

Unclassified

STD/CSTAT/WPNA(2013)14

Organisation de Coopération et de Développement Économiques  
Organisation for Economic Co-operation and Development

10-Sep-2013

English - Or. English

STATISTICS DIRECTORATE  
COMMITTEE ON STATISTICS

Working Party on National Accounts

ACCOUNTING FOR WEALTH IN THE CZECH REPUBLIC

Joint meeting

To be held on 1-2 October 2013  
OECD Conference Centre  
Beginning at 2:00 a.m. on the first day

*This document has been prepared by Vítězslav Ondruš (Czech Statistical Office, Czech Republic) and will be presented under item 21 of the draft agenda*

JT03344177

Complete document available on OLIS in its original format

*This document and any map included herein are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.*

STD/CSTAT/WPNA(2013)14  
Unclassified

English - Or. English

## ACCOUNTING FOR WEALTH IN THE CZECH REPUBLIC

*by Vítězslav Ondruš, Czech Statistical Office, Czech Republic*

*Sometimes we can meet analyses where analysts mix up the concept of household wealth with the concept of household final consumption expenditure. Both of categories are important for the characterization of the standard of living, both are provided by the system of national accounts, but each of them is a quite different phenomenon. Household wealth comes from, besides capital transfers and other changes, mainly from accumulated part of disposable income not used for current expenditure on final consumption.*

*Dependence of both categories, however, is mutual – the wealth of households comes not only from what was not consumed in the current year (about 10 % of disposable income), but also on the contrary, existing wealth directly affects the final consumption expenditure (essential part of imputed rent) or generates a large part of disposable income by some form of property income, e.g., rents, dividends, interest (about 25 % of disposable income).*

### **National wealth of the Czech Republic**

National wealth or net worth of the total economy and individual institutional sectors is recorded in the Czech national accounts from the beginning of their compilation, since 1993. The original data simply reflected figures from business accounts, i.e., they matched the methodological principles of business accounting and did not cover all of economic units, or else, they were not complete and methodologically correct (see National accounts for the Czech Republic, Paris 1998, OECD).

We try to gradually improve the quality and completeness of the quantification of the national wealth, or particular types of assets, and within each main/occasional revision of the national accounts data to perform retrospective estimates to ensure comparable time series. Yet, even after 20 years, this process is not completely closed. The most significant weaknesses are, together with the evaluation of the whole procedure of quantification of the different types of assets, further named.

The national wealth of the Czech Republic for the year 2011 is recorded in the national accounts amounting to 19.4 trillions CZK, of which non-financial assets represent 20.7 trillions CZK and net financial assets have a negative value of -1.4 trillions CZK.

**Non-financial assets** (see table 1) are represented mainly by fixed assets. Quantification of all types of fixed capital (except of cultivated assets) is performed using PIM. Here we have the most elaborated procedures, but we are working on other specific improvements, especially in capturing other changes in volume of assets and acquisitions less disposals of used fixed assets.

Inventories represent 10 % of non-financial assets, in particular, due to the large value of forests. Valuation of forests is carried out, however, using the market price of wood for the current year instead of the discounted future income from the sale of wood. More about this issue will be in the second part of the paper.

The value of the valuables recorded in the Czech national accounts is very low, because it involves basically only valuables captured in the business accounts of the corporations and valuables made or traded during the past 20 years. Therefore the Czech national accounts do not include collections in museums, or valuables held by households on a long-term basis.

Non-produced assets recorded in the Czech national accounts represent only 10% of the value of non-financial assets. They include, in principle, only land and a small part of subsoil assets and patents that corporations conduct on their business accounts (e.g. sand-pits). This issue has not been a priority of building the system of national accounts in the Czech Republic, although there are a number of partial information pieces.

Table 1: Non-financial assets, Czech Republic, 2011

		CZK billions	%
<b>AN.</b>	<b>Non-financial assets</b>	<b>20 732</b>	<b>100%</b>
AN.1	Produced assets	18 566	90%
AN.11	Fixed assets	16 445	79%
	<i>Dwellings</i>	4 441	21%
	<i>Other buildings and structures</i>	9 463	46%
	<i>Machinery and equipment</i>	2 420	12%
AN.12	Inventories	2 049	10%
	<i>Work in progress</i>	1 167	6%
AN.13	Valuables	73	0%
AN.2	Non-produced assets	2 166	10%
	<i>Land</i>	2 017	10%

**Financial assets** or balance of financial assets less liabilities in total (see table 2) have for the Czech economy a negative value of -1.4 billions CZK. This balance as “Net financial worth” of the Czech economy represents the final relation to non-residents.

Table 2: Net financial worth and relation to RoW, Czech Republic, 2011, CZK bill.

		Czech Republic			Non residents		
		Assets	Liabilities	Diff	Assets	Liabilities	Diff
<b>AF</b>	<b>Financial assets</b>	<b>17 059</b>	<b>18 433</b>	<b>-1 374</b>	<b>4 009</b>	<b>2 600</b>	<b>1 409</b>
AF.1	Monetary gold and SDRs	35		35	x	x	x
AF.2	Currency and deposits	4 540	4 328	212	367	579	-212
AF.3	Securities other than shares	2 525	2 330	195	739	934	-195
AF.4	Loans	3 051	3 307	-256	516	260	256
AF.5	Shares and other equity	3 455	4 779	-1 324	1 910	586	1 324
AF.6	Insurance technical reserves	628	605	23	8	31	-23
AF.7	Other acc receivable/payable	2 825	3 084	-259	469	210	259

The most important liability to RoW is shares of non-residents in corporations, which represents almost half the assets of non-residents in the Czech Republic. The second most important financial instrument in relation to RoW are “Securities other than shares” by which governmental institutions largely finance their debts. Mainly due to these two types of financial assets the net financial assets of the Czech Republic significant declined during past 20 years (see table 3).

Table 3: Net worth, Czech Republic, CZK bill.

Items	1993 (os)	1995	2000	2005	2010	2011
Non-financial assets	5 988	9 004	13 465	16 549	20 285	20 732
<i>of which fixed assets</i>	4 486	7 232	11 244	13 603	16 324	16 445
<i>% of fixed assets in NW</i>	73%	79%	85%	87%	87%	85%
Financial assets	5 024	6 727	9 551	12 813	16 487	17 059
Liabilities	4 893	6 621	9 741	13 658	17 938	18 433
<i>Net Financial Worth</i>	131	106	-190	-845	-1 451	-1 374
<b>Net Worth</b>	<b>6 119</b>	<b>9 110</b>	<b>13 275</b>	<b>15 704</b>	<b>18 834</b>	<b>19 358</b>

For each of the financial asset a matrix of counter parties is compiled. This technique is used for balancing of assets and liabilities among institutional sectors, subsectors and RoW. However, the CZSO has not yet published these matrixes that give a complete information about who to whom ownership. In table 4, an example of such matrix of counter parties for the item "securities other than shares" (AF.3) is shown in the aggregate form.

Table 4: Balancing matrix of counter parties for closing stocks of securities other than shares (AF.3), 2011, CZK bill.

		ASSETS						Liabilities, total
		S.11	S.12	S.13	S.14	S.15	S.2	
LIABILITIES	S.11	15	56	3	2	1	208	<b>285</b>
	S.12	17	289	3	20	0	153	<b>482</b>
	S.13	24	1 002	130	28	1	378	<b>1 563</b>
	S.14	0	0	0	0	0	0	<b>0</b>
	S.15	0	0	0	0	0	0	<b>0</b>
	S.2	22	884	3	25	0	0	<b>934</b>
<b>Assets, total</b>		<b>78</b>	<b>2 231</b>	<b>139</b>	<b>75</b>	<b>2</b>	<b>739</b>	<b>3 264</b>

These matrixes of counter parties are key instruments for the estimates of the missing, weak or incomplete data for some sectors and subsectors. For each of the financial asset or liability five matrixes is always compiled and balanced, for: (1) opening stock (os), (2) transactions, (3) other changes in volume, (4) revaluation and (5) closing stock. They serve also as key instrument because they allow balancing the whole system of accounts for the total economy and for all sectors.

Besides the subject structure of the national wealth, its ownership and for which activities is it used have the same importance. The system of national accounts provides a combined view. In the Czech national accounts, we have created in addition to the standard system of sector accounts and input-output tables so called balances of non-financial assets that give three-dimensional views on each group of non-financial assets: asset x sector x industry.

However, an industrial structure of non-financial assets is analytically important for the sector non-financial corporations, while in the household sector for sub-sector entrepreneurs only. But, the paper is concentrated further on the household sector that is why the industrial structure of the net worth will be omitted. The overview at subject structure of the net worth of all five institutional sectors for 2011 is provided in the table 5.

Due to the different role of each sector in the national economy it is quite logical that the structure of the net worth of each sector differs greatly from the structure in the other sectors.

We have some doubts about the amount and structure of net worth in connection with the valuation of shares. As an example housing cooperatives serve. Housing cooperatives own about 15% of the housing stock in the Czech Republic. The owners of the housing cooperatives are members of cooperatives that usually live in the cooperative flats. Members-tenants, therefore, do not own the flats in which they live directly, but shares of the cooperative. Rentals paid by members-tenants to cooperatives cover their operating costs and amortization/reproduction of their housing fund, however, cooperatives do not make any profit from their core business. So, housing cooperatives can create profit, according to the law, only from some secondary activities or from renting apartments to non-members of the cooperative.

The question is how to evaluate the shares of the members in the cooperative. By business accounting they are evaluated in the amount of initial deposits to the cooperative. The actual market value of the flats, however, is much higher due to the general trend of prices of real estate, and, in particular, therefore, that cooperative financed flats from deposits by members, but also by subsidies and loans, or due to privatisation of municipal flats for significantly lower price than their market value. For these reasons, we correct data taken from accounts of housing cooperatives, and the participation of the members in cooperatives we evaluate by the market value of flats reduced by taken loans.

We debate whether this procedure is correct. If not, then the net equity of housing cooperatives is very high, but real owners of net worth are the members of the cooperative. If yes, then we should analogously evaluate the shares in other corporations.

Table 5: Net Worth by sector and type of assets, Czech Republic, 2011, CZK bill.

Code	Assets	Total economy	Households				
		S.1	S.11	S.12	S.13	S.14	NPISH S.15
<b>AN</b>	<b>Non-financial assets</b>	<b>20 732</b>	<b>9 593</b>	<b>264</b>	<b>6 031</b>	<b>4 727</b>	<b>116</b>
AN.1	Produced assets	18 566	8 650	222	5 281	4 315	98
AN.11	Fixed assets	16 445	7 148	207	5 010	3 983	96
	<i>Dwellings</i>	<i>4 441</i>	<i>582</i>	<i>18</i>	<i>219</i>	<i>3 614</i>	<i>9</i>
	<i>Other buildings and structures</i>	<i>9 463</i>	<i>4 413</i>	<i>152</i>	<i>4 644</i>	<i>173</i>	<i>80</i>
	<i>Machinery and equipment</i>	<i>2 420</i>	<i>2 061</i>	<i>23</i>	<i>137</i>	<i>192</i>	<i>7</i>
AN.12	Inventories	2 049	1 500	15	268	265	2
	<i>Work in progress</i>	<i>1 167</i>	<i>762</i>	<i>1</i>	<i>194</i>	<i>208</i>	<i>2</i>
AN.13	Valuables	73	2	1	3	67	0
AN.2	Non-produced assets	2 166	943	42	751	412	18
	<i>Land</i>	<i>2 017</i>	<i>811</i>	<i>26</i>	<i>749</i>	<i>412</i>	<i>18</i>
<b>AF</b>	<b>Financial assets</b>	<b>17 059</b>	<b>4 681</b>	<b>6 749</b>	<b>1 767</b>	<b>3 823</b>	<b>39</b>
AF.1	Monetary gold and SDRs	35	0	35	0	0	0
AF.2	Currency and deposits	4 540	856	1 154	378	2 129	24
AF.3	Securities other than shares	2 525	78	2 231	139	75	2
AF.4	Loans	3 051	303	2 679	53	15	1
AF.5	Shares and other equity	3 455	1 228	421	874	926	6
AF.6	Insurance technical reserves	628	37	46	2	542	0
AF.7	Other accounts receivable	2 824	2 179	183	321	136	6
<b>AF</b>	<b>Liabilities</b>	<b>18 433</b>	<b>8 264</b>	<b>6 842</b>	<b>1 988</b>	<b>1 329</b>	<b>10</b>
AF.2	Currency and deposits	4 328	0	4 328	0	0	0
AF.3	Securities other than shares	2 330	285	483	1 562	0	0
AF.4	Loans	3 307	1 529	381	193	1 201	4
AF.5	Shares and other equity	4 779	3 947	832	0	0	0
AF.6	Insurance technical reserves	605	0	605	0	0	0
AF.7	Other accounts payable	3 085	2 503	213	234	128	6
<b>BF.90</b>	<b>Net Financial Worth</b>	<b>-1 374</b>	<b>-3 583</b>	<b>-93</b>	<b>-221</b>	<b>2 494</b>	<b>29</b>
<b>B.90</b>	<b>Net Worth</b>	<b>19 358</b>	<b>6 010</b>	<b>170</b>	<b>5 811</b>	<b>7 221</b>	<b>145</b>

## Net worth of the household sector

Net worth of Czech households recorded in national accounts consists in principle of three types of non-financial assets (dwellings, forests and land) and three types of financial assets (deposits minus loans, shares and insurance technical reserves), see table 6. Other assets together represent less than 10% of the net worth of households. Therefore, we focus on these six types of asset, both on methods of estimation and values in the time series since 1993.

Table 6: Households sector – Structure of net worth, Czech Republic, 2011, CZK bill.

Code	Assets	CZK billions	% of total economy	% of NW S.14
<b>AN</b>	<b>Non-financial assets</b>	<b>4 727</b>	<b>23</b>	<b>65</b>
	<i>Dwellings</i>	<i>3 614</i>	<i>81</i>	<i>50</i>
	<i>Forests</i>	<i>208</i>	<i>18</i>	<i>3</i>
	<i>Land</i>	<i>412</i>	<i>20</i>	<i>6</i>
<b>BF.90</b>	<b>Net Financial Worth</b>	<b>2 494</b>	<b>15</b>	<b>35</b>
	<i>Currency and deposits less loans</i>	<i>928</i>	<i>28</i>	<i>13</i>
	<i>Shares and other equity</i>	<i>926</i>	<i>27</i>	<i>13</i>
	<i>Insurance technical reserves</i>	<i>414</i>	<i>66</i>	<i>6</i>
<b>B.90</b>	<b>Net Worth</b>	<b>7 221</b>	<b>37</b>	<b>100</b>

### Dwellings

Dwellings represent half of the net worth of Czech households. Net stock of dwellings is calculated by perpetual inventory method (PIM). The depreciation function is linear, retirement pattern is lognormal derived from average service life of 80 years (by blocks of flats) or 90 years (by family houses).

The ground of implementation of PIM on dwellings was an estimation of gross fixed stock of dwellings at the end of year 2000. For this purpose, the following data sources were used:

- Census was used for regional structure, division into family houses and flats, age structure and square meters of living area.
- Compilation and evaluation of dwellings gross stock was done separately for two categories:
  - For municipalities with more than 50,000 of inhabitants and regions Prague-west and Prague-east the prices were taken from tax return statistics (average from years 2001-2003 revaluated to prices of 2000).
  - For municipalities with less than 50,000 of inhabitants, the prices were taken from annual statistical survey on completed houses.
- In cooperation with external research institute for rationalization in building industry the quality change was implemented into the computation of the value of dwellings from different periods, the used quality coefficients reflect the construction material etc. Also the sewerage, gas pipeline and water supply connections are reflected in the quality coefficients.
- Gross fixed capital formation (GFCF) of dwellings was divided to flats and family houses based on surveyed data.

As a result the value of gross stock of dwellings at the end of year 2000 was obtained in an age-and-type (family house x flat) structure. The division into institutional sectors and subsectors was done on the basis of census. The ratios of book keeping gross stocks were used for division into industries.

The gross stock was used for construction of artificial time series of gross fixed capital formation in dwellings before 1995. The gross stock divided into age groups was transformed into artificial GFCF by backward calculation of retirement (from retirement function it is easy to compute the percentage of already retired part). The shape of the series is based on number of newly constructed dwellings and on their age structure. Finally, these time series, data on GFCF and price indices in 2011 are used for PIM calculations in order to compile a balance sheet of dwellings.

The calculation is made firstly for the total economy, and finally the results are allocated to subsectors by help of data from a census (a combination of two indicators: legal ground of use and owner) and to NACE by data from an annual statistical survey. Data from the census are annually updated by data about recently constructed dwellings from a statistical survey. An adjustment to dwellings owned by non-residents is done: these are taken out of household sector and added to foreign controlled non-financial corporation subsector.

Table 7: Households sector - dwellings, current prices, CZK bill.

	1993 to 1995	1996 to 2000	2001 to 2005	2006 to 2010	2011
Opening stock	851,5	1 440,6	2 241,9	2 786,6	3 563,0
GFCF	102,5	312,4	469,3	758,6	140,6
CFC (-)	-73,1	-190,7	-251,0	-324,3	-70,8
Other volume changes	23,2	0,0	-27,5	-0,8	0,0
Revaluation	536,6	679,5	354,1	342,9	-19,2
Closing stock	1 440,6	2 241,9	2 786,6	3 563,0	3 613,7
<i>Share of NW (%)</i>	<i>49,2</i>	<i>50,1</i>	<i>50,2</i>	<i>50,9</i>	<i>50,0</i>

The results in very aggregate form for the period 1993 to 2011 are seen in table 7. Gross fixed capital formation looks as very high (annually in average almost 4% to opening stock), it is mainly due to privatisation of flats - municipalities and cooperatives flats. Other volume changes cover destroyed dwellings due to catastrophic events, as floods. The accumulated impact of dwellings revaluation was bigger than the amount of gross fixed capital formation in dwellings. Almost the same amount of changes in value of housing stock is a cumulated result of revaluation. Price indices are differing by region and by type of dwellings. Valuation of stock is the weakest part of our calculation in replacement or market value because of a danger of double counting of underlying land.

### **Forests**

Forests are an important source for the Czech Republic; therefore, nationwide inventory of forest are performed regularly. More than 20% of all forestry land are owned by households. Current estimate of the value of forest is based on the results of the nationwide inventory conducted during 2001-2004. Presently another national inventory of forests is conducted (2011-2015). It will be completed by the end of 2014; the results will be processed, evaluated and published by the end of 2015, so we assume that its results will be used in the national accounts for the year 2016.

An estimate of the value of forests in the Czech national accounts is now carried out by applying of average prices of raw wood on stock of standing timber in cubic metres per kind of timber. Both

methodology and current annual valuation are elaborated and processed for the CZSO by two external research institutes. So the CZSO replaced previously used method of valuation based on discounted future proceeds of selling the timber. This method was, in theory, more correct, but more demanding and especially negatively acceptable by users. Therefore, we do not assume to reintroduce it.

The calculation is done for the national economy as a whole. The estimated values are then allocated proportionally to institutional sectors. Sector structure is derived from the ownership of forest land in hectares. Whereas the structure of standing timber, growth and woodcutting are calculated only for the total economy, it does not reflect the quality or value of the standing timber in the household sector separately.

Table 8: Households sector - forestry, current prices, CZK bill.

	1993 to 1995	1996 to 2000	2001 to 2005	2006 to 2010	2011
Opening stock	137,0	145,9	177,5	146,1	162,5
Changes in inventories	4,3	3,4	1,1	7,1	1,3
Other changes in volume	0,0	-0,5	-3,8	-1,0	-0,3
Revaluation	4,6	28,7	-28,8	10,3	44,5
Closing stock	145,9	177,5	146,1	162,5	208,0
<i>Share of NW (%)</i>	<i>5,0</i>	<i>4,0</i>	<i>2,6</i>	<i>2,3</i>	<i>2,9</i>

The final data in aggregated form for the period 1993 to 2011 are shown in table 8. Changes in inventories represents here the balance of the forest (growth and woodcutting of standing timber), as well as net sales or purchases of forests by households. Other changes in volume of forest are negligible, however, changes in the valuation of stock play important role, due to changes in prices of wood. The current method of calculation is sensitive to fluctuations in the market prices of raw wood.

### **Land**

The value of the land recorded in the national accounts represents more than 10% of the national wealth. An ownership by households is only 20 % of total value of land, while non-financial corporations own about 40% and governmental institutions also own nearly 40 %. The table 9 provides an overview of the stock and changes in stock of land owned by households during last almost twenty years period. Big other changes in volume are (mainly in 2005) caused by newly recorded land. However, we consider that these data are the weakest in our national accounts (together with the other non-produced assets). Therefore, we are working now on a project aimed on a usage of individual cadastre data that provide information about ownership, type of land and the character of its use.

Table 9: Households sector - land, CZK bill.

	1993 to 1995	1996 to 2000	2001 to 2005	2006 to 2010	2011
Opening stock	61,5	69,3	108,7	305,3	427,5
Net aquisition of land	0,0	-11,6	-11,4	5,7	1,2
Other changes in volume	1,2	5,1	162,6	-8,4	1,9
Revaluation	6,7	46,0	45,4	124,8	-18,7
Closing stock	69,3	108,7	305,3	427,5	412,0
<i>Share of NW (%)</i>	<i>2,4</i>	<i>2,4</i>	<i>5,5</i>	<i>6,1</i>	<i>5,7</i>



Current estimation of land value is based on area of land structured by type and district data received from State Cadastre and multiplied by average purchases prices received from price statistics, also structured by district. The calculation is carried out in basic breakdown of the land as follows:

- agricultural land  $\times$  the average purchases prices of agricultural land
- non - agricultural land
  - land underlying buildings and courtyards  $\times$  the average purchases prices of building site area
  - forestry land  $\times$  the average purchase price of forestry land
  - surface water  $\times$  the average price of water and other areas (estimated for total economy by data available on the Internet)
  - other land  $\times$  the average price of water and other areas (estimated for total economy by data available on the Internet)

Calculations take place in three stages. The first and second stages are carried out without sectoral breakdown, so acquisitions and disposals of land between sectors and subsectors can be ignored. The allocation of the results to institutional sectors and subsectors and balancing of acquisitions and disposals of land among sectors and subsectors is made in the third stage.

The first stage represents a compilation of the balance for each type of land in hectares. The difference between opening and closing amount of the various types of land are regarded as a change in use of land. Also economic appearance and disappearance of land due to refining of total area recorded in State cadastre are there.

The second stage represents a conversion of the balances for each type of land in hectares to value expression by applying average prices for each land type. Changes in the use of land and with it connected changes in land prices are intercepted as the changes in classification of land (K.122). Changes due to refining of total area are also valued and recorded as economic appearance and disappearance of land (K.3 or K.62). Finely, the difference between closing and opening stock and total other volume changes are interpreted as revaluation (K.11).

The third stage covers the balancing of acquisitions and disposals of land between sectors and subsectors (data are mainly from statistical surveys and tax returns for real estate transfer tax) and the allocation of stock, other volume changes and revaluation for total economy to individual institutional sectors and subsectors.

For the distribution of agricultural land, we use data from the survey made by agriculture statistics and information from the annual reports of the State Land Fund on an area of land under its records. It is evident from agriculture statistics survey that the majority of agricultural land is used by legal persons, but the greater part is rented. We assume that most of this rented land is owned by natural persons and, therefore, the value of agricultural land is the largest in the households sector.

Forestry lands are divided into sectors according to the structure elaborated by the institute manages the national inventory of forests. According to this institute belong to the household sector about 20.6% of the area of forest land.

The value of the built-up areas in the households sector consists mainly of land under homes owned by households. We estimated it by a model calculation based on the number of dwellings, average built-up area and the average price of a built-up area. The calculation is performed separately for family houses and apartment buildings. The rest is mostly allocated to the non-financial corporation sector and governmental institutions in accordance with the statistical survey data. Given the prices of the plots the built-up land

makes up 75% of total value of all land in the Czech Republic. This approach does not give appropriate results, that is why we suppose to use an information about ownership directly from the State Cadastre.

### ***Currency and deposits less loans (credits)***

Currency and deposits reduced by taken loans represent 13% of net worth of households. To estimate the amount of currency held by households, deposits and loans mainly the data from bank statistics and from statistical surveys are used, that are finely balanced in the matrixes of counter parties. For each asset, the separate matrix is prepared and balanced. For the estimation of the loans given to households, a special database kept by the Czech National Bank is used. Since 2007, household deposits abroad have been included in national accounts. These deposits are estimated based on information concerning the taxation of interest and the average interest rates in countries where these deposits are located.

Table 10: Households sector - currency and deposits less loans, CZK bill.

	1993 to 1995	1996 to 2000	2001 to 2005	2006 to 2010	2011
Opening stock	185,9	359,5	793,0	788,8	891,8
Transactions	164,1	416,2	14,2	31,0	33,2
Other changes in volume	10,8	7,9	4,4	83,8	4,5
Revaluation	-1,4	9,5	-22,8	-11,9	12,7
Closing stock	359,5	793,0	788,8	891,8	942,2
<i>Share of NW (%)</i>	<i>12,3</i>	<i>17,7</i>	<i>14,2</i>	<i>12,7</i>	<i>13,0</i>

The share of net deposits (reduced by loans) on net worth of households was very high in the late nineties, and then the Czech households were less saving and more taking loans in the context of increasing investments to dwellings and rapidly increasing expenditure on final consumption.

Deposits of as well as loans stocks to households were also significantly affected by their revaluation and other changes in the volume, see table 10. Revaluation refers to deposits of or loans to households saved/received in foreign currency as a result of changes in the exchange rate of the Czech Crown to foreign currencies, in particular USD, DEM, EUR and CHF. In particular writing-of or writing-down of bad debts and financial leasing by creditors were included in the other changes in volume, and in 2007, also newly included deposits of Czech households abroad.

### ***Shares and other equity***

Shares and other equity represent now 13% of net worth of households, 35% of them is in quoted and unquoted shares, 45% in other equity and 20% in mutual funds shares. In total, their role in net equity of households is falling continuously since 1995 in connection with sale of shares acquired in the voucher privatisation, and also as a result of the privatisation of cooperative apartments. However, the specific development has mutual funds shares – sustained growth was affected by a large decline during two financial crises in 1997-1999 and 2007-2011.

For the estimation of listed shares is used is used special database MAGNUS, from which it is possible to find prices of listed shares at a given moment, as well as their owners. The calculation procedure is therefore based on a comprehensive assessment of the amount of liabilities side of the sector and its subsequent distribution to the holders of this amount on the assets side.

Unquoted shares of non-financial corporations and ancillary and other financial institutions (S.11, S.123 and S.124) are valued in the amount of the book value of equity capital. If the data for equity capital is missing, the value of stockholders' equity is used. Next, estimated equity is allocated to counter-parties

on the basis of information from the MAGNUS, SCP and commercial register. For financial intermediaries and insurance companies and pension funds (S.122 and S.125), it is based on the value of equity according to the banking statistics or metasytem for insurance companies and pension funds. The evaluated value is divided to counter parties according to information from the MAGNUS, SCP (a governmental institution Centre of securities) and commercial register.

Other equity in limited liability companies and incorporated partnerships are valued in the amount of the paid-up capital. A crucial part of the "Other equity" represents the equity of households in housing cooperatives (85%), because this equity is valued by value of apartments in which the members of cooperatives live (see above). Due to this approach the indicator "Other equity" is methodically very inhomogeneous.

Mutual funds shares are estimated according to the database of the Association for the capital market; the proportion of households is estimated at 85%.

A significant part of the present value of the shares and other equity held by households is not the result of transactions, but the revaluation and other changes in the volume, see table 11.

Table 11: Households sector - shares and other equity, Czech Republic, CZK bill.

	1993 to 1995	1996 to 2000	2001 to 2005	2006 to 2010	2011
Opening stock	437,6	674,2	738,6	859,0	929,5
Transactions	282,0	-81,2	132,7	-3,2	6,9
Other changes in volume	-54,2	31,9	-56,8	-4,9	10,7
Revaluation	8,9	113,7	44,5	78,7	-20,9
Closing stock	674,2	738,6	859,0	929,5	926,2
<i>Share of NW (%)</i>	<i>23,0</i>	<i>16,5</i>	<i>15,5</i>	<i>13,3</i>	<i>12,8</i>

### ***Insurance technical reserves***

Insurance technical reserves are quickly and constantly increasing asset in possession of Czech households. Their share of the worth of households increased from 2.3% in 1993 to the current 7.5%, see table 12.

Table 12: Households sector - insurance technical reserves, Czech Republic, CZK bill.

	1993 to 1995	1996 to 2000	2001 to 2005	2006 to 2010	2011
Opening stock	44,4	67,5	138,3	312,8	513,1
Transactions	21,3	83,7	159,8	200,6	28,7
Other changes in volume	1,8	-12,9	14,8	2,8	0,3
Revaluation	0,0	0,0	0,0	-3,2	0,0
Closing stock	67,5	138,3	312,8	513,1	542,1
<i>Share of NW (%)</i>	<i>2,3</i>	<i>3,1</i>	<i>5,6</i>	<i>7,3</i>	<i>7,5</i>

Our estimation of their stocks, transactions and other changes for households is conducted on the basis of administrative data from insurance companies and pension funds, or based on data from supervision conducted by the Czech National Bank. The share of net equity of households in life insurance reserves and in pension funds reserves (AF.61) is 100%, because the non-resident households are not assumed in any life insurance or participation in pension funds. The share of households in "prepayments

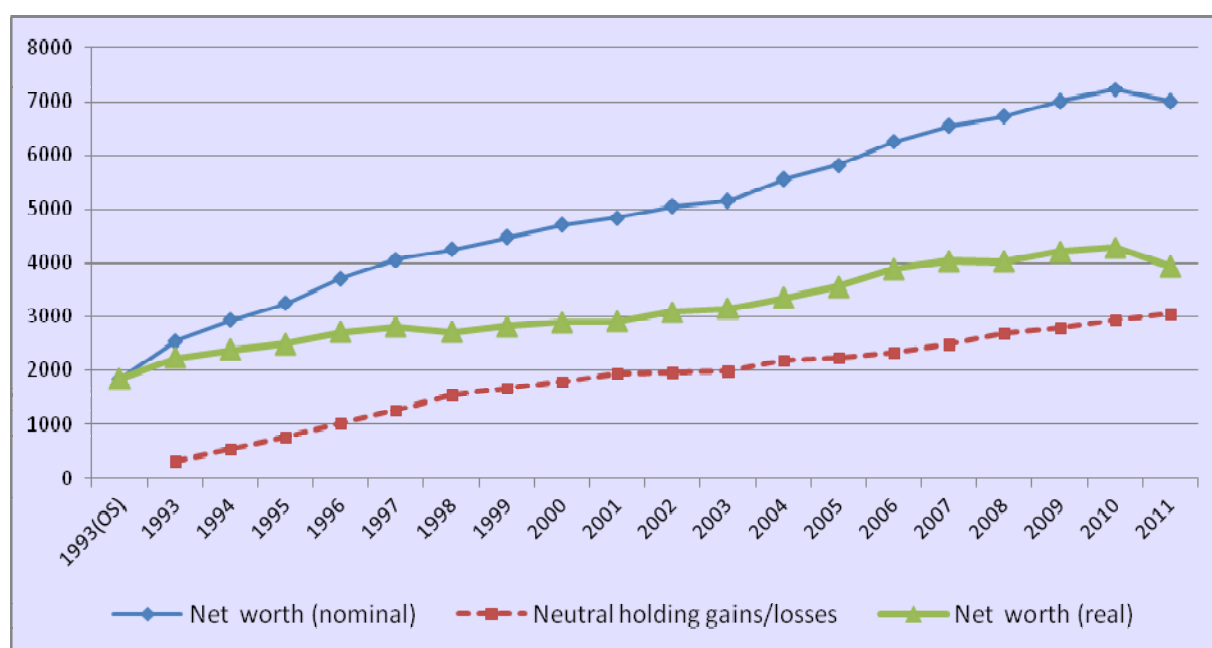
of insurance premiums and reserves for outstanding claims” (AF.62) is only 41%. Allocation to the sectors is made according to the percentage of premiums received.

The big other change in the volume in household sector is mainly caused by methodological correction of “prepayments of insurance premiums and reserves for outstanding claims” (AF.62) - till 2004 the net reserves were used without reserves of reinsures, since 2004 the gross reserves are used (i.e. incl. reserves of reinsures). Only one record in the revaluation account was made in 2009 for pension funds due to the revaluation of their assets. In fact, however, this is an extraordinary change, which should be recorded in the other changes in volume account.

### *Appreciation/depreciation of household wealth*

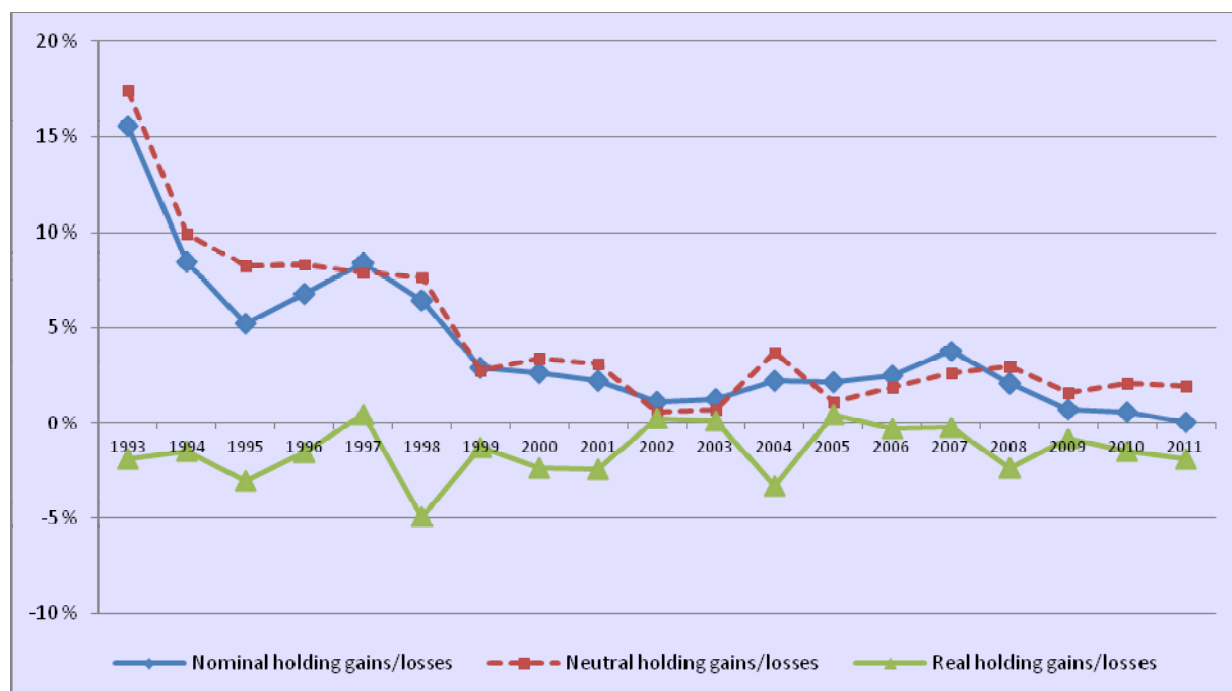
The wealth of Czech households increased in nominal terms 3.8 times in total, however, after deduction of the neutral holding gains caused due to changes in the general price level (measured by the index of the final national uses, excluding changes in inventories), the real value of wealth increased only 2.1 times. The trend of nominal and real net worth of Czech households is seen in Figure 1. Or otherwise, increasing the value of the wealth owned by Czech households was covered from 60 % by increasing in the general price level.

Figure 1: Net worth of Czech households in nominal and real terms, CZK billions



For analytical evaluation of the development of net wealth for individual institutional sectors it is extremely important to record holding gains for all assets and liabilities and to show the nominal and real appreciation or depreciation. Chart 2 shows that the real appreciation of the assets of Czech households in total, took place from 19- years only in four years – in 1997, 2002, 2003 and 2005.

Figure 2: Holding gains/losses in household sector (in % of opening stock of net wealth)



### *Social dimension of wealth*

During last twenty years former homogenous Czech households have been turned to very differentiated, traditional views on social groups are unsatisfactory. Social statistics respond to this important trend of the Czech society inadequately, national accounts not at all. Although we currently split the household sector in national accounts to two subsectors – households as consumers and households as entrepreneurs, but the original intention of this breakdown was the technique of estimates of some items and accounts. Now, of course, it is also used for analytical reasons, even if it is not too appropriate because one institutional unit (entrepreneurs) is artificially split on businesses and consumers. Some questions arise, for example how to evaluate and record equity of household as consumer in its own business (the same household as entrepreneur).

However, as we have not yet provided household sector more structured we cannot evaluate their wealth deeply. That is why, this year, we have launched the experimental work on the breakdown of the household sector according social and income groups. At present, however, it is still too early to talk about the results.