6)	-36	95	-205	-37
Adjustments (2)	-1 839 014	-618 643	166 723	442 955
Net incurrence (-) of liabilities in financial derivatives (F.71)	27 850	18 485	32 366	68 559
Net incurrence (-) of other accounts payable (F.8)	-3 122 712	12 660	-72 533	-89 373
Net incurrence (-) of other liabilities (F.1, F.5, F.6 and F.72)	1 011	3 214	6 963	1 765
Issuances above(-)/below(+) nominal value	2 470	18 629	-50 436	-311 386
Difference between interest (D.41) accrued(-) and paid(4)(+)	2 022	-32 793	14 239	141 446
Redemptions/repurchase of debt above(+)/below(-) nominal value	2 642	-317	18 300	76 129
Appreciation(+)/depreciation(-)(3) of foreign-currency debt (5)	1 247 703	-638 521	217 824	504 566
Changes in sector classification (K.61)(5) (+/-)	0	0	0	51 249
Other volume changes in financial liabilities (K.3, K.4, K.5)(5)(-)	0	0	0	0
Statistical discrepancies	-38 443	3 440	-34 293	-46 085
Difference between capital and financial accounts (B.9-B.9f)	-38 443	3 440	-34 293	-46 085
Other statistical discrepancies (+/-)	0	0	0	0
Change in central government (S.1311) consolidated gross debt (1, 2)	981 420	-177 372	1 259 950	1 854 346
Central government contribution to general government debt (a=b-c) (5)	21 464 825	21 259 999	22 631 717	24 481 192
Central government gross debt (level) (b) (2, 5)	21 562 445	21 385 073	22 645 023	24 499 369
Central government holdings of other subsectors debt (level) (c) (5)	97 620	125 074	13 306	18 177

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.

As opposed to deficit, the Maastricht debt is a non-national account category which still builds upon national accounts. In the traditional fiscal approach only debits are considered as debt which is generated and terminated through cash movement. Debt is nominal, meaning that it includes only the amount, which will be paid by the debtor at the expiration of the debt. In contrast, national accounts use the concept of liabilities instead of debt, which covers all financial instruments. The concept of the Maastricht debt includes from this set of liabilities only three financial instruments: deposits placed with the general government, loans drawn and securities. The other difference is that, while the Maastricht debt is nominal, the national account liabilities are accounted at market value. However, the definition of debt elements must completely correspond to the definition according to the national accounts. All adjustments made to the national accounts must be recognised also in the debt if a debt element is impacted.

The relation between deficit and debt is built upon the following simple correlation both in the traditional fiscal approach and in the financial accounts:

The annual changes in liabilities = data of the budgetary balance with opposite sign + the amount spent on the acquisition of financial assets + revaluation of liabilities + other volume changes in liabilities.

However, Table 3 of the EDP report has to build a bridge between two different concepts, the national accounts governmental balance and the nominal debt, and accordingly, the calculation is more complex than stated above.

The starting data of the calculation is also in this case the budgetary balance, i.e. the data on net lending or net borrowing (net financing ability or need) with opposite sign.

In the first block of the table, the transaction related changes (net acquisition) of financial assets are added to the general government deficit used with opposite sign. The result of this calculation is equal to the changes in total liabilities due to transactions in the

national accounts approach. This figure then has to be transformed to changes in debt.

Accordingly, the next block excludes the effect of changes in non-debt instruments (financial derivatives, other liabilities) from the change in total liabilities. In other words, with this step the concept of liabilities to be taken into account is restricted to instruments included in government debt.

The task of the next block is to transform the financial account (market value) transactions of debt components into nominal transactions. On the one hand, the transactions (issue and redemption) of debt elements must be converted from the market price to nominal value (the first and third lines of the block), and on the other hand, the accumulated interest treated as financial transaction in the national accounts must be eliminated (middle line of the block).

With this correction the transformation of financial account transactions into transactions of debt instruments at nominal value is completed. 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 exchange debt elements must be considered as revaluation effects.

This algorithm is able to perfectly connect the deficit and changes in debt only in the system of financial accounts. The initial debt data should be identical to the debt data generated in the financial accounts. However, in the first line of the table, the balance data of non-financial accounts must be indicated. In practice, there is always a discrepancy (statistical error) between the balance of non-financial accounts and financial accounts. Therefore, the last block of the table makes an inquiry as to the discrepancy of the balance data of financial and non-financial accounts.

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.

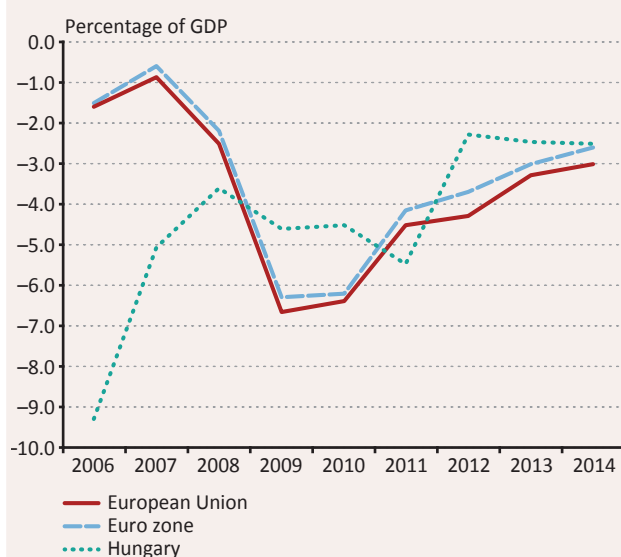
The name of the calculation in Table 3 is deficit-debt calculation (stock-flow adjustment, SFA, or deficit-

debt adjustment, DDA), which the Eurostat and ECB like to subject to analysis. The continuously high SFA raises consistency issues between the deficit and debt, non-financial and financial accounts, therefore, the member state concerned must provide explanation to each strikingly large element.

GENERAL GOVERNMENT DEFICIT AND DEBT IN INTERNATIONAL COMPARISON

Eurostat verifies the two EDP 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.

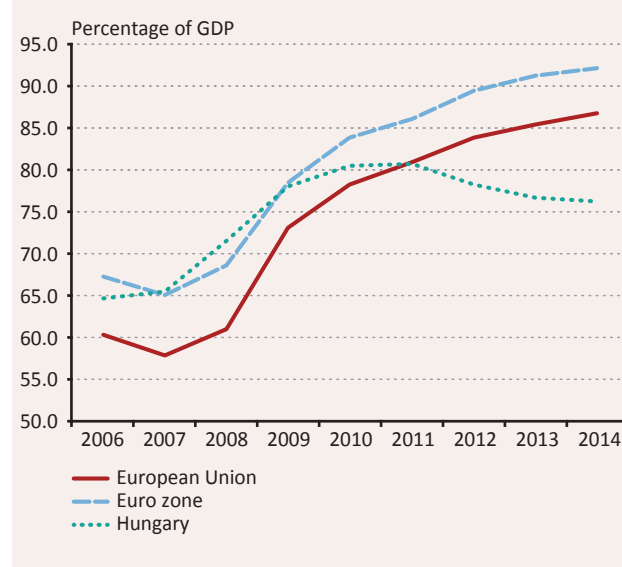
Chart 3-22
Balance of the general government as a percentage of GDP



All member states of the euro area and European Union managed to meet the Maastricht criteria each year until 2008, except of Hungary the deficit of which was always above the 3 percent threshold during this period. For three consecutive years between 2005 and 2007, Hungary's data on government deficit were the highest in the European Union. As the result of the economic crisis, the extent of deficit peaked in 2009 at the community' level, and the European Union

managed to meet again the 3 percent criterion in 2014. In the case of the euro area, 2013 was the first year for the deficit to remain below the 3 percent limit. The development of Hungary's deficit data significantly differs from the EU as a whole, here, deficit peaked before the crisis in 2006. In the most severe period of the crisis, in 2009-2010 the deficit ratio remained better compared to the euro area and the EU as a whole, and finally, Hungary could meet the Maastricht criterion each year since 2012.

Chart 3-23
Changes in the government debt as a percentage of GDP



The euro area has not met the Maastricht criterion regarding government debt from the beginning of the period surveyed. The European Union as a whole had a better situation regarding this, as the fairly low initial debt of the majority of former socialist states drew back the aggregated debt. The debt of both groups of countries declined until 2007. This was the single year, in which the entire European Union managed to meet the accession debt criterion; in contrast, the euro area, as a whole has not even in one year managed to achieve this. As the result of the crisis, the debt of both the EU and the euro area increases progressively. The debt level of Hungary – similarly to the deficit – changed differently in this period. The increase that was continuous until 2010 stopped in 2011 and the trend switched to a decrease in 2012.

3.5 Financial accounts of non-financial corporations

The sector of non-financial corporations (S.11) comprises the resident market producer units, which as their main activity are engaged in the production of goods and in the provision of non-financial services. The entities classified in the sector have independent assets separated from the owners and decision making power.

In national economic perspective, non-financial corporations have major importance. With the largest added value they count as the key drivers of the economy. The production of goods and the provision of services is in general a rather asset intensive activity, therefore, the sector has significant stock of assets²⁰ the financing of which requires considerable amount of funds even at the level of the national economy. Hereby, the sector of non-financial corporations has great influence on the aggregate assets of the national economy and on its positions vis-à-vis the rest of the world.

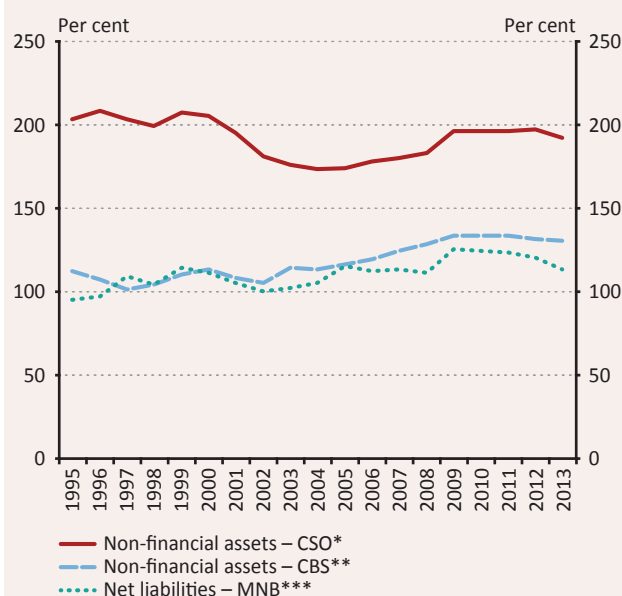
NET WORTH

The financial account statistics deals exclusively with the financial assets and liabilities of the economic sectors, while non-financial account statistics has information on the stock and flow and accumulation of non-financial assets. In the case of non-financial corporations, due to the vast weight of non-financial assets however, it is worth examining the complete balance of the sector, the aggregate stock of all assets and liabilities. In statistics, regarding an institution or sector, the total of non-financial and financial assets generally does not correspond to the liabilities, there is no accounting equation. The same happens also in the case of corporate sectors, despite that accounting presentations use balances in equilibrium. In the accounting balance the amount of shareholders' equity ensures the equilibrium between assets and liabilities. The balancing item in the national accounts is the net worth of sectors, which is accumulated by organisations and corporations in the course of their operation. Thus, in terms of content, the corporates'

shareholders' equity matches in the financial accounts the total value of shares and equity issued by the company and the corporate net worth.

When founding, the owners and creditors of companies make the worth available for the companies which they can use independently and is materialised in various assets. At this time, the value of net worth is zero. Since the valuation of assets and liabilities is made in statistics in general independently, the value of these may in time differ from one another, which can lead to a positive or a negative worth. The total of the assets made available and their use may generate in the course of operation such added value, which is proprietary to the companies, but cannot be reflected in the individual value of assets and in the

Chart 3-24
Stock of non-financial assets of non-financial corporations (S.11) as the percentage of the GDP, based on three data sources



* Aggregate value of the net stock of fixed assets and inventories according to the national accounts

** Accounting value of non-financial assets from the aggregated corporate balance sheet

*** Value of net liabilities according to the financial account statistics

Sources: MNB, HCSO.

²⁰ Land, natural resources, intangible assets, tangible assets and inventories

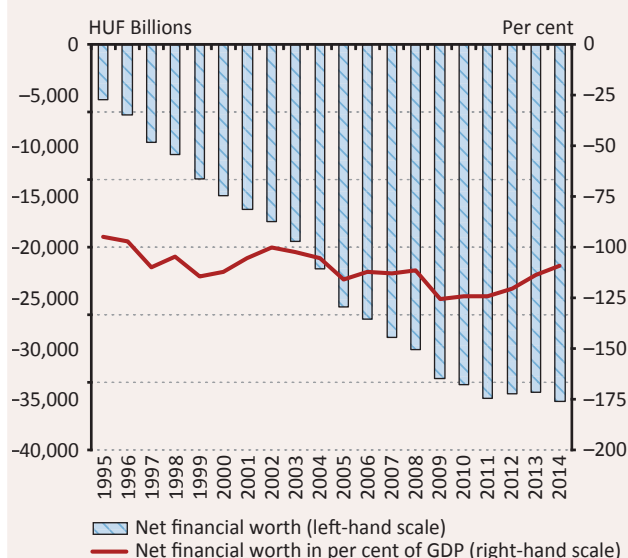
balance comprising the same. Thus, in the case of corporate sectors, net worth is basically a technical item, stemming from the different accounting and valuation of assets and liabilities, carries no economic value, and its desired value is around zero. By assuming that, the value of net worth is neglectable, based on the data of financial accounts, the value of non-financial assets owned by the corporate sectors may be estimated as the difference between the stocks of financial assets and liabilities. In the case of non-financial corporations this value may significantly differ both from the accounting value of assets and from the asset value in the national accounts (aggregate stock of fixed assets and inventories) (Chart 3-24).

In our case, as a result of market valuation, the stock of assets established by the HCSO is much higher than the accounting, carrying amount and the closely associated financial account net liability (the difference of liabilities and financial assets, the net financial worth multiplied by minus one). Furthermore there is a discrepancy between the temporal changes in the data, which reflects to a certain degree also in the net lending/net borrowing position of the sector.

NET FINANCIAL WORTH AND NET LENDING/NET BORROWING

As opposed to net worth, net financial worth is derived by disregarding the non-financial assets, only from the difference between net financial assets and liabilities.

Chart 3-25
Net financial worth of non-financial corporations
nominally and as the percentage of the GDP



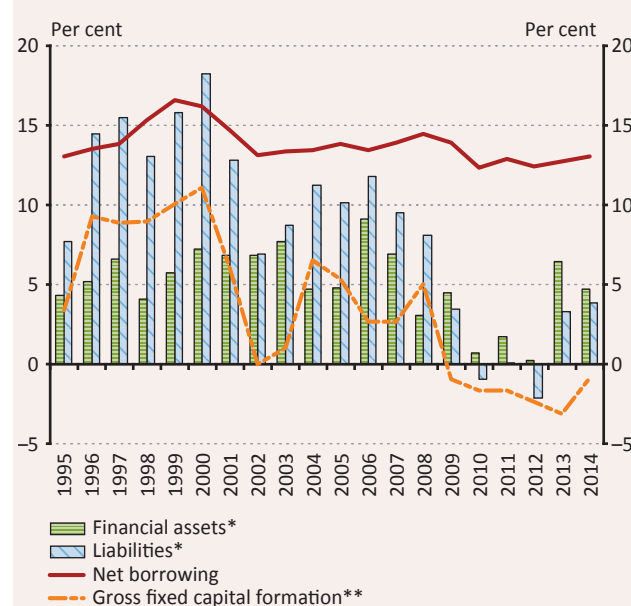
Sources: MNB.

In the case of non-financial corporations, net financial worth is typically negative (see Chart 3-25), the stock of liabilities significantly exceeds that of financial assets, as the funds raised for financing non-financial assets are of financial character, while non-financial assets are outside of the scope of financial account statistics.

The nominal value of net financial worth declined steadily until 2011, the following a short stop it continued to decrease with a slower rate. In 2014 it was already over HUF -35,000 billion. The GDP proportionate value of net financial worth was considering the period surveyed between -95 and -125 percent.

The changes in the net financial worth from transactions is called in statistics net lending (+) or net borrowing (-). Non-financial corporations have typically net borrowing (Chart 3-26), as their investments are not covered by their profits, therefore they rely on external funds on lending by other sectors. The net borrowing of the sector was the highest at the end of the nineties, and in 2000. During the period of economic growth the boom of investments (gross fixed asset accumulation) induced the companies to raise significant financing resources. However, the deterioration of economic prospects at the beginning of two-thousand deterred

Chart 3-26
Changes in net borrowing and investments of non-financial corporations as the percentage of the GDP



* Consolidated data excluding the items of non-financial corporations between one another

** Value of gross accumulation of fixed assets according to national accounts

Sources: MNB, HCSO.

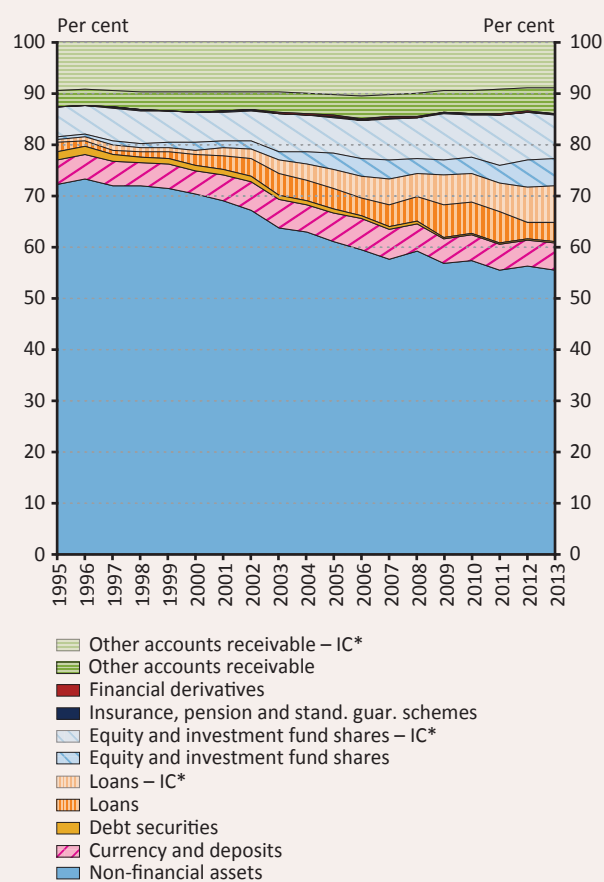
investments. Hereby, the pace of raising external funds slowed considerably, the increase of liabilities from transactions lessened and settled at a lower level. At the same time, the increase of financial assets from transactions did not change to the same extent, as companies invested the sources freed due to the investments not taken place in financial assets. As a consequence of the financial crisis broken out in 2008 the companies' sources ceased flowing, the willingness to investment reached historical low levels. As a result, in 2009, non-financial companies became net savers. In the years of the recession following the crisis, non-financial companies were characterised by balance sheet adjustments, the changes in financial assets and liabilities stemming from transactions remained around zero. Year 2013 brought a change. Raising financial sources began, which flow rather in financial assets instead of targeting the launch of investments, thus, at the end of 2014 non-financial corporations were still net savers.

ASSETS AND LIABILITIES STRUCTURE

Gaining ground of the financial functions of non-financial companies is well observable in the breakdown of assets of companies by types (Chart 3-27). Financial assets have an increasing large share in the assets of the sector. While in 1995 non-financial assets composed nearly three fourth, 72 percent of the assets of non-financial companies, this ratio is today only 56 percent. The decline of the share of non-financial assets is mainly attributable to the vast growth of the stock of loans and equity and investment fund shares, which can be considered as the main instruments of inter-company financing. The share of loans in assets grew from 2 percent to 10 percent, while that of equity and investment fund shares from 6 percent to 15 percent in the period surveyed. However, no change is visible in the share of financial assets ensuring liquidity (5-6 percent), and in the share of other receivables²¹ typical of non-financial corporations (13-15 percent). The share of securities representing market investments reduced nearly to zero from the previous 2 percent. The stock of insurance, pension and standardized guarantee schemes and financial derivatives is insignificant along the entire time series.

The spreading of financial functions of non-financial corporations, gaining ground of loans and equity among assets is clearly connected to the strengthening

Chart 3-27
Structure of assets of non-financial corporations
(non-consolidated data)



* IC: inter-company, i.e. assets vis-à-vis non-financial companies within the sector

Sources: MNB, HCSO.

of inter-company relations, where the importance of both the ownership relations and lending relations is steadily increasing among non-financial corporations. The share of participation of non-financial corporations in other resident non-financial corporations grew from 6 percent to 9 percent within the assets, while the stock of loans lent to resident companies totalled to 7 percent in 2013, whereas resident inter-company lending was not at all characteristic in the mind-nineties. In the past decade a number of groups of companies were founded or developed where part of the companies pursue asset management of group financing activities by rendering management and other services. Despite that the structure of balance sheet of such companies resemble much that of financial companies, they are to be considered as non-financial corporations, as the collective activity of the

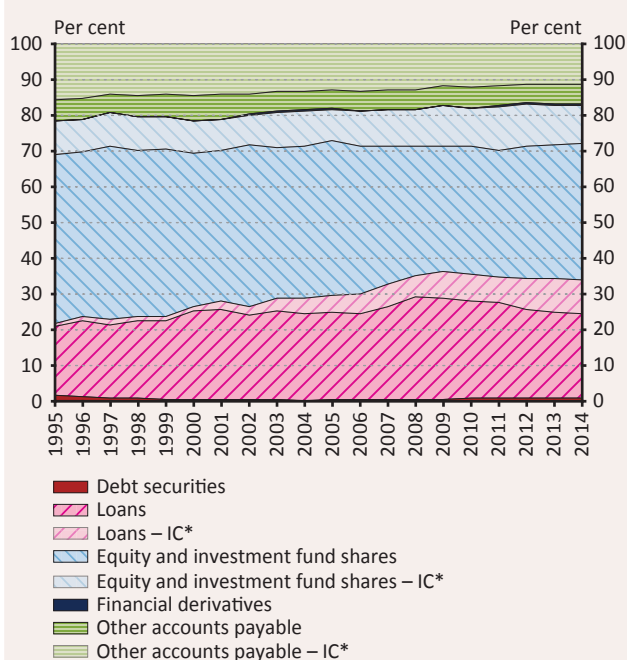
²¹ Other receivables are associated with receivables from customers and services rendered, and with items not yet received, financially not yet settled and with tax type receivables, paid advances.

group of companies is directed at the production of goods and non-financial services.

In the case of non-financial companies, on the liabilities side of the balance sheet (Chart 3-28) majority of liabilities is made up of loans and shares and other equity. Initially, in the liabilities shares and other equity

Chart 3-28
Changes to the structure of sources of non-financial corporations

(non-consolidated data)



* IC: inter-company, i.e. liabilities vis-à-vis non-financial companies within the sector

Sources: MNB.

were dominant, and then the weight shifted gradually towards loans, especially in the period between 2003 and 2009. After 2009, as the consequence of the financial crisis, the dynamic growth of the stock of drawn loans halted. However, the strengthening of inter-company relations is most striking on the sources side related to the instrument of loans. Overall, the share of shares and other equity within the liabilities declined from 57 percent to 49 percent, and that of loans grew from 20 percent to 33 percent. Meanwhile, the stock of debt securities (1-2 percent) and that of other liabilities (17-22 percent) hardly changed during the period surveyed. The low value of the stock of debt securities can be attributed to the fact that securities financing is not characteristic of Hungarian non-financial corporations. The stock of financial derivative is also insignificant. It is evident that non-financial companies have no financial assets at all on the sources side, as placement of deposit is possible only at specialised financial institutions. The value of insurance, pension and standardized guarantee schemes is also zero for Hungarian non-financial corporations, namely, pension schemes operated at corporate basis are not typical in Hungary.

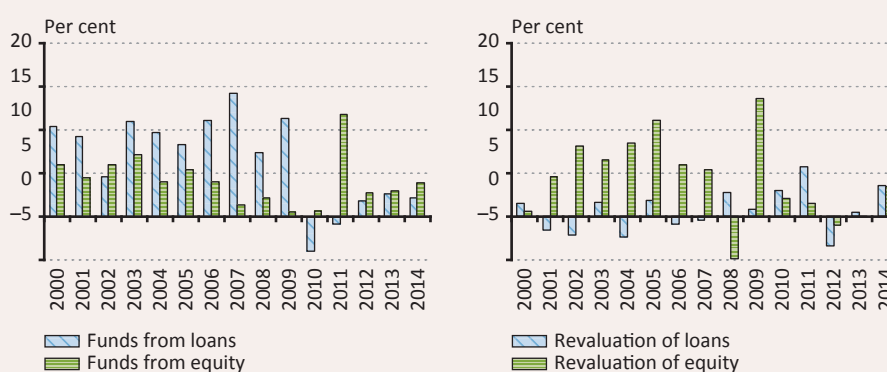
TYPICAL FORMS OF CORPORATE FINANCING

Clear conclusions as to the typical financing form of an economic sector cannot be drawn from the changes to the stock of liabilities. The stocks of different instruments are namely influenced by the effect of revaluations (price and rate changes) to various degrees. Based on the structure of sources, the most

Chart 3-29

Transaction data and revaluation data on loans taken and shares issued by non-financial corporations as a percentage of the GDP

(non-consolidated data)



Sources: MNB.

typical form of financing non-financial corporations is apparently made from own sources, shares and other equity followed by raising external funds in the form of loans. By examining the component of the changes in stock, different conclusion can be drawn (Chart 3-29). Non-financial corporations funded their activities mostly through borrowing, i.e. transaction values are higher in the case of loans, shares and other equity are only dominant in the sources as a result of major positive revaluations typical for them.

From 2000 until 2009 transactions observable on loan instruments were well in excess of the transaction of shares. In these years, net borrowing was on average around 10 percent of the GDP, while the issue of share totalled to only 4 percent of the GDP. In 2010 this trend reversed and the transactions of shares and other equity exceeded each year the value of loan transactions. In the balance sheet adjustment period following the financial crisis, tightening was observable both on the loan supply and loan demand side. Non-financial corporations started to build down their debts. They held back their investments, reduced dramatically their material and personal expenditures, and spent the thus freed sources on the repayment of loans. This was most striking in 2010, where the value of net transactions of loans dropped to historical low level and amounted to only -4 percent of the GDP. Previously there was no example of negative annual transaction value in the Hungarian financial account statistics, which can happen if the amount of loan repayments exceeds that of borrowing. Although from 2012 the value of loan transactions was positive, it is still below the level of previous years, amounting only to 2-4 percent of the GDP.

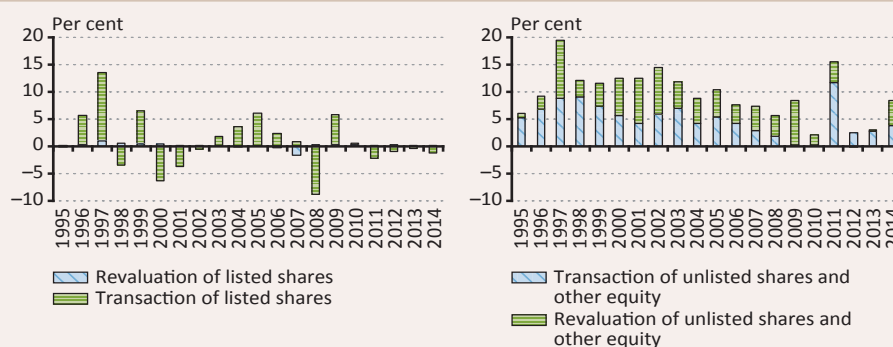
As opposed to loans, not the foreign exchange rates are the one that typically influence the transaction and revaluation data on equity (shares and other equity), but the changes to the market value of equity²². In the case of unlisted companies there is no active market, which could provide information on the market value of shares issued by them, therefore, in their case stock data on equity and the components of the changes in stock can be estimated by using the value of shareholders' equity including the approved dividend.

In the case of equity, there is a transaction balance if equity is issued or withdrawn, and the value of these does not offset one another during a specific period. On the other hand, revaluation has different content for the two types of equity. In the case of quoted shares the revaluation reflects the changes in the actual market prices, i.e. the amount by which they worth more or less on the market compared to the previous period. However, in case of unquoted shares revaluation is established based on the remainder principle, and is influenced by mainly two factors. Revaluation is induced on the one hand by the profit generated by the corporations and left by the shareholders in the corporations, and on the other hand by the payment of dividend.

The value of net transactions for quoted companies is minor (Chart 3-30) as the result of the low number of companies. In contrast, the revaluation accounted on the shares issued by quoted companies is rather significant, it is as high as the value of revaluations accounted for unquoted companies. In the case of unquoted shares the value of net transactions is continuously positive, i.e. the value of capital

Chart 3-30

Transactions and revaluations of quoted and unquoted shares issued by non-financial companies as the percentage of the GDP



Sources: MNB.

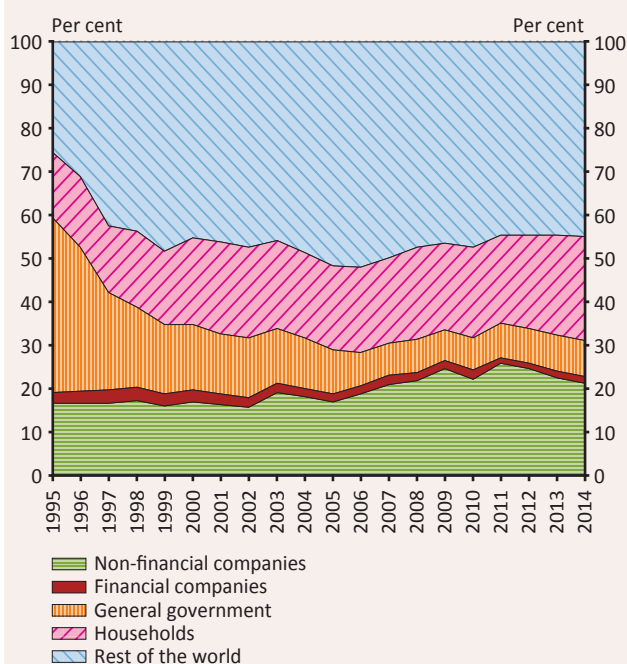
²² If a company keeps its books in a currency other than forint, the changes in the foreign exchange rate certainly influence equity, but only insignificantly.

investments was always higher than that of disinvestments, and the number of newly established companies was higher than that of discontinuing companies. The investment willingness of holder sectors was the highest between 1997 and 1998 where the value of net transactions approximated 10 percent of the GDP. Following the crisis in 2008 transactions dropped significantly, and have not reached since then the level observed at the end of the 1990s and at the beginning of the 2000s. The outstanding value of 2011 was due to only a one-off transaction.

OWNERSHIP STRUCTURE

The ownership structure of the sector (Chart 3-31), i.e. the sectoral breakdown of the value of equities issued by the companies underwent major transformation in the past twenty years. In 1995 major part of the corporate equity wealth was owned by the state, then due to the privatisation, the rapid growth of the number of companies and the inflow of foreign capital the role of state ownership declined and its share in equity decreased to 8 percent from the previous 40 percent. The ownership share of households grew from 15 percent to nearly 23 percent by the end of 2013.

Chart 3-31
Ownership structure of non-financial corporations by the value of issued equity



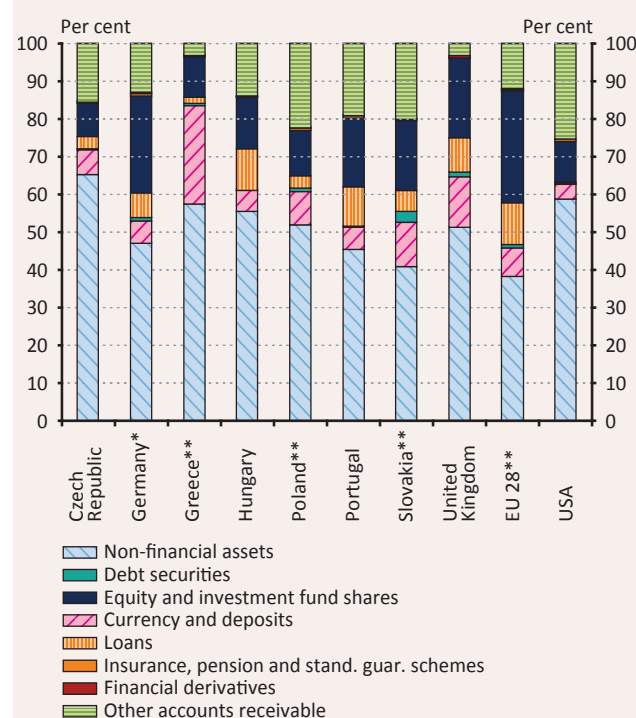
Sources: MNB.

Similarly, the value of equity owned by non-financial companies increased from 16 percent to 22 percent. The ownership participation of non-residents reached by 1995 25 percent and it almost doubled by today, it grew to nearly 45 percent in the domestic non-financial corporations sector. Holding non-financial equity is the least typical for financial companies, their share along the entire time series is almost around 2 percent.

INTERNATIONAL OUTLOOK²³

By examining the assets structure of non-financial corporations (Chart 3-32) in international comparison we may establish that the stock of non-financial assets of non-financial companies is high for each surveyed country, it is over 40 percent. Regarding this, the Czech Republic stands out, where the stock of non-financial assets is even over 65 percent. As regards the ratio of financial assets, Greece leads the line, where the ratio

Chart 3-32
Breakdown of the non-consolidated assets of non-financial corporations, international comparison (2013)



* The stock of non-financial assets includes only the net stock of fixed assets and excludes inventories.

**In the case of countries indicated the stock of non-financial assets is not available, for them the difference of financial assets and liabilities is shown as the stock of non-financial assets.

Sources: Eurostat, Fed.

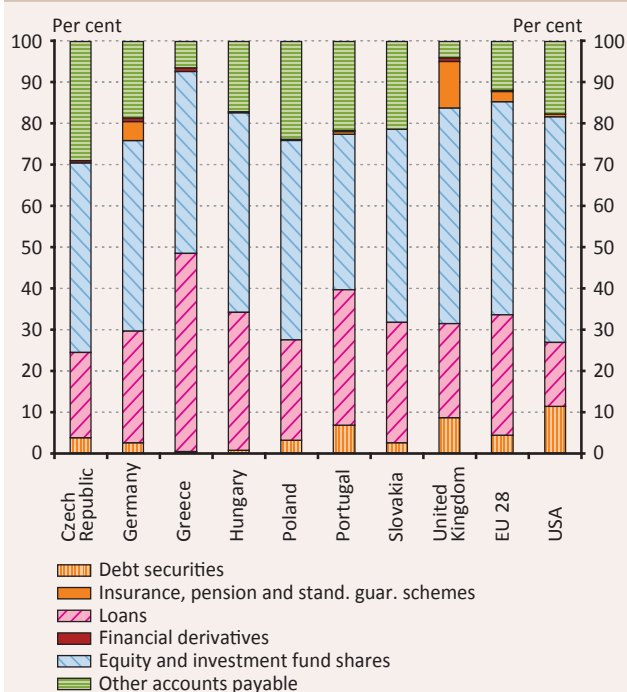
²³ Data on non-financial companies are suitable for making international comparisons only to a limited degree, especially if companies outside of the European Union are also included in the analysis. Discrepancy may show namely in the sectoral classification practice of the individual countries, in the accounting of instruments and in the valuation methods.

of financial assets held by the sectors approximate 26 percent. Namely, as the consequence of the crisis hitting Greece the Greek companies' willingness to invest is rather low, investments halted and financial investments are also avoided and financial assets are set aside. Without eliminating the inter-company relations, the ratio of loans lent by non-financial companies is the highest in Hungary, it totals to almost 11 percent. Hungary is followed by Portugal and the United Kingdom. However, as regards consolidated data, the order is reversed. It is interesting in the case of loans lent by the sector that their ratio is only minor in the United States. The ratio of equity held by non-financial companies is the highest in Germany, as the stock of quoted shares and investment fund shares held by German non-financial companies is rather significant compared to the ratios observable in other countries. Other receivables represent a significant share among assets in Poland and in the United States.

On the liabilities side of non-financial corporations (Chart 3-3) the ratio of equity is 55 percent in the United States, that of other liabilities is 17 percent, of loans 15 percent, while securities represent 11 percent of the corporate sources. This distribution compared to the entirety of the member states of the European Union is similar in the case of equity and other liabilities, however, in the European Union non-financial companies raise external sources typically by lending and issue less debt securities. From among the highlighted EU member states a higher share of securities is typical only in Portugal and the United Kingdom. This is not the only aspect in which the sources structure of these two countries differs from the others. While in Portugal raising external funds is overall large-scale, and the share of holder in the companies represent only 38 percent of the liabilities, this ratio is higher than 45 percent in all highlighted countries but is less than the half of liabilities. On

the other hand, in the United Kingdom equity in non-financial corporations makes up more than half of the liabilities. Non-financial corporations are here outstanding also considering the higher rate of insurance technical reserves due to the penetration of corporate pension schemes. Significant corporate insurance technical reserve is observable in addition to the United Kingdom only in Germany. Considering the ratio of external and internal sources it is worth mentioning Greece, where the loan holding of non-financial corporation is the highest as a consequence of the crisis, it approximates 50 percent of liabilities.

Chart 3-33
Breakdown of the non-consolidated liabilities of non-financial corporations, international comparison
(2013)



Sources: Eurostat, Fed.

3.6 Net borrowing from the rest of the world

CORRELATIONS BETWEEN THE NATIONAL ACCOUNTS AND THE BALANCE OF PAYMENTS

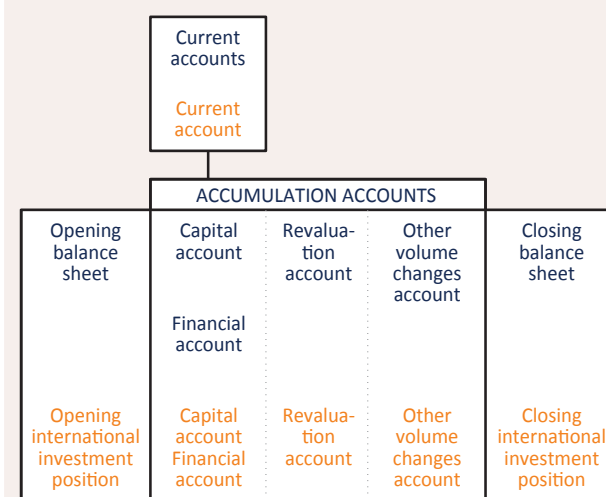
Statistics presenting the financial accounts of non-residents comprise the part of financial accounts in the broad sense, which reveal the financial relationships between foreign (non-resident) and Hungarian (resident) institutional units. They indicate the stocks of financial assets and liabilities of non-resident institutional units vis-à-vis residents, 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 stock statistics of investment positions vis-à-vis the rest of the world.

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 System of National Accounts Manual²⁴ compiled under the supervision of the UN. With the exception of small structural differences, the rules of accounting set out in the two manuals are basically identical.

The statistics of national accounts classify institutional units in the economic 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 3-34). A formal

Chart 3-34
Structure of national accounts and the **balance of payments**



difference is that, the balance of payments statistics calls the statements describing the processes balance sheet instead of account—in the Hungarian practice, stemming from the traditions—and uses the expression 'international investment position' instead of the term 'balance sheet'.

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, 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.

²⁴ <https://www.imf.org/external/pubs/ft/bopman/bopman.pdf>

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.

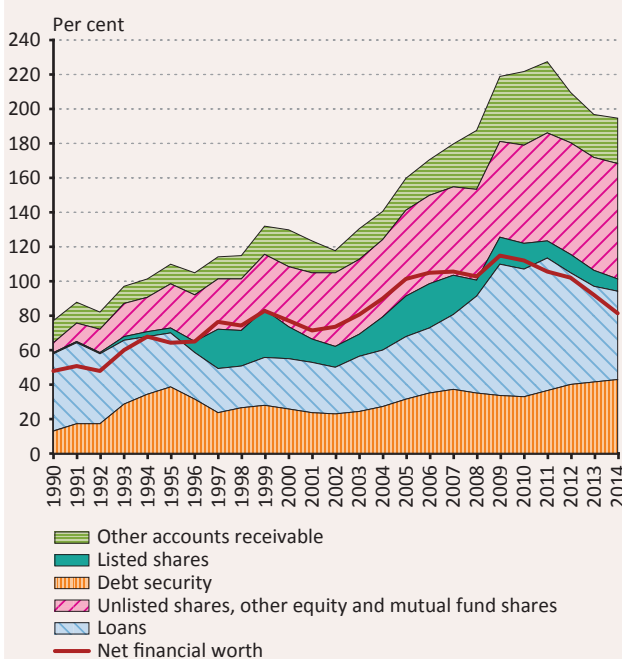
The financial account of the balance of payments, similar to the narrowly interpreted financial accounts of the rest of the world of national accounts, indicates transaction related changes in the financial assets and liabilities. Again, the balance of such changes is equal to the net lending/net borrowing 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.

The practices of compiling the national accounts as a whole, and within this the financial accounts varies significantly from country to country 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 completely as a fundamental data source for determining non-resident assets and liabilities in the financial accounts. The discrepancies in content between the two statistics could be fully eliminated by the beginning of 2013 through a multiple-steps-harmonisation in the past years. Thus, the financial assets and liabilities in the balance of payments are shown also in the financial accounts for the respective sectors among the receivables from or liabilities to the rest of the world, the balance of the financial accounts in the balance of payments statistics corresponds to the consolidated transaction balance of the national economy shown in the financial accounts (i.e. net lending/net borrowing of the rest of the world multiplied by -1).

FINANCIAL ACCOUNTS OF THE REST OF THE WORLD – HUNGARIAN DATA

GDP proportionate receivables of non-residents from residents at the beginning of 1990 was around 80 percent of the GDP, then parallel to the economic catching up and the increase of foreign trade openness, from the mid-90s they exceeded the value of gross domestic product and by 2010 they totalled to 220 percent of the GDP (Chart 3-35). After a temporary decline at the millennium (1999-2000), the stock of receivables of non-residents began to increase again and the volume of external funds borrowed by the Hungarian economy was increasing until the outbreak of the financial-economic crisis. In 2008, the adverse processes taking place in the international economic environment influenced also the Hungarian economy; the price of quoted shares dropped dramatically, the exchange rate of the national currency weakened significantly and the sources of external funding ceased to flow. As a result of the financial, economic situation Hungary and several European countries engaged in extraordinary international borrowing. From 2011 the decline in deposits placed and loans lent by non-residents and the strengthening of the forint exchange rate (2012) drove the changes in receivables. The GDP proportionate decrease of foreign net financial

Chart 3-35
Composition of non-resident financial assets as a percentage of GDP in Hungary – end of year data, excluding SPEs



Sources: MNB, Financial accounts

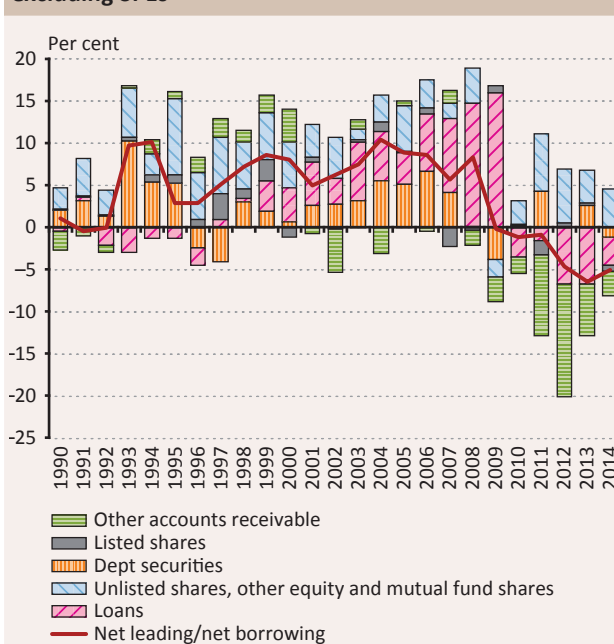
worth was caused from 2009 primarily by the negative transactions showing the withdrawal of foreign sources from the Hungarian economy.

Of non-resident financial assets, equity claims 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—except for the decline in 2008— from its GDP proportionate ratio of 2.9 per cent in 1989 to reach 74 per cent at the end of 2014 (not including special purpose entities). Another significant part of non-resident claims are loans and debt securities. At the end of 2014 total loans borrowed by resident entities was from the rest of the world, representing 52 percent of the GDP. In this case, other receivables include SDR, credit institution deposits, derivatives 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.

According to the transactions published in the financial accounts (Chart 3-36) non-residents had access to considerable amount of financial instruments issued by residents overall in each year until the crisis. In the years following the political transformation they increased their participation in Hungarian corporations, purchased securities, and from the end of the 1990s lending gained in importance, the volume of which was primarily driven by the loans lent to Hungarian subsidiaries. During the period of financial crisis transactions rose as the consequence of the international loan package granted to Hungary, and the repayment of these loans are responsible for the negative transaction in receivables of the rest of the world from 2011. On a few occasions considerable withdrawal from certain financial assets was observable: Non-residents sold their debt securities in 1996-97 and in 2009 (primarily government bonds) and their quoted shares in 2000, 2007 and 2011. Of the instruments indicated within the other receivables, negative transactions are observable due to derivatives (mostly credit institutional), and in addition to this, from 2011, non-residents reduced their deposits and

Chart 3-36
Transactions in the components of non-resident financial assets as a percentage of GDP, in the years specified, excluding SPEs

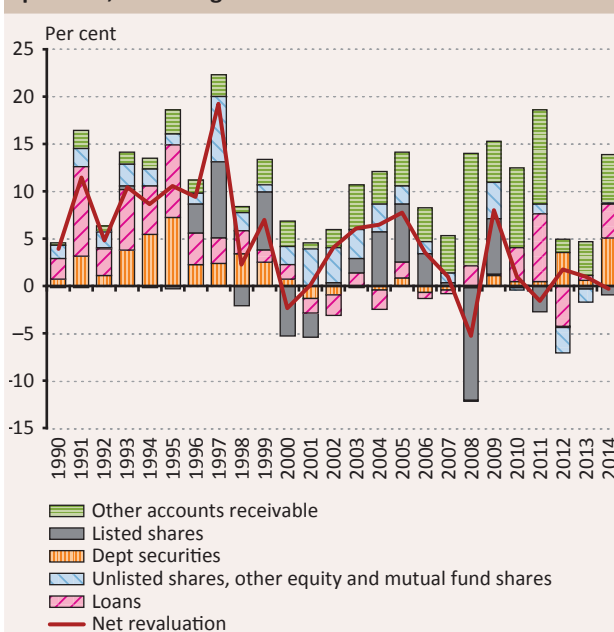


Sources: MNB, Financial accounts.

commercial credit assets placed with Hungarian credit institutions.

Revaluations affected individual instruments differently (see Chart 3-37). The price of shares listed on the

Chart 3-37
Revaluations in the components of non-resident financial assets as a percentage of GDP, in the years specified, excluding SPEs

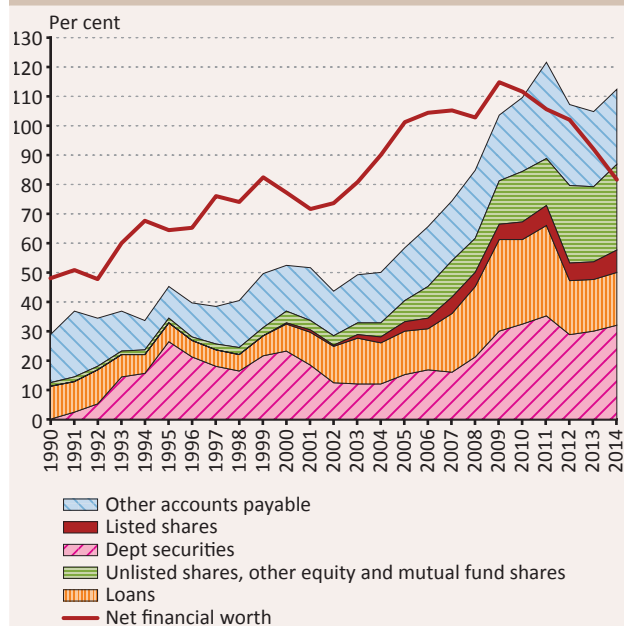


Sources: MNB, Financial accounts.

Budapest Stock Exchange rose sharply in the second half of the 1990s, during the period between 2003 and 2006 and in 2009, but suffered an enormous plunge in 1998, between 2000 and 2011, in 2008 and in 2011. In the case of loans lent by non-residents and securities held by non-residents the ratio of instruments denominated in foreign currency is significant. In these cases, the strengthening of forint after 2001 and its weakening after 2008 had serious impact on the GDP proportionate changes in the stocks. In addition, stocks were affected by the market exchange rate changes 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 3-38), it is noticeable that before 2010 – primarily due to net borrowing of Hungary vis-à-vis the rest of the world – their liabilities are far lower than their financial assets, which amounted to 100 per cent of GDP during the period before the economic crisis. In this regard, equities play a limited, albeit increasing role within total stocks, which are predominantly composed of loans and debt securities. The other liabilities category in the current interpretation comprises cash and deposits, insurance technical reserves, derivatives and other liabilities instruments. Of this, bank deposits of residents placed abroad and commercial credits stemming from delivery of goods and services represent significant stock.

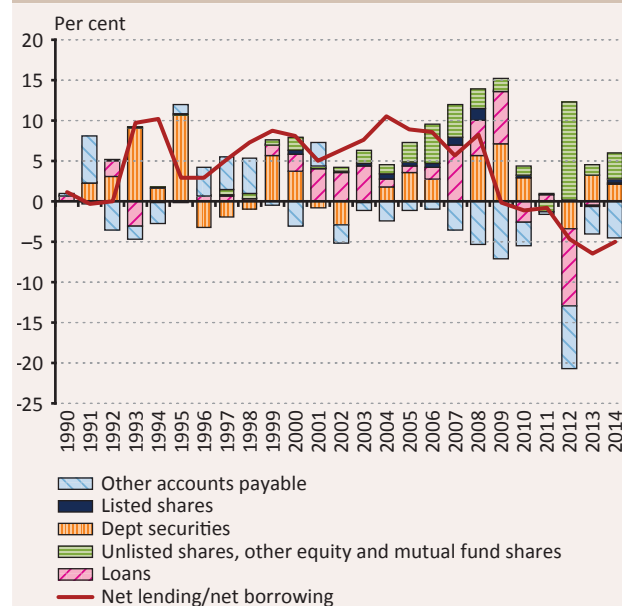
Chart 3-38
Composition of non-resident liabilities as a percentage of GDP in Hungary – end of year data, excluding SPEs



Sources: MNB, Financial accounts.

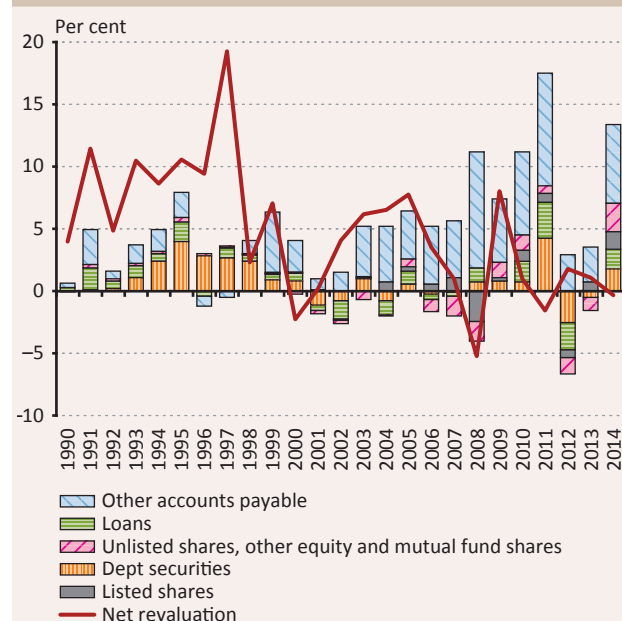
Transactions related to the liabilities of non-residents (Chart 3-39) show that until 2009 – with the exception of 2002 – transactions increased the liabilities of non-residents, in other words, purchases exceeded sales. The purchase of shares held by residents and issued

Chart 3-39
Transactions in the components of non-resident liabilities as a percentage of GDP in Hungary – in the years specified, excluding SPEs



Sources: MNB, Financial accounts.

Chart 3-40
Revaluations in the components of non-resident liabilities as a percentage of GDP, in the years specified, excluding SPEs



Sources: MNB, Financial accounts.

by non-residents became increasingly significant from 2000, but it has been declining since the economic crisis. In 2012 a reorganisation took place among instruments, whereby non-residents covered the reduction of their outstanding credits by issuing equity.

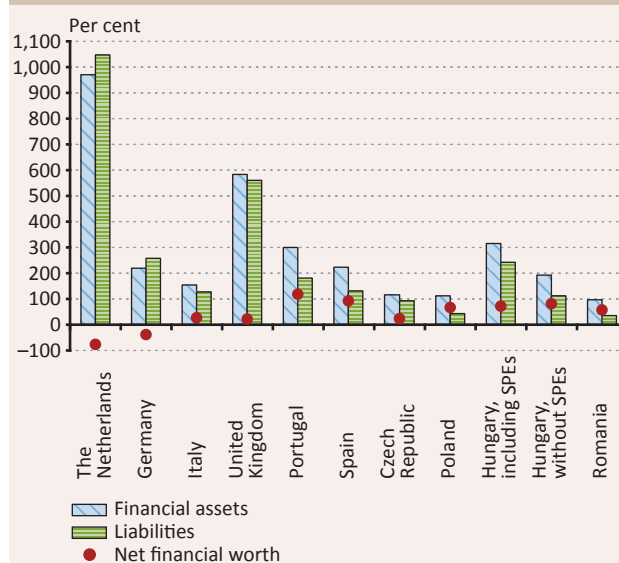
Revaluation of the liabilities of non-residents (Chart 3-40) reflects the exchange rate changes of foreign exchanges in the case of loans and securities. The revaluation of derivatives recognised in the other liabilities category which—due to the features of accounting rules—generally is of stock increasing character and significant in volume, presses down the effect of foreign exchange rate changes.

INTERNATIONAL OUTLOOK

Examining the GDP-proportionate assets and liabilities of non-residents vis-à-vis residents in international comparison (Chart 3-41, data including SPEs), it is apparent that at the end of 2014 the old Member States of the European Union had significantly larger stocks, and the difference between assets (receivables) and liabilities was 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 subsequently acceded Member States, and even as regards the difference between the volume of financial assets and liabilities of non-

residents it fits better to this group of countries. 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 are much higher (by around 120 per cent of GDP at the end of 2014) as SPEs have financial relations almost solely to the rest of the world and move large amounts. (see Section 2.6 for more information on SPEs).

Chart 3-41
Financial assets and liabilities of non-residents as the percentage of the GDP at the end of 2014 in a few Member States of the EU, including SPEs



Sources: Eurostat.

3.7 Securities in the Hungarian economy

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. In the financial accounts the securities are shown under the collective category of debt securities, or—in the case of equity securities—under the shares and other equity category. 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. After this, the liabilities of resident sectors in the form of shares and other equity and mutual investment funds shares issued by investment funds as collective investment forms are discussed. This latter category is classified in statistics together with shares to equity securities. Foreign securities owned by resident sectors are presented with the individual instruments.

ISSUERS OF DEBT SECURITIES

From the 1990s the stock of debt securities issued by residents has been continuously increased. By now the stock in circulation at the beginning of the 2000s more than tripled whereas the selection did not change much. Although the new Civil Code eliminated the inflexibility of the previous regulation and created the possibility of securities not named in the legislation²⁵, in practice the so far usual securities categories exist. In addition to these securities types, however, several foreign instruments are also included in the statistics through the Hungarian holders, for example certificates, which are included among short term debt securities or warrant, which represent a transition between securities and derivatives. The role of certain resident economic sectors, however, changed in relation to the issue of securities (Chart 3-42).

Up to 1995, the *MNB* was the leading securities debtor in Hungary. 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 in the middle of 1997. Forint bonds with maturity of mostly one year had been replaced from 2000 by bonds with quarterly maturity, then in mid-2002 their issue discontinued finally. From 2001 the central bank's securities liabilities continuously decreased, the stock of foreign exchange bonds fell by 2006 to one tenth of the stock in 1998, and the stock of forint bonds ceased to exist completely. From 2007 on the issue of forint denominated bonds made a new start, where the central bank transformed the two-week deposits used since 1999 into two-week bonds as part of the set of monetary policy instruments. The instrument much more liquid than the deposit became one of the most important sources side items. Its stock more than tripled by 2009 and reached HUF 3,000 billion, then at the end of 2013 it exceeded HUF 5,000 billion. As of 1st August 2014 the form of main policy instrument changed again and since then banks can place their excess liquidity again in two-week deposits. The primary goal was a shift towards the purchase of government securities and re-channelling the foreign sources into the Hungarian banking system. At the end of 2014 the MNB's total liabilities from securities is vis-à-vis the rest of the world and amounts to HUF 15 billion.

The central government was the second largest securities debtor until the middle of the 1990s, and this sector took over the role of leading securities debtor from 1996. 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 bonds of other companies classified in the governmental sector. While the market value of the outstanding government liabilities represented by compensation notes approached HUF 50 billion at the

²⁵ As the consequence of this not only those certificates may qualify as securities which are considered by special legislation as such, but also types of securities not provided for by the legislation if the content criteria specified in the Civil Code are met.

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, and has been stagnating at this levels ever since. According to data sources used by the financial account statistics, 78 per cent of these papers were held by resident compensated individuals.

The securities liabilities of the central government began to grow significantly during the 2000s. Almost parallel to this the liabilities to non-resident investors grew entailing a high foreign exchange ratio of the debt structure. In 2011 already 56 percent of the total securities stock in circulation was held by non-residents, therefore, from 2012 the reduction of external financing and foreign exchange exposure began to incite domestic savings and within this to increase the role of households. Within the scope of this the ÁKK Zrt. extended the scope of government securities available for the households by several new products. From April 2014 with the renewal of the set of monetary policy instruments the MNB takes also active part in the reduction of the gross external debt. Through the concept of the internal financing of the government debt it incites the purchase of government bonds primarily by credit institutions with several new instruments (transformation of central bank instrument to deposit, announcing interest rate swaps) to which also ÁKK Zrt. adapted through the modification of its issue plan (debt renewal through long term bonds denominated in forint instead of foreign exchange issues). Today the securities liabilities of the central government is more than HUF 24,000 which is five times the stock outstanding at the millennium.

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 between 2006 and 2009. Later on corporations (co-)owned by local governments, listed companies and small and medium sized enterprises owned by residents appeared among issuers. The bond issue involving many times higher interest expenses or interest bonus became a frequent solution for companies, where external funds of smaller-larger volume could not be raised through drawing bank

loans. At the same time, the declining role of securities in the corporate source structure is well illustrated by the ratio of issued securities, which is currently not more than 0.9 percent within the total corporate liabilities despite the fact that, the sector's liabilities from securities is today more than HUF 690 billion. Based on the data of 2014 some fifty non-financial corporations have liabilities from securities (bonds), of which the ratio of securities denominated in foreign currency is more than 90 percent which is primarily due to bonds issued abroad.

Of financial corporations other than the MNB, the debt securities of *credit institutions* have experienced the most dynamic growth since the beginning of the 2000s. The boom of securities issue can be attributed to the running up of mortgage lending, but from 2006 on the powerful increase of bond liabilities is also observable. By the end of 2007 half of the credit institutional securities stock composed of bonds and the other half of mortgage bonds. Their stock in circulation continuously increased until 2010, however, in the past years it has stagnated at around HUF 3,000 billion. The stock of mortgage bonds was higher than that of bonds until 2011, but with the gradual decline of mortgage lending by today they amount only to 38 percent of securities liabilities. In Hungary, the second largest securities debtor after the central government is the sector of credit institutions. The bond liabilities of *other financial intermediaries* – typically finance and investment corporations – fluctuated around HUF 10-20 billion for a long period of time. Through the securities issue of Diákhitel Központ Zrt. this sector has been gaining increasing importance since the end of 2003, but under the methodological changeover in 2014 a few other organisations had been transformed to the sector of other financial intermediaries which was also applied to the time series. As a result of all these, the liabilities of the sector from bond issues was at the end of 2014 as high as HUF 178 billion.

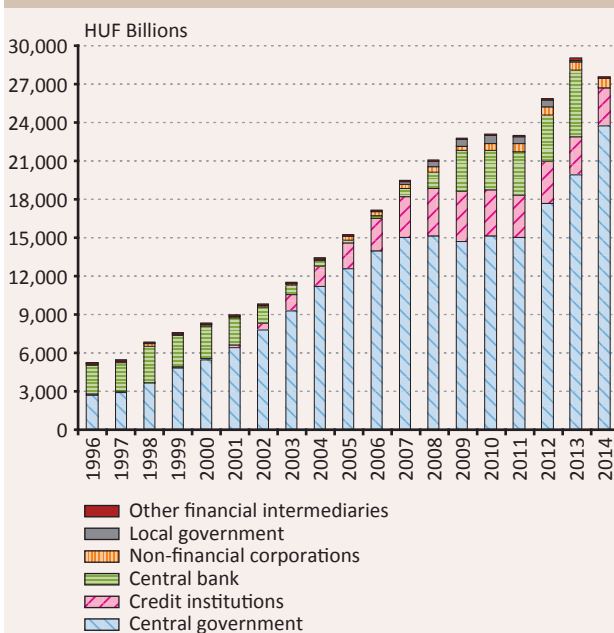
Local governments as securities issuers did not become important operators in the Hungarian bond market after the political transformation. The foreign exchange liabilities of the Capital between 1998 and 2003 totalling to HUF 20 billion represented the most significant stock for a longer period of time. Until 2006 some 10-15 local governments attempted to issue bonds with more or less success. The number of local governments issuing securities and the securities liabilities of the sector began to rise dynamically in 2007, and due to this, their stock reached HUF 212 billion in a year. The bond issue realised primarily

in foreign exchange was one of the most important instruments of the sector for raising external funds. From the recovery on the 80-90 percent share of bonds denominated in foreign exchange was all through typical. The bond liabilities of local governments peaked at HUF 652 billion and with 247 issuer in the third quarter in 2011. The excess burdens caused by the accumulation of vast liabilities, the continuous expiry of their principal repayment moratoriums each contributed to delayed repayments and the increase of overdue principal debts which ultimately led to the series of interventions by the general government. The pace of issues slowed down dramatically from 2012 due to a lesser degree to the increasingly risky indebtedness, but mostly to the debt rule introduced in 2011. Due to the rules introduced in the Stability act and applicable as of 1st January 2012 the number and quantity of new issues dropped dramatically as early as in 2012, and in 2013 and 2014 only a few local governments got as far as actual issue.

The liabilities of the sector reduced significantly first with the assumption of the debt of county governments by the state to HUF 554 billion in 2011. One year later, the debt of settlements with population below 5,000 inhabitants was settled, which reduced the burdens of local governments by additional HUF 20 billion. In the case of settlements with over 5,000 inhabitants debt settlement was realised in two steps. In the first step the stock of bonds declined from HUF 462 billion to HUF 173 billion on 28th July, 2013. The still outstanding debt was finally assumed in February 2014. The debt liabilities of local governments almost vanished as the result of governmental measures, currently totalling to HUF 7 billion.

The financial account statistics includes the breakdown of *debt securities* by short and long term, however, securities statistics keeps record of various features of securities. In addition to the breakdown of the stocks by holders, the monthly securities statistics publication discloses information about the original and remaining maturity, the method of issue (public, private) and the type of interest payment (fixed, variable, zero coupon)²⁶. In addition to this, through the data requirement of a number of international data supply, in the case of other debt securities also a breakdown by type of interest payment (fixed, variable, indexed, zero coupon) is available.

Chart 3-42
Stock of debt securities issued by residents broken down by issuer sectors



Sources: MNB, Financial accounts.

HOLDERS OF DEBT SECURITIES

Approximately 50-60 percent of the total value of securities issued by *residents* have always been held by residents (see Charts 3-43-3-45). 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. Parallel to the increase of the share of government securities, the ratio held by non-residents also began to increase from 1998. Between 2004 and 2010 non-residents held Hungarian securities in general in around a ratio of 45 percent, which rose in 2011 together with a significant foreign exchange ratio to 56 percent. The ratio of foreign ownership reduced by now below 50 percent first through inciting the demand of households for government securities then through the central bank's self-financing concept.

Financial corporations are considered as the largest sector holding Hungarian government securities. Their share in the government securities in circulation had been for years around stable 40-50 percent, however, in

²⁶ The data of securities issued by residents in a breakdown by issuers and holders, Supplementary data on government securities and investments funds, Chart 1-4

the past few years it has been only around 35 percent. The role of the individual sub-sectors however changed in holding government securities. From the end of the 1990s, a rapid upturn was observed in the investments of insurance companies and pension funds; and in 2004 the government security stock held by these two sectors exceeded that of credit institutions. Their stock first reduced as a result of the financial crisis, then with the cessation of pension funds the government securities investments of pension funds fell to one third. From the second half of 2014 the stock held by credit institutions increased by hundreds of billion forint, but the non-money market funds also started an intensive government securities purchase. Insurance companies count only as the third most important government securities holder financial sector. The share in government securities of the second most important resident holder sector in addition to financial corporations, the households' share gradually declined from the highest value (16 percent) to 4,8-5 percent by 2010, but in the past three years it shows again an upward trend (10 percent) and totalled to HUF 2,330 billion at the end of 2014. The government securities stock of non-profit institutions serving households was HUF 110 billion at the end of 2014. The sector's stock stabilised since 2011 at around HUF 30 billion, government securities purchases by the MNB funds drove the increase of HUF 80 billion at the end of 2014.

Securities of credit institutions 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: insurance companies and pension funds took on a key role in this area. From 2002 certain credit institutions began to finance mortgage banks owned by them through securities purchases, and as the result of this, this sector has a stock of over one thousand billion HUF. The stock held by insurance companies has been stagnating over HUF 200 billion, however, pension funds have been holding much less bonds and mortgage bonds since 2011. Mortgage bonds are held by the MNB since 2011, which were purchased within the scope of mortgage bond purchase program announced for the strengthening of forint mortgage lending. The purchased quantity was less than HUF 90 billion, the stock rapidly reduces due to maturities. Currently, financial corporations hold more than 52 percent of the securities issued by credit institutions; most of the outstanding amount is held by non-residents and households. Since 2012, households typically invest their financial savings increasingly in securities type instruments, however, they prefer retail

government securities and investment fund shares over credit institutional securities. As a consequence of this, the amount of credit institutional securities held by households declined by HUF 300 billion by the end of 2014 totalling to HUF 490 billion.

The bonds of *other financial corporations* were held until the beginning of the 2000s by non-financial corporations, credit institutions and households. From the beginning of the 2000s, the scope of holders expanded first with the non-resident investors, then following the issues by the Student Loan Centre with other financial sectors, in particular with insurance companies and pension funds. Majority of stocks is still held by financial corporations, however, since 2008 the stock held by households has been increasing by gradually reducing the share of financial corporations. Within the financial sectors, a smaller reorganisation is observable: non-money market funds tend to purchase increasingly intensively the bonds of other financial intermediaries, while the stock of other sectors stagnates or slightly reduces.

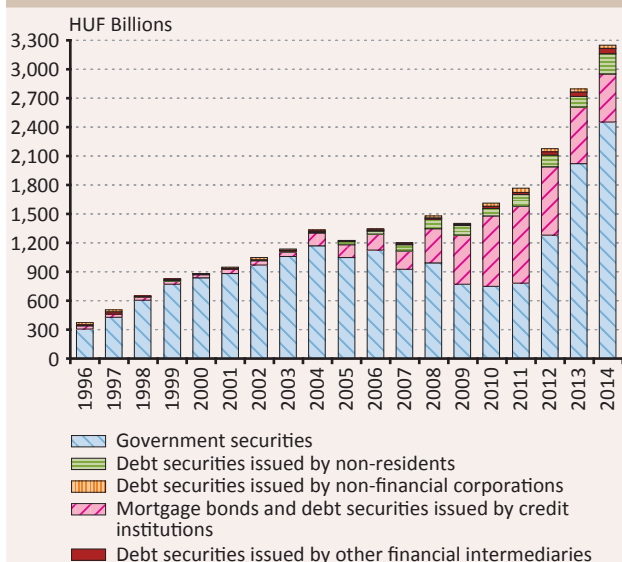
PORTFOLIO OF SECURITY HOLDERS

From among the economic sectors, the *central government* counting as the largest securities debtor holds little debt securities amounting to hardly more than HUF 100 billion. Government bond investments of corporations and non-profit institutions classified in the general government represent notable stocks on the assets side of the sector, but in addition to government bonds, from 2010 debt securities issued by non-residents, then from 2011 also Hungarian credit institutional bonds and mortgage bonds appear among the receivables of institutions being part of the central government. *The local governments'* receivables outstanding in debt securities were somewhat higher, however, this trend reversed and in the past years the sector's stock was even less than HUF 20 billion. On the whole, public institutions predominantly hold government securities. Their balance sheets indicate a higher rate of corporate bonds up to 1994, and MNB bonds between 1997 and 2002 and in 2013.

In the securities stock of *households* government securities are predominant since 1993, they held higher ratio of credit institutional debt securities only between 2010 and 2011. After a temporary setback in 2009-2011, the rapid growth of households' demand for government securities and the gradually declining popularity of credit institutional securities has been typical from 2012 on. While by the end of 2014

the government securities stock more than tripled, their receivables from credit institutions declined by nearly 40 percent. It is important to note that within government securities the ratio of short term treasury bonds is still higher than that of long term government bonds, however, a shift towards longer maturities is observable as compared to the year 2013. Debt securities issued by non-residents appeared among the securities investments of households in 1999. Their stock grew at an accelerating rate in the past ten years, their ratio is now around 5 percent. The bonds of other financial intermediaries are present among the households' investments not in considerable but in increasing ratio (Chart 3-43).

Chart 3-43
Hungarian and foreign securities holdings of households*



* It contains the figures of non-profit institutions serving households as well.

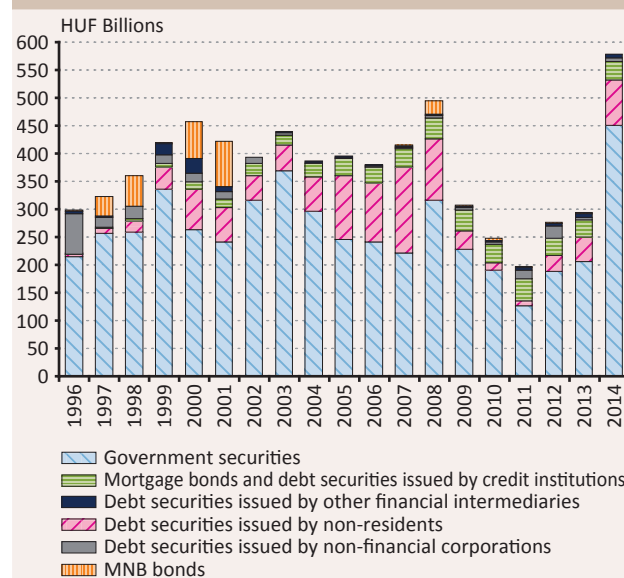
Sources: MNB, Financial accounts

Also for *non-profit institutions serving households* the predominance of government securities is typical. Their total stock stabilised until 2013 at around 35 billion, then in 2014 their investments held in government securities and foreign debt securities grew nearly by HUF 140 billion.

The domestic securities investments of *non-financial corporations* rose at a gradual rate up to 2000, and then basically remained at a similar level until 2007. At the beginning of the period, corporate securities and between 1997 and 2002 MNB bonds represented a higher ratio in addition to government securities. The fall in the rate of inter-company 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 fluctuating. From 1999, the bonds of financial corporations gain in terms of their share of volume. Receivables from credit institutions represented a notable amount, however, their volume has not changed essentially in the past ten years. Although at the end of 2008 the securities stock of non-financial corporations approximated HUF 500 billion, the post-crisis years were characterised by significant decline and stagnating. In 2014 the quantity held by them suddenly doubled, due primarily to the government securities purchase of large quantities and to a lesser degree to the foreign debt securities (Chart 3-44).

Chart 3-44
Hungarian and foreign securities holdings of non-financial corporations

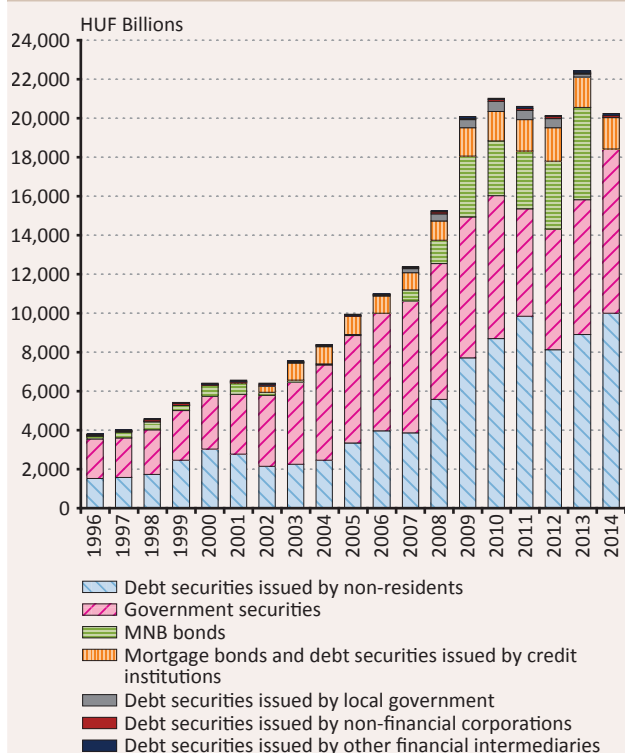


Sources: MNB, Financial accounts.

The domestic securities stock held by *financial corporations* (MNB, credit institutions, money market funds, non-financial corporations, other financial intermediaries, insurance companies and pension funds) evenly increased year to year until 2009, and since then it fluctuates over HUF 10,000 billion (Chart 3-45). Similar, steady growth and fluctuation is observed in the case of the government securities dominating the securities portfolio. Between 1997 and 2002 and between 2007 and 2014, domestic bonds issued by the MNB, and from 2002 the securities (mortgage bonds) issued by credit institutions, and between 2007 and 2014 the bonds issued by local governments are noteworthy among the assets of the sector. In 2014 with the cessation of MNB bonds the stock of domestic securities dropped significantly,

which were partially offset by the governments securities purchases following the announcement of self-financing programme by the MNB. It is important to note that, as opposed to previous practice, parallel to the reduction of the short term receivables of credit institutions a shift towards longer maturities can be observed. Nearly 97 percent of the stock of foreign securities is held by the MNB, the rest is divided mostly among non-money market funds, insurance companies and credit institutions.

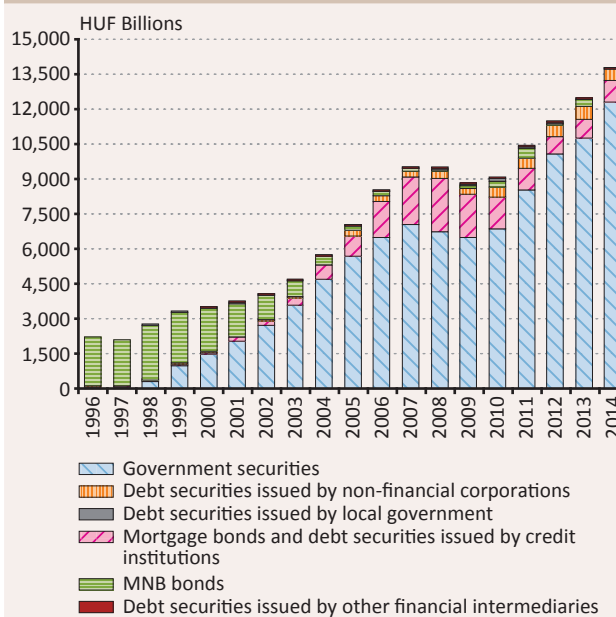
Chart 3-45
Hungarian and foreign securities holdings of financial corporations



Based on the changes in the stock of debt securities held by *non-residents* and their breakdown according to issuers (Chart 3-46), 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 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 securities gained momentum, and it has grown steadily since. By the end of 2001, the general government became the largest securities debtor vis-à-vis non-residents as well. As a result, by today the stock held by non-

residents is more than HUF 12,000 billion. Moreover, non-resident investment in the securities of financial corporations (credit institutions) has been on the rise since 2001, but from 2005 the ratio of corporate bonds and after 2007 that of two-week MNB bonds has been also increasing in the investments of non-residents.

Chart 3-46
Securities stock held by non-residents



Shares and equities issued by resident corporations and changes in the domestic and foreign equity securities held by resident sectors

Financial accounts statistics present the *equity securities* broken down to four categories: quoted shares, unquoted shares, other equities and investment fund shares. *Quoted shares* are traded in a regulated 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, however, they have no organised market, obtaining information related to these papers are assisted by official records. *The group of other equities*, which includes the assets (equities) existing 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. The last, the fourth is the category of *investment fund shares*, which embody the investors' shares in the total assets held by the investment fund. The publicly available information on the funds' performance and the market of investment

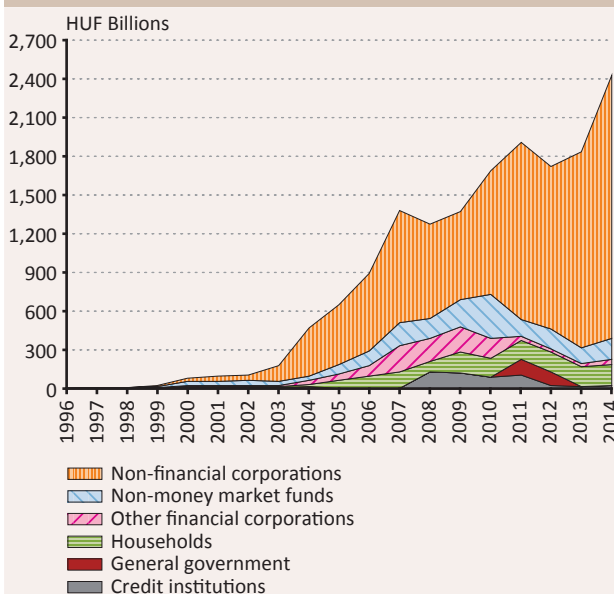
fund shares help investors, and the balance sheets of funds and data supply by custodians serve as primary data sources for the compilation of statistics. Shares, equities and investment fund shares issued by non-residents are shown in financial accounts also in the equity securities category among the financial assets of holder sectors.

The two main issuer sector of *shares quoted* on the Hungarian stock exchange are non-financial corporations and credit institutions. The sectors of other financial corporations and insurance companies play insignificant role. The stock of quoted shares is less than the HUF 7,000 billion pre-crisis level, and in addition, a continuously declining market capitalisation is characteristic of the last years. Trading on the stock exchange are often made with fairly low transaction volume and are mainly limited to leading shares.

In terms of holder sectors, key investors in domestic quoted shares are *non-residents*, while from among resident sectors the *general government*, *non-financial corporations* and *households* hold the largest stock of shares. The stock held by financial corporations, and within this, by non-money market funds and pension funds almost halved first due to the effects of crisis then as the result of the cessation of private pension funds. In 2011 sizable securities portfolio was transferred from the private pension funds to the state, including also domestic shares in the value of hundred billion forint. The stock of the sector was further increased by the repurchase of the participation in MOL representing 21.2 percent of the equity in July 2011. Although the shares taken over had been gradually sold by the central government, it still holds a significant stock of shares amounting to over HUF 500 billion.

The population of *quoted shares issued by non-residents* began at the beginning of 2000; their stock nearly quadrupled in the past ten years, it amounted to HUF 2,427 billion at the end of 2014. The main holder sector is the sector of non-financial corporations (84 percent), but households and non-money market funds hold also foreign shares in the amount of over HUF 150 billion (Chart 3-47). Key drivers of the changes in these assets were the financial crisis, the performance of global capital markets and the cessation of private pension funds.

Chart 3-47
Stock of foreign quoted shares held by resident sectors



Sources: MNB, Financial accounts.

Relevant issuer sector for *unquoted shares and equity* is again the sector of non-financial corporations (85-90 percent), however, with respect to their financial assets they also hold significant amounts of unquoted shares and other equity (inter-company holdings). From the mid-nineties, equity shares formed increasingly large part of inter-company receivables which was related to the increasingly extensive financial relations. From the point of view of smaller issuer sectors, in the case of unquoted shares credit institutions (10 percent), regarding equity the other financial corporations have considerable issued stock (11 percent).

In addition to resident non-financial corporations, *financial corporations* and *final holder sectors* hold a major share, i.e. households and the general government, and the rest of the world (Chart 3-48)

Captive financial institutions comprising holdings and group financiers engaged in passive financial intermediation classified in the sector of financial corporations since the ESA2010 methodological changeover have significant holdings of foreign other equities. Today they are the main holders of other equities issued by non-residents. In contrast, 73 percent of the assets of *credit institutions* outstanding in the

form of equity securities comprise rather unquoted shares (subsidiaries and associated enterprises), among which the ratio of foreign shares was around 58 percent by the end of 2014, whereas in the past years a ratio of 70 percent was typical.

By today, the *central government* considered as the main holder before the political transformation is the owner of a narrow scope of corporations comprising in majority unquoted shareholding companies. Within the equity stake of *local governments* the ratio of shares and other equity remained unchanged in the past years, the reason for which is that a larger part of these embody permanent participation in public utility companies. From the beginning of the 1990s, *households* gradually increased their holding of shares and other equities, and still today they hold the highest ratio of equities besides the rest of the world. The ratio of their foreign other equities was around 5-7 percent in the past years.

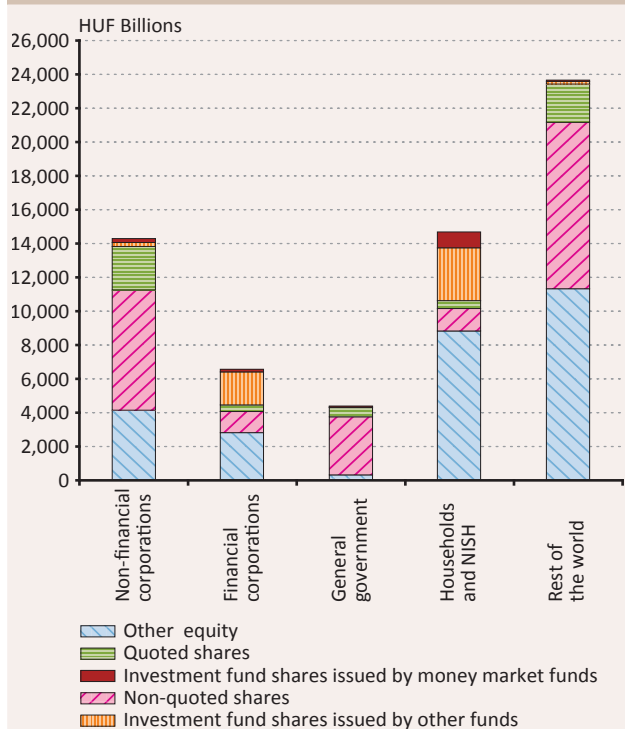
Stock of *unquoted shares and other equities issued by non-residents* and held by residents doubled in the past few years, and at the end of 2014 it was higher than HUF 8,000, which totals to 27 percent of shares and other equities held by resident sectors. It

is important to note that, since it is more difficult to obtain information, with respect to foreign sources the limits between these two instruments get blurred.

Investment funds and investment fund shares issued by them emerged in the Hungarian financial market at the beginning of the 1990s. First closed-end and non-money market funds were launched in limited number, then with the development of financial intermediary system and the ongoing changes to the tax legislation open-end investments fund emerged as well, the shares of which can be purchased and redeemed on an ongoing basis. In addition to government securities funds with increasingly diversified investment policy developed, and the category of money market funds was created which may invest exclusively into financial instruments due within one year. With the emergence of open-end scheme, the investment fund shares represented an increasingly larger share within the financial assets; following a temporary decline in 2003-2004 their stock increased dynamically. The continuous growth lasting up until now halted first as the result of the financial crisis in 2008, then in 2011, where due to the low yields, the termination of private pension funds and the decreasing savings willingness of households (period of early repayment) collectively contributed to the weak performance of funds. Following the period of 2011 as the result of the low deposit interest rates and favourable market conditions the stock boosted dramatically, and thus, at the end of 2014 fund managers managed assets totalling to over HUF 5,500 billion.

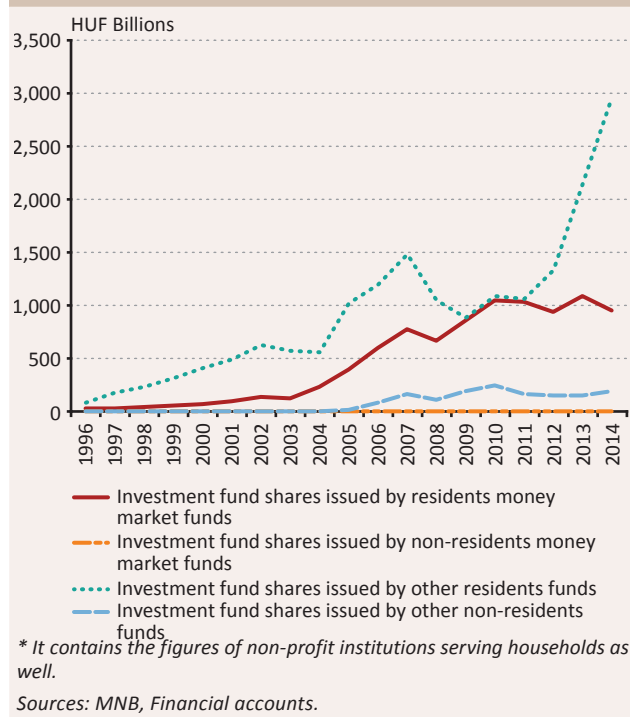
The main holder of *domestic investment fund shares* had been the *households* from the outset (Chart 3-49), which held at the end of 2014 70 percent of the total investment fund share stock (HUF 3,879 billion). From 2012 the new savings of households flew increasingly to securities type instruments instead of deposits, which increased the stock of investment fund shares to a larger degree than in the previous years. From 2013 due to the steadily declining deposit interest rates households spent their savings in bank deposits partially more likely on the purchase of investment fund shares or on the similarly popular retail government bonds. After households, the most significant holder sectors are non-money market funds (8 percent), which purchase primarily shares of non-money market funds, and the non-financial corporations (7 percent) which—similar to households—increased their savings in investment fund shares in the past two years. Insurance companies and non-resident hold also considerable

Chart 3-48
Stock of equity securities in the main holder sector at the end of 2014



Sources: MNB, Financial accounts.

Chart 3-49
Domestic and foreign investment fund shares held by households*



amount of investment fund shares (5 and 4 percent), while the stock of pension funds has been stagnating since 2011 (3 percent).

Investment funds are distinguished and classified into categories based on the investment policy of the

specific fund. The definition of the investment policy not only allows for an orientation between the funds for the market and the investors, but also helps to compare the historical yields and to judge the level of riskiness of investments. More information as to in which types of funds the individual holder sectors invest their savings is available in the Supplementary data table of securities statistics published each month²⁷.

Investment fund shares issued by non-residents have played an increasingly important role in the investments of resident security holders since 2002. At the end of 2008 the total stock held by residents amounted to HUF 755 billion, which doubled in two years. Although following the cessation of private pension funds the stock of foreign investment fund shares declined significantly, from 2013 the quantity held by resident sectors has been gradually increasing. At the end of 2014 insurance companies and non-money market funds held more than 66 percent of the stock, but non-financial corporations and households also invest increasingly more of their financial savings in foreign investment fund shares (21 percent). 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. Shares of money market funds represent only 7 percent of the total stock of HUF 1,400 billion.

²⁷ The data of securities issued by residents in a breakdown by issuers and holders. Supplementary data on government securities and investments funds. Table 5: Stocks of investment fund shares broken down by fund types and holder sectors

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