

Czech Households in the Years of Crises¹

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Abstract

Generally, households are, from the viewpoint of macroeconomic data, among the last to feel the impact of an economic crisis, as a rule. After two years (2010 and 2011) of the GDP's positive growth rates, the Czech economy went down again in 2012. This article shows the households' response to such turbulences. Long time series enable us to compare the households' behaviour in the period 2009 through 2012 with that of the late 1990s.

Keywords

Households, economic crisis, indebtedness of households, consumption by households

JEL code

E21, C82

INTRODUCTION

The economic behaviour of households is implied by their specific role within the national economy. In fact, households (represented by the sector of households in the system of national accounts) comprise a subject whose main economic function is that of consumption (and production by small-scale entrepreneurs included in this sector); and the main sources of income are the labour costs (or gain from sales of products and services generated by them). This formulation has its consequences. The households enter the process of redistribution of income as a subject which pays less than it gets (the households must, first of all, pay taxes on production and imports, income taxes, and social contributions; on the other hand they get wages and social benefits, as well as other types of income). They thus, in the form of disposable income, create resources sufficient for covering their immediate needs (in the sense of the final consumption expenditure), at the same time ensuring saving. In other words, the households form a sector that should ensure resources sufficient for national saving and also sufficient free resources in the economy, so that the deficit consistently achieved by the general government is alleviated and the country's deficit with respect to abroad is reduced. From the viewpoint of free domestic financial resources, the role of households is very important within the framework the national economy as a whole.

It is usual in the years of economic growth that the final consumption expenditure and investments by the households grow, also thanks to a broad array of consumer and mortgage loans typically offered in growth years. In consequence, their saving rate and financial saving rate go down (and those rates are,

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for Czech households, among the lowest in Europe anyway⁴). It is therefore difficult for the households to fulfil their role as a generator of free financial means to cover the deficit of the general government and non-financial corporations. Under such conditions, a quick growth of households' consumption has serious macroeconomic consequences. The households do not create sufficient resources and cover part of their consumption and investments from loans. The indebtedness of households (in the form of loans) thus grows and, in combination with the low saving rate and financial saving rate, it can lead to insolvency and inability to meet their obligations.

The years of recession and crisis that follow those of economic growth bring about a turn in the households' behaviour, marked by a careful attitude towards consumption and low interest in investments and long-term loans. This turn, however, does not occur instantaneously. Usually the consequences of the crisis first hit non-financial and financial corporations, as well as the general government;⁵ the households respond with a certain delay.⁶ Simultaneously the households should, in the years of crises, reduce their non-financial and financial investments and try to place their resources in low-risk assets. This article should help us explain the way in which these general propositions revealed themselves in the economic crisis that hit (not only) the Czech economy in the years 2008 and 2009; the Czech economy has not yet coped with the consequences of that crisis. Moreover, long time series enable us to compare the households' behaviour in the period 2009 through 2012 with that of the late 1990s.

1 NATIONAL-ECONOMY RELATIONSHIPS

From the viewpoint of economic cycles, the development of the Czech economy after 1989 can be classified as irregular. After the attenuation implied by the changeover to a market economy in the early 1990s, followed by a quick growth in the years 1995 and 1996, the first "post-revolution" crisis came; the latter was caused by internal factors: unsolved or outstanding problems of privatisation, slow restructuring of industry, uncertainty in the banking sector, and the strict anti-inflation policy. The year 2000 brought a turn towards growth in economic development, starting the most successful period of the Czech economy. In the first seven years of the 21st century the Czech economy achieved very high rates of growth, even in comparison with the EU member states. A characteristic sign of that period was a gradual improvement in foreign trade, together with high rates of production in construction and general industry, with the subsequent increase of both domestic and foreign investments – the latter were mainly focused on support of exports.

This boom was terminated in the Czech Republic by the coming worldwide financial crisis and the following economic and fiscal recession in the years 2008 through 2010, and 2010 through 2012. Due to the drop in industrial and construction production in 2009, investments were decreased into fixed assets, and consequently imports and exports went down as well. Despite those facts the Czech economy was able to preserve a positive balance of trade and of services even with a falling scope and dynamics of foreign trade and moderate strengthening of the CZK exchange rate. Negative aspects were reflected in a slowdown and, eventually, a drop in the final consumption expenditure by households (cf. Table 1). The rate of their growing indebtedness was also slowed down. A decrease in the economic activity and the connected increase of unemployment rate brought about an increase of the public debt and focus of

⁴ Cf. HRONOVÁ, HINDLS (2008).

⁵ A question whether the first and foremost affected sector will be that of non-financial corporations or the general government depends on many aspects, mainly the causes of the respective crisis. See CZESANY (2002) for a more detailed treatment of this problem.

⁶ The fact that this tendency is generally reflected in the final consumption expenditure by households and the general government was proven by a test of significance of changes carried out in a group of 33 developed countries. For more details, cf. HINDLS, HRONOVÁ (2012).

the economic policy exclusively on the budget responsibility,⁷ with only a temporary stimulation of the economy and a collapse back to the crisis.

Table 1 Year-to-year growth rates of selected indices (in %)

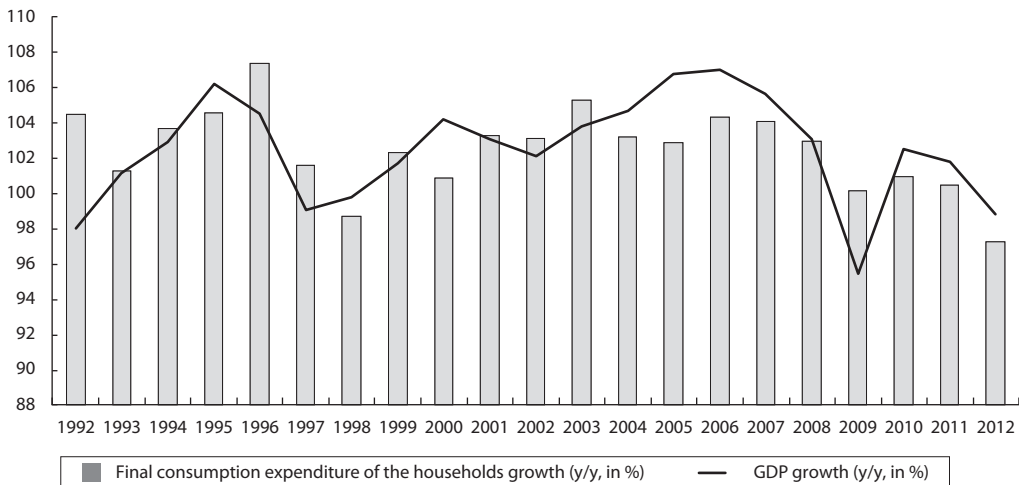
	1996/95	1997/96	1998/97	1999/98	2008/07	2009/08	2010/09	2011/10	2012/11
GDP	4.5	-0.9	-0.2	1.7	3.1	-4.5	2.5	1.8	-1.2
GFCF	9.1	-6.5	-1.0	-2.1	4.1	-11.0	1.0	0.4	-2.7
FCE-h	7.4	1.6	-1.3	2.3	3.0	0.2	1.0	0.5	-2.7

Source: www.czso.cz

Explanations: GDP – Gross Domestic Product, GFCF – Gross Fixed Capital Formation, FCE-h – Final Consumption Expenditure by Households.

The data shown in Table 1 confirm the proposition made in the Introduction: a crisis first hits the manufacturing industries, causing a drop in their investments, subsequently the general government, and households in the end. The households respond with a certain delay by reducing their consumption (the so-called consumer smoothing), and their reduced demand puts off a turn to growth. Having a more detailed look at the years of the crisis, the decrease of economic growth was reflected in slumping final consumption expenditure by households (with the average year-to-year increase by 0.5% in the years 2009 through 2011), and a decrease of the latter in 2012 (by 2.2%). A similar situation can be recognised in the crisis of the late 1990s: after a year-to-year increase in the final consumption expenditure by households by 1.6% in 1997 (while the GDP went down by 9%), it also decreased by 1.3% in 1998. We must, however, keep in mind that both causes and evolutions of the crises in the late 1990s and in the period 2009 through 2012 were different from each other. Households' response to internal economic problems was, in the uncertain years of the economic transformation, faster than it was to the external signals of the crisis after the boom of 2000. The year-to-year evolution of the final consumption expenditure by households in the context of the overall economic development is shown in Figure 1.

Figure 1 Evolution of final consumption expenditure by households and GDP (constant prices)



Source: www.czso.cz

⁷ That is, keeping the public debt below 3% GDP.

Not only households are subject to booms and crises. Different positions held within the national economy by different sectors is, especially in the years of crises, seen from their different results of economic activities, that is, net lending or net borrowing. Czech non-financial corporations coped with the 2009 crisis with a positive result and the same was true for households as a whole; hence the general government bore the full weight of the economic crisis (cf. Table 2). We can further see that the economic behaviour of small-scale entrepreneurs considered as a component of the household sector, if measured by the outcome registered on the national accounts, is different from both the behaviour of households as consumers and that of non-financial corporations.

Table 2 Net lending/borrowing of sectors and total economy (bln. CZK, current prices)

	1996	1997	1998	2008	2009	2010	2011	2012
Non-financial corporations	-151.2	-141.4	-73.5	-33.6	81.8	-20.5	-45.6	-6.6
Households	70.6	59.5	48.2	11.8	65.5	44.1	48.7	76.4
- as entrepreneurs	-	-	-	-	-20.7	-3.9	19.8	n.a.
- as consumers	-	-	-	-	86.2	48.0	28.9	n.a.
General government	-55.2	-68.2	-99.5	-85.0	-217.4	-180.7	-124.6	-167.9
Total economy	-108.3	-97.9	-35.0	-76.1	-45.0	-110.6	-61.0	-53.5

Source: www.czso.cz

Explanations: cp – current prices.

In our present analysis we will therefore consider not only the data valid for the households sector as a whole (in a wider context and as a longer time series), but also the data subdivided between the groups of entrepreneurs and consumers – even though the time series for the subdivided data is shorter, it can provide us with valuable information. Data offered by the CZSO (Czech Statistical Office) from the period 1990 through 2012 for the non-financial accounts of the households sector as a whole (accounts for balance sheets and other changes in assets) is only available up to 2011. Indices for the consumer and entrepreneur sub-sectors⁸ are only available for the period 2009 through 2011. Even that short time series will help us understand differences in the subgroups' behaviour during the period full of setbacks and the effects of the recession and crisis on the economic results of these important subgroups in the households sector. Last but not least, we would like to emphasise the importance of long-term observing and recording the indices for the sub-sectors of entrepreneurs and consumers in the households sector; this importance is implied by the observed differences in these two subgroups' economic behaviour.

2 HOUSEHOLDS' INCOME AND EXPENDITURE

When evaluating the economic behaviour of the households sector as a whole in the years of crisis we should distinguish between the different roles and behaviour types of households as entrepreneurs and as consumers, i.e., sub-sectors of the households sector.⁹ The main economic function of small-scale entrepreneurs is production of goods and services and the dominant index is added value and its structure, while for households as consumers the main economic function is consumption covered from

⁸ CZSO publishes the household subgroups' data according to their economic functions (production vs. consumption) and considers them as sub-sectors. In other words, a household sub-sector of entrepreneurs (S.141) and consumers (S.142) are distinguished. Even though this terminology is not correct according to the official classification of institutional sectors (S.141 are S.142 sub-sectors of employers, i.e., entrepreneurs including self-employed persons), we will use this terminology in this text (both in words and codes).

⁹ In the conditions of the Czech Republic entrepreneurs, i.e., physical persons running their businesses on the basis of trade licences are meant.

their disposable income. Creation of disposable income and its use for consumption is the focus of the analysis of the households' behaviour as consumers. Small-scale entrepreneurs do not have any final consumption and their disposable income is equal to the amount of saving to be used for investments. For households as consumers, the saving amount equals the difference between their disposable income and their final consumption.

The structure of disposable income for the households sector as a whole only insignificantly varies in time; the main component consists of wages and salaries and the most dynamic component (from the viewpoint of time evolution) is property income. The drop of economic activities in the years of crisis and the growing unemployment rate should reduce the proportion of wages and salaries, income from enterprise and current taxes (especially physical persons' and legal entities' income taxes) and social contributions, while the social benefit proportion, or rather the balance of social income, should grow. The time evolution of net disposable income is shown in Table 3.

Table 3 Structure of net disposable income (% NDI)

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Wages and salaries	57.9	59.5	60.7	62.1	62.7	62.7	63.3	62.8	59.7	60.4	61.9
Net operating surplus	4.3	4.3	4.4	4.4	4.4	4.4	4.3	4.6	5.1	4.8	3.9
Mixed income	25.1	24.7	24.7	24.3	23.1	22.4	22.3	20.9	20.8	20.5	20.2
Balance of property income	7.8	6.9	6.6	6.6	7.4	7.7	7.1	7.1	6.8	6.4	6.7
Balance of social incomes ¹⁾	13.3	13.3	13.0	12.3	11.9	11.7	12.4	12.5	14.8	15.0	15.1
Balance of other incomes	0.1	0.0	-0.2	-0.3	-0.3	-0.3	-0.6	-0.3	-0.1	-0.3	-0.4
Current taxes	-8.4	-8.7	-9.3	-9.5	-9.1	-8.6	-8.9	-7.6	-7.1	-6.9	-7.4
NDI	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

¹⁾ Social benefits – Social contributions.

Source: www.czso.cz, our own calculations

The data in Table 3 show that after the crisis beginning in 2009, significant changes in the households' disposable income occurred. The decreasing wages in 2009 show that employers in all sectors rather quickly responded to the external signals of the coming crisis¹⁰ and substantially reduced their expenses, which was seen in the year-to-year drop by 2.5% of wages obtained by households, expressed in current prices (!). On the other hand, households as consumers compensated for the lower income from wages by profits from market activities (provision of housing services). However, we must emphasise that this value of operating surplus does not fully reflect the real surplus of households as implied by the provision of housing services because it includes the hypothetical profit considered part of the imputed rent.¹¹

The mixed income is the result of the general (operational) activity of the small-scale entrepreneurs in the sub-sector of households, in which not only the income from enterprise, but also the income from labour is included. After a slowdown in 2008, the mixed income grew in 2009 (but slower than the net disposable income); then it went down significantly, similar to the operating surplus of consumers, even in current prices. The evolution of the proportion of property income and current taxes must, however, be analysed with respect to different results in both sub-sectors. The balance of social income is only rel-

¹⁰ More details on this problem can be found in HRONOVÁ, HINDLS (2012).

¹¹ The provision of housing services is the dominant market activity carried out by households as consumers and as such it enters the value of market production. The provision of housing services to oneself is part of their production for their own final consumption as expressed in the value of the so-called imputed rent. The operating surplus in the households sector is then "profit" from the activities of households as consumers, in which both the real profit generated by market activities (especially the provision of housing services) is included, and also the hypothetical profit (especially from the provision of housing services to oneself).

evant for the consumer sub-sector, but it depends on the development of the social contributions, whose amount depends on the level of wages and employment, in addition to social benefits, whose amount always grows when the level of economic activities decreases.

Table 4 Selected indices from the entrepreneur and consumer sub-sectors (bln. CZK, current prices)

	2009		2010		2011	
	S.141	S.142	S.141	S.142	S.141	S.142
Net operating surplus	–	101.0	–	97.1	–	77.0
Mixed income	383.8	32.4	376.7	32.9	367.9	35.0
Wages and salaries, receivable	–	1 193.1	–	1 209.9	–	1 238.0
Property income - balance	–382.4	519.3	–369.8	499.0	–333.0	466.9
– property income, receivable	4.0	533.4	3.7	515.6	1.5	483.2
– property income, payable	386.4	14.1	373.5	16.6	334.5	16.4
– of it: withdrawals from income of quasi-corporations	382.2	–	368.4	–	330.4	–
Primary income	1.4	1 845.7	6.9	1 839.0	34.9	1 816.9
Current taxes	12.7	128.3	5.7	131.5	7.9	140.1
Social contributions	12.3	241.1	14.1	242.2	14.5	249.4
Social benefits	0.1	535.8	0.1	541.9	0.1	552.0
Net disposable income (for S.141 also saving)	–10.4	2 008.3	1.7	2 001.2	27.0	1 971.4

Source: www.czso.cz

Explanations: S.141 – Households as entrepreneurs, S.142 – Households as consumers.

The data shown in Table 4 indicate high amounts of income from ownership “paid” by entrepreneurs and obtained by consumers. A withdrawal from income of quasi-corporations is the reason for such high amounts compensated within the framework of the households sector.¹² This index represents the income actually drawn by entrepreneurs for their own use from the created profit (mixed income) in the corporations they own. The difference between the values of the mixed income and the withdrawal from income of quasi-corporations is the amount entrepreneurs are willing to preserve from their profit to invest into the enterprise. Together with the balance of other ownership income (interest and rent) it makes up the entrepreneurs’ primary income. This increase of amounts not withdrawn by entrepreneurs for their own use is also the reason for the significant increase in primary income and, consequently, the net lending (cf. Table 2). In this context we can say that entrepreneurs limited their own consumption in favour of (both financial and non-financial) investments.

A significant difference between the economic behaviour of the sub-sectors of the households sector is, in a concentrated way, apparent in the result of the distribution process, i.e., the amount of disposable income. In 2009 (a year of crisis) entrepreneurs generated a negative value of disposable income, and consequently also that of saving; while in 2011, thanks to the increased primary income and a decrease in current taxes (as related to the decrease in mixed income) they were able to generate means for self-financing of investments in an amount of more than 27 bln. CZK. They were thus able to revert the negative effect of the attenuated economic activities (a decrease in the added value after 2009) at the stage of the distribution of income, which is the least favourable from the entrepreneurs’ viewpoint.

In the consumer sub-sector, both the primary and disposable income values in current prices go down, and the real disposable income is substantially reduced (by 1% in 2010 and by 2% in 2011). The primary income of the consumer sub-sector did not go down because of a decrease in the income from labour, dividend or interest balance, but its relationship to the outcome of economic activities, i.e., a drop in the

¹² Entrepreneurs “transfer” this amount from their mixed income in favour of consumers.

operating surplus (by 20 bln. CZK in 2001) and a smaller value of the withdrawal from the income of quasi-corporations (by 38 bln. CZK in 2011). The reasons for the decrease in the operating surplus of the consumer sub-sector can especially be looked for in the growing expenses on normal maintenance of apartments, which – despite small fluctuations of production¹³ – meant a drop in the added value by 22 bln. CZK in 2001 as compared with 2009.

The disposable income of the consumer sub-sector is to be used on the final consumption in the sense of the final consumption expenditure. From the macroeconomic viewpoint the households' consumption is expressed by the index of the final consumption expenditure by households, which includes the value of goods and services (both short- and long-term consumption except for houses and apartments) purchased by households, and also contains a part of unpaid consumption (especially the value of agricultural self-supply and housing services provided to the owners themselves). Entrepreneurs neither have final consumption nor participate in the redistribution of income in kind – hence their disposable income equals the amount of saving.

The data recorded on the accounts of generation of income and distribution of income in the entrepreneur and consumer sub-sectors simultaneously show that the proportions of these sub-sectors in the values of the selected indices vary substantially in the process of redistribution. While entrepreneurs' proportion (for illustration we will consider the data of 2010; similar values would be valid for the other years) in the net value added is four-fifths, this proportion is just two per cent with respect to the primary and disposable income values and one-quarter for the volume of investments. Of course, it has its consequences for interpretation of the values concerning the households' economic behaviour. In other words, with respect to the primary income the account of the households sector is rather that of consumers, or the data of the households sector do (from the level of primary income) provide reliable information about the behaviour of households as consumers.

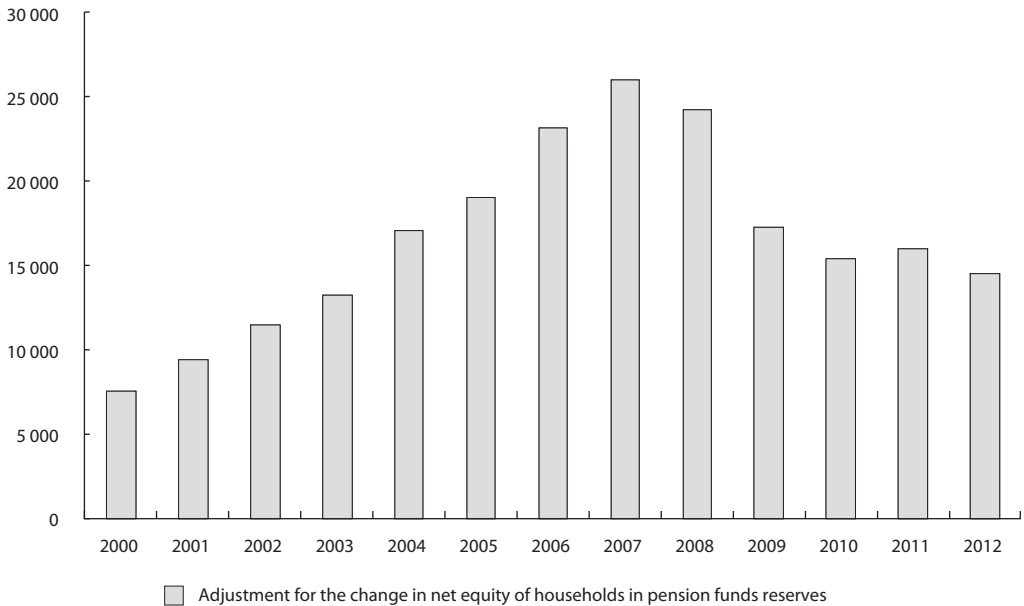
The final consumption expenditure by households was by 63.3% higher in 2012 than in 2000 that is, by only 0.7 percentage points less than the net disposable income. In the 2005 constant prices¹⁴ the final consumption expenditure in the same period was higher by 23.7%. A careful approach of households to consumption in the years of crisis is seen from the reduced demand regarding the volume (with a decrease in the final consumption expenditure value by 2.7% in constant prices in 2012 – cf. Table 1). This is a natural response not only to the economically uncertain environment, but also to a faster growth of prices in the consumption area – the relatively low inflation rate (below 2%), valid until then, went up and exceeded 3%. In consequence of these factors, the year-to-year evolution of the final consumption expenditure by households in current prices went down (by 0.5%); it was the first decrease of this value since 1990.¹⁵

Generally, the value of saving is equal to a difference between the disposable income and the final consumption expenditure. In the case of household consumers, the amount of saving is also affected by the adjustment for the change in net equity of households' proportion in pension funds reserves, expressing the increase of the household saving with the pension funds. The latter value is given by the amount saved by households to pension fund accounts plus the amount paid in additional pensions. This item is not very often followed but it has, in recent years, become another indication of the worsening situation of households in the years of crisis. Figure 2 shows the time evolution of this index in current prices.

¹³ Let us recall that the production in the consumer sub-sector contains the imputed rent as its main component.

¹⁴ Let us recall that it is not expressed in the standard constant prices, but the prices of the previous year chained (chain-linked) with respect to the year 2005 base amount.

¹⁵ The authors are aware of the difficulties in comparing with the 1990s, when the inflation rate was substantially higher than that valid in recent years.

Figure 2 Adjustment for the change in net equity of households in pension funds reserves (mil. CZK, current prices)

Source: www.czso.cz

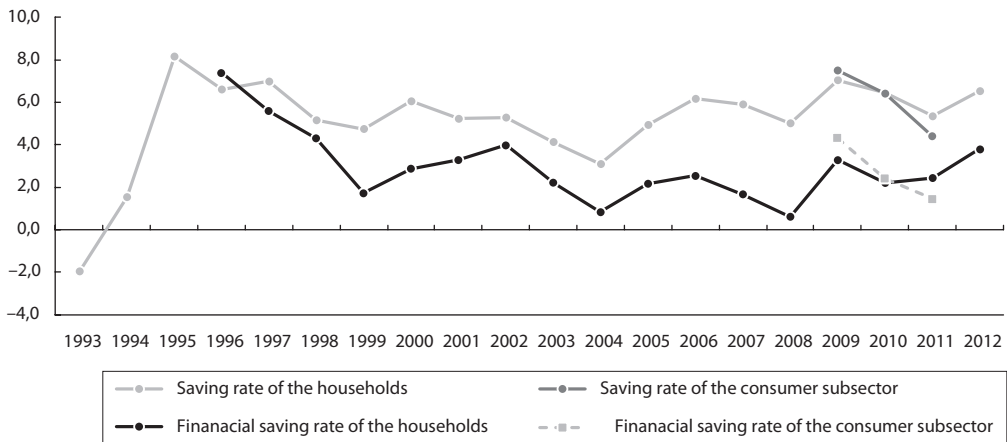
Here we can clearly see that in the years of prosperity households were focused on saving for old age and had free money to put into that type of tied-up saving, while in the years of stagnation and crisis they restrict saving with the pension funds and (it is an index based on balance) draw more of their saving from the pension funds.¹⁶ This is a natural consequence of an aging population and the growing unemployment rate which elderly people solve by retiring. Even though the evolution of the household saving with the pension funds strongly indicate changes of the economic behaviour of households, we have to keep in mind that this kind of saving is marked with a low level of liquidity – hence it cannot be included in the total amount of saving usable for non-financial investments, but a priori it is considered financial investments included in the net lending but not usable as financial resources for capital formation.

A high proportion of the final consumption expenditure by households in the created net disposable income is the reason for a low level of the saving rate of Czech households.¹⁷ The consumer's decreasing disposable income and growing final consumption led to a drop in the 2011 net saving to nearly one-half the rate it was in 2009. A high level of investments, especially in 2010, caused a drop of the consumer sub-sector's net lending first by 44.3%, and subsequently by 39.8% (cf. Table 2); hence the level of financial saving rate also went down¹⁸ (cf. Figure 3).

¹⁶ This tendency complies with the data from the Association of Pension Funds of the Czech Republic (www.apfcr.cz). The received contributions plus added gain and minus paid benefits were lower by one-third in 2012 in comparison with 2007 while the total number of participants in additional pension insurance programmes was higher.

¹⁷ The saving rate (gross, i.e., the ratio of the gross saving with respect to the gross of disposable income) on a long-term basis was about 14% to 16% in the eurozone countries, and 12% to 14% after 2009 (cf. Eurostat; the gross saving rate of the Czech households is around 10%).

¹⁸ Ratio of net lending/borrowing with respect to net disposable income.

Figure 3 Saving rate and financial saving rate (% NDI)

Source: www.czso.cz, our own calculations

Note: The financial saving rate values in the years 1993 (23.6%) and 1995 (27.8%) were influenced by the privatisation process – households obtained assets from the state worth more than 130 bln. CZK within the framework of voucher privatisation. The net lending value, and consequently the financial saving rate of the household in those years cannot therefore be compared with the remaining years. The same is true for the net borrowing of the general government and high values of the government (public) debt in the mentioned years.

The crisis in the period 2009 through 2011 hence definitely led to worsening results of consumers' economic behaviour. The situation was opposite for the entrepreneurs; their economic activities were attenuated in 2009 with a negative value of the saving amounting to 10.4 bln. CZK. In consequence their net borrowings was 20.7 bln. CZK. On the other hand, the above-mentioned decrease of withdrawal from the income of quasi-corporations and increase in their saving in 2011 led to a surplus (net lending) amount of 19.8 bln. CZK while the investments were moderately increased.

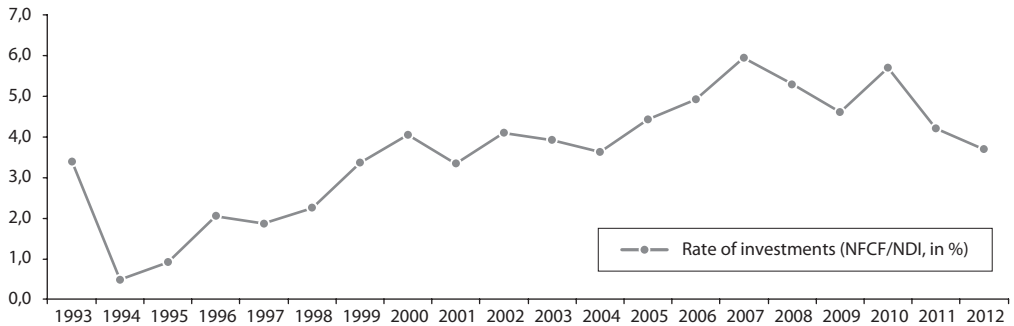
The data in Figure 3 indicates a significant drop in the (net) saving rate of households as consumers in comparison with the same index for the households sector as a whole and illustrates the data on evolution of the disposable income in both sub-sectors shown in Table 4.

3 NON-FINANCIAL INVESTMENTS BY HOUSEHOLDS

Saving and the balance of capital transfers represent the main source for financing of investments (with the reservation made above about the households' saving with pension funds). The level of investment activities, similar to the consumption, is an index showing the evolution of the economic cycle; in other words, a decrease in economic activities in the national economy as a whole is reflected in a decrease of investments in all sectors, including that of households (in the case of households as consumers, only investments into housing and valuables are considered¹⁹).

In the case of households, the level of investment activities is expressed in the rate of investments defined as a ratio of the fixed capital formation to the disposable income; for both of these indices we can consider both "gross" and "net" values. Since our present study refers to the net disposable income, we are using the "net" rate of investments here, i.e., a ratio of the net fixed capital formation to the net disposable income. Data on the net rate of investments is depicted in Figure 4.

¹⁹ Households as consumers, in compliance with the definition of final consumption, consume all articles of the short- and long-term consumption at the time of the purchase; hence they do not have any goods in stock and the investments into fixed capital are represented by purchase of houses and apartments.

Figure 4 Rate of investments (% NDI)

Source: www.czso.cz, our own calculations

Explanations: NFCF – Net Fixed Capital Formation, NDI – Net Disposable Income.

This value can be used for both the households-as-consumers sub-sector and the households sector as a whole.²⁰ For the households-as-entrepreneurs sector this value is not suitable – we must consider an index for the investment level corresponding to the fact that the economic behaviour of households as entrepreneurs is similar to that of non-financial corporations, in which we measure the gross fixed capital formation with respect to the gross value added. Data of the investment indices for both mentioned sub-sectors is shown in Table 5. Even though the values of these indices cannot be directly compared, we can see that the economic behaviour is different for each of the sub-sectors.

Table 5 Investment rates in the consumer and entrepreneur sub-sectors (%)

	2009		2010		2011	
	S.141	S.142	S.141	S.142	S.141	S.142
Net rate of investments (NFCF/NDI)	–	4.3	–	5.3	–	3.7
Gross rate of investments (GFCF/GVA)	8.4	–	8.9	–	9.9	–

Source: www.czso.cz, our own calculations

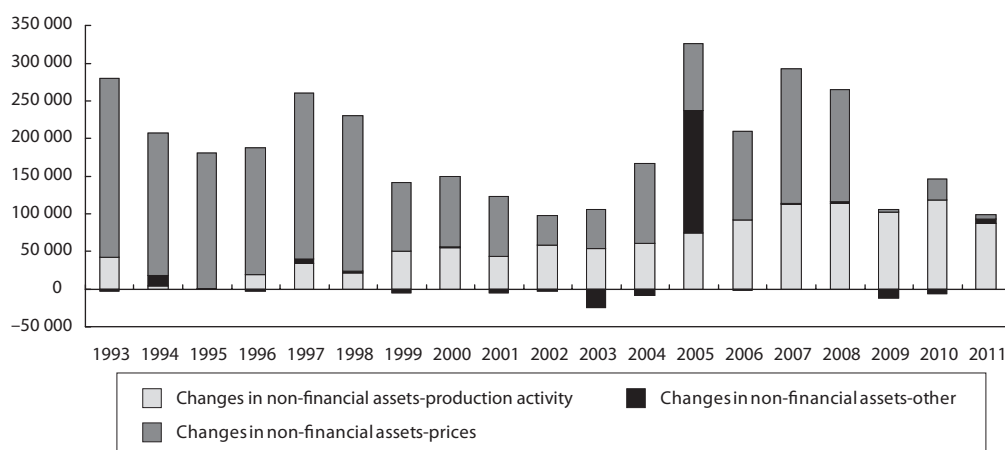
Explanations: NFCF – Net Fixed Capital Formation, NDI – Net Disposable Income, GFCF – Gross Fixed Capital Formation, GVA – Gross Value Added; S.141 – Households as entrepreneurs, S.142 – Households as consumers.

The data in Figure 4 and Table 5 show a significant growth in households' investments after 2004 with a peak in 2007. It was a period of a high demand for real property; together with the higher availability of mortgage loans on the market, it led to a sharp increase in household indebtedness (a year-to-year increase was 90.5 bln. CZK, i.e., 71.5% in 2007). In response to high prices of real property and high interest rates on mortgage loans, households restricted their investments in housing in 2008 and 2009 (with the corresponding year-to-year drop in the gross fixed capital formation by 3.5% in 2009). The indication of recovery in 2010 increased the volume of investments, especially in the consumer sub-sector (by 14.4% in current prices); however, a sharp decrease even below the level of 2009 followed. On the other hand, entrepreneurs in the households sector did not go in this direction, as is shown by the growing rate of their investments.

²⁰ The consumer sub-sector's proportion in the total value of the gross fixed capital formation of the entire households sector is higher than three-quarters on a long-term basis.

Non-financial investments of households represent a basic general factor for the growth of their non-financial assets, in addition to the price evolution and other (formal or random) factors. Based on the data in the accumulation account, we can see that the increase in the volume of non-financial assets was the dominant factor – paradoxically – after 2009, which was a year of crisis (in Figure 5, these changes, taken over from the non-financial asset purchase account, are marked “Changes in non-financial assets – production activity”). Until then, the dominant factor supporting the growing non-financial assets of households was the time evolution of prices (marked as “Changes in non-financial assets – prices”, taken over from the revaluation account). Having in mind that most non-financial investments of households take place in the consumer sub-sector and such investments are exclusively represented by purchase of houses and apartments, the data in Figure 5 clearly shows the growth of prices of the real property purchased by households.

Figure 5 Breakdown of the non-financial asset increment (mil. CZK, current prices)



Source: www.czso.cz, our own calculations

Note: A substantial proportion in the so-called other changes in 2005 (marked as “Changes in non-financial assets – other” in Figure 5, taken over from the account of other changes in the asset volume) was caused by a change in the methodology according to which the prices of land property are calculated.

Summing up our view on the non-financial operations in the households sector in the year of crisis, we can say that the general drop in economic activities in 2009 immediately hit the entrepreneur sub-sector; in the consumer sub-sector it occurred with a time lag – as late as 2011. In 2012, the (net) rate of investments by households went down, but both the rate of saving and the rate of financial saving went up. We do not have the data for sub-sectors yet but we can expect that, due to the stagnation of disposable income in 2012, the rate of investments were likely to go down again in consequence of cautious approach of consumers, which has a negative impact on the economic growth.

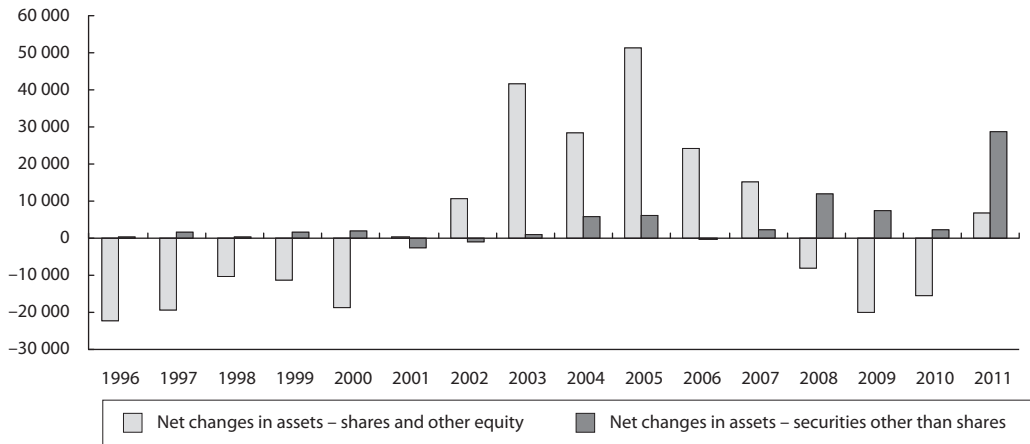
4 HOUSEHOLDS’ FINANCIAL INVESTMENTS AND DEBTS²¹

The conclusions implied by our analysis of the data on the households’ non-financial account should be appropriately reflected in the values of financial transactions and changes in households’ assets. The caution in consumption and general economic decision-making should lead to increased financial assets held by households, especially in the form of currency and securities and, to a lesser extent, in that of shares and other equities.

²¹ Data on the financial account are available only up to 2011.

The data shown in Figure 6 unambiguously demonstrate that, under uncertain economic circumstances, households focus on saving their free financial means in less risky assets and try to get rid of shares and other equities, even though the latter's prices go down. Conversely, in the boom times and under growing prices of shares and other equities households invest into assets that are more risky but yield higher gains. In the area of financial assets households respond to changes in the economic environment instantaneously, not with a time lag (while a delay occurs in the consumption changes). However, the two periods of crises in question cannot be mutually compared with respect to the net purchase of shares and other equities on the one hand and securities other than shares on the other hand. In the late 1990s households were exclusively getting rid of shares obtained "for free" within the voucher privatisation. This means they obtained shares not on the basis of real financial investments but in consequence of fundamental changes in the Czech economy during its transformation and selling shares to investment companies was advantageous for households under those circumstances. High interest rates on deposits²² supported by the strict anti-inflation policy of the Czech National Bank and a very limited offer of securities led households to saving their means on term deposits in banks.

Figure 6 Net change in households receivables in the form of shares and other equities (mil. CZK, current prices)



Source: www.czso.cz

Note: The data in this Figure deliberately starts in 1996: in 1993 and 1995 households obtained, within the voucher privatisation, shares with values higher than 130 bln. CZK in both of the mentioned years. Hence reference to those values would deform a proper view of the financial investments by households (cf. the note at Figure 3).

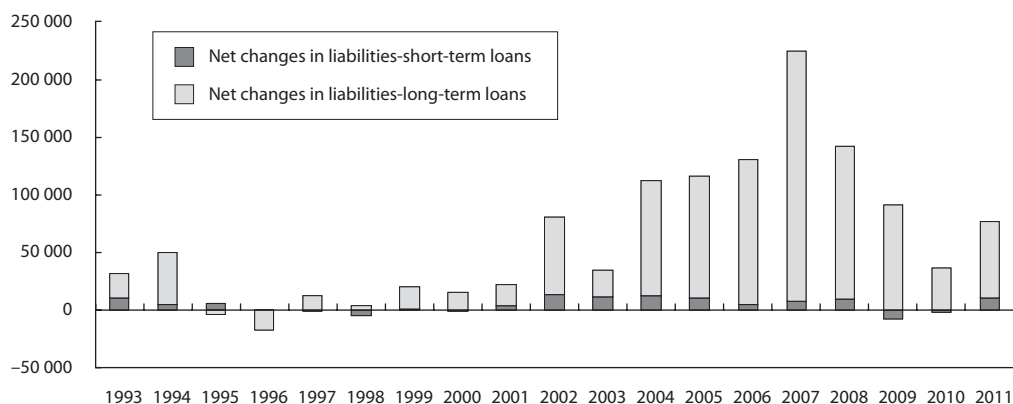
Conversely, in the years of crisis after 2008 households were getting rid of shares and other equities due to negative news from both foreign and domestic capital markets, and preferred investments into securities – especially the special-issue of government bonds in 2011. A positive increment in the value of shares and other equities in 2011 could be viewed as an expression of a quick response to a change in the economic environment households showed in the area of financial assets. In connection with the tendency of households to get rid of risky assets in the form of shares and other equities, we have to mention that the dividend households obtained from their holding of the shares and other equities was stable around 95 bln. CZK from 2005 to 2011, with an exception of 2008, in which the dividend amounted to 106 bln. CZK.

²² Banks offered interest rates of up to 30% p.a.

In the years of economic growth the development on the capital market was positive as well, and households substantially invested into shares, which yield a higher gain than bonds, and households' saving with banks were also growing due to favourable interest rates on the saving.

From the viewpoint of liabilities, loans represent the most important item. The data shown in Figure 7 reflects not only the time evolution of demand for long-term (mortgage) loans attached to the boom of demand for real property, but also a quick response of households to the worsening economic conditions connected with the coming crisis. The period of 1995 through 1999 is characterised the cautious approach taken by households – they paid up even more on loans than they borrowed. This fact was caused by excessively high interest rates. The latter only went down after the crisis of 1997 and 1998, namely, as late as 2001. This decrease caused a down-tide in term deposits and inspired the Czech households to boldness in borrowing money. The increase in the value of long-term loans was helped by relaxed conditions for provision of mortgage loans as well as favourable interest rates in the years of the economic boom. Together with the growing prices of real property due to the high demand for new and old apartments, this led to a year-to-year net increase in the loan liabilities by 71.6% in 2007. The economic crisis understandably caused a lower demand for loans, especially long-term ones. Annual net increments of indebtedness²³ in the form of loans for the households sector are shown in Figure 7.²⁴

Figure 7 Net change in the liabilities in the form of loans (mil. CZK, current prices)



Source: www.czso.cz

Viewing the financial transaction data from the viewpoint of sub-sectors, we have to observe that consumers represent the subject dominant for both assets and liabilities. This observation is valid for both currency and deposits on the one hand, and net purchase of securities²⁵ and loans on the other hand. Figures 6 and 7 hence substantially reflect the economic behaviour of consumers. For loans we can, however, observe a certain difference between the sub-sectors: entrepreneurs tried to reduce their indebtedness, while consumers still borrowed more than they repaid; this was specifically true for long-term loans.

²³ It is a net increment, i.e., a difference between the obtained loans and instalments paid on them.

²⁴ Similar to the net change of liabilities in the form of shares and other equities and securities, these two periods of crises are not mutually comparable due to principally different conditions from the viewpoint of loans (in the 1990s the circumstances were marked by a non-existent or very limited offer of mortgage loans, high interest rates, and worries about the future).

²⁵ For example, net purchase of securities by consumers amounted to 28.2 bln. CZK in 2011, while for entrepreneurs this value was only 20 mil. CZK.

5 EQUITY AND INDEBTEDNESS AND THEIR CHANGES FOR HOUSEHOLDS

On the one hand, economic growth leads households to an effort to invest money into financial and non-financial assets; on the other hand it inspires them to “boldness to get into debt”. Hence it is a natural phenomenon that when expenditure incurred on consumption and investments was growing, so likewise was the volume of both short- and long-term loans, as well as the overall indebtedness of households. On the other hand, the amounts invested by households into shares, equities and other securities were also growing. Their overall net financial equity was growing, but slower than their liabilities.

Household expenditures on consumption grew 3.2-times in the period from 1993 to 2011, while investments into housing grew three times. This growth of consumption and investments together with a massive support to consumer loans and, later, mortgage loans and the stable economic situation after 2000 led to an unprecedented growth in the annual volume of loans received and the growing indebtedness of households in the form of loans. Data in Table 6 speaks about the changes brought about to the structure of assets and liabilities due to the focus of Czech households on consumption and investments. Interest in houses and apartments owned by their users and the growing prices of real property, led to an 8.5 percentage-point increase in the proportion of owner-occupied houses and apartments.

Regarding financial assets, we can say that the Czech households gradually increased their proportion in the financial assets in the national economy as a whole in favour of deposits and securities; conversely (as already referred to above) their demand for investments into shares and other equities was going down.

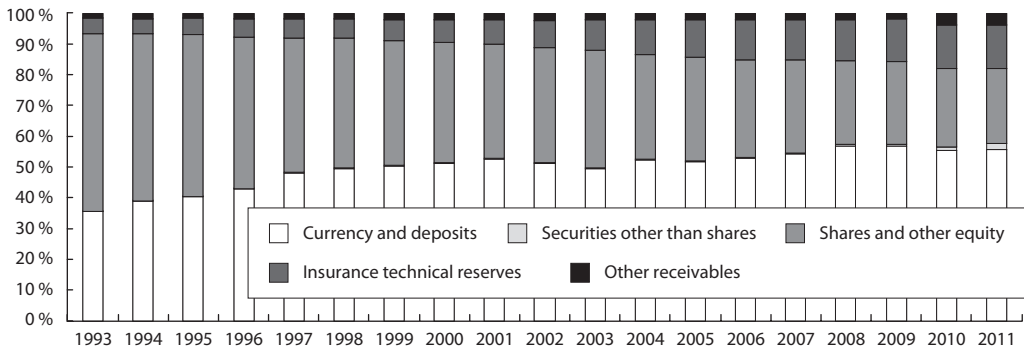
Table 6 Proportions of households' assets and liabilities in the national-economy values of the same indices (%)

	2000	2007	2011
Non-financial assets	21.1	22.1	22.8
– dwellings	72.9	78.3	81.4
– other building and structures	1.3	1.7	1.8
– machinery and equipment	8.7	7.6	7.9
Financial assets	19.8	20.6	22.4
– currency and deposits	36.9	44.0	46.9
– securities other than shares	0.8	0.4	3.0
– shares and other equity	40.2	27.2	26.8
– insurance technical reserves	88.8	84.8	86.3
Total assets	20.6	21.5	22.6
Liabilities	2.7	6.0	7.2
– loans	9.3	31.1	36.3
Net worth	33.7	35.7	37.3

Source: www.czso.cz

The main components of households' financial assets are currency and deposits, which make up more than one-half of such financial assets. The situation before 1998, when shares and equities prevailed, had been caused by the voucher privatisation (cf. the note at Figures 6 and 3), and a relatively small amount of saving at the beginning stages of the economic transformation. Figure 8 shows the structure of households' financial equity in the relevant period.

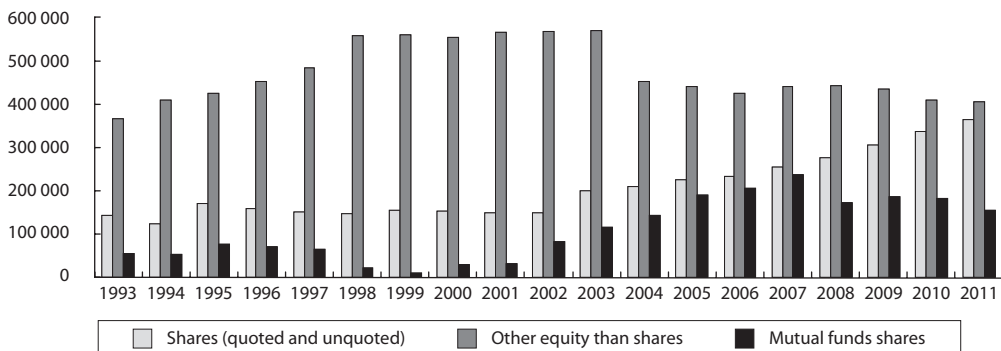
Figure 8 Structure of households' financial assets (as of the end of the year)



Source: www.czso.cz

The proportion of shares and other equities in the financial assets of households was going down but the volume of the households' financial assets tied up in shares and other equities was growing for the entire relevant period with moderate drops in years 2004, 2008, and 2011 (the overall increase in 2011 as compared with 1993 was 63.6%, achieving a value of 926 bln. CZK). This observation covers a very uneven development of this financial asset item owned by households. The time evolution of households' assets tied up in shares (both quoted and unquoted) was growing until 2003 (peaking for the 1990s in 1995, with subsequent decrease); assets tied in equity other than shares and in mutual fund shares was continually growing until 2003; then a decrease came and continued until 2011, in which the level was at 71% of the value of 2003. The value of assets tied up in mutual fund shares went sharply down after 1995, with the bottom in 1999 (with 11.2 bln. CZK) and the subsequent top in 2007 (at 238 bln. CZK). The evolution in the crisis after 2007 meant a substantial decrease in the proportion of the value in mutual fund shares as compared with regular shares (this decrease was by 34.5% in 2011 against 2007). The fastest growing item of the households' financial assets was given by saving with insurance companies and pension funds: this value grew more than 11 times in the relevant period, achieving 542 bln. CZK (as the net equity of households in life insurance reserves and in pension funds reserves). The overall increase of the financial assets owned by households was nearly four times in the period from 1993 to 2011 (doubled as compared with 2000, mainly thanks to the growth in currency and deposits) with more than 3,823 bln. CZK at the end of 2011.

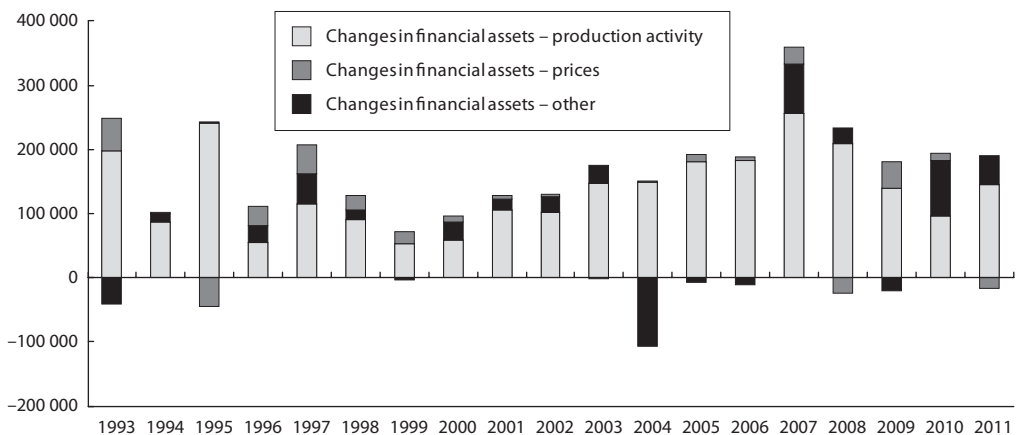
Figure 9 Time evolution of assets tied up in shares and other equities as of the end of the year (mil. CZK, current prices)



Source: www.czso.cz

We can consider the households' financial asset values (in an analogy to non-financial assets) as a compound of several components: that implied by economic production (marked as "Changes in financial assets – production" in Figure 10 and taken over from the financial account); that implied by the price evolution (in Figure 10 marked as "Changes in financial assets – prices", taken over from the revaluation account); and that caused by random and formal changes ("Changes in financial assets – other" in Figure 10 and taken over from the account of other changes in the asset values). The data in Figure 10 demonstrate that, in the years of economic boom, those factors of the asset growth prevail which are generated by economic activities;²⁶ conversely, in the years of crises factors not immediately related to economic activities have a larger influence (in other words, households get poorer or richer regardless of their economic activities). This is implied not only by changing prices (of shares and other securities), but also random and extraordinary effects – loss of property, forfeitures, etc.

Figure 10 Breakdown of the total change in financial asset value (mil. CZK, current prices)



Source: www.czso.cz

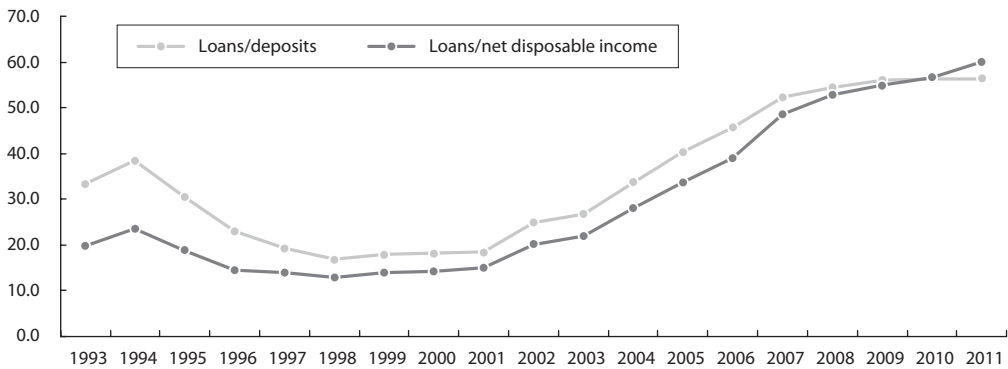
The proportion of households' indebtedness in the form of loans in the same item of the national economy as a whole grew from less than one-tenth in 2000 to more than one-third, despite the "traditional" high level of indebtedness of the Czech non-financial corporations (cf. Table 6). The higher proportion of households in the net worth of the national economy is mainly caused by a decrease of the said proportion for the general government (from 38.0% in 2000 to 30.0% in 2011).

Financial liabilities of households went up 7.3-times from 1993 (five times with respect to 2000) and the fastest growing component was that of loans. The net financial worth of households thus grew 1.5-times (as compared with 2000), and its value as of the end of 2011 amounted to 2,494 bln. CZK. The data in Figure 11 demonstrates a sharp increase of the indebtedness of households; in comparison with 2000, the proportion of loans in the total value of indebtedness grew more than four times, and that of deposits three times. Years of economic booms are accompanied by even dangerously high rates of households' indebtedness – from 2002 to 2007 the indebtedness in the form of loans grew by 36% a year on average. The signs of the economic crisis slowed down the willingness of households to accept new debts. The proportion of loans in deposits was at a standstill, proportion of loans in the net disposable income was growing due to

²⁶ In this context we must exclude from our evaluation the years 1993 and 1995, in which households obtained shares within the framework of the voucher privatisation – cf. the notes at Figure 6 and 3.

the slowdown of the net disposable income's growth from 2008 to 2010, and decrease of the latter in 2011. Although the crisis period slowed down the growth of indebtedness, the indebtedness in the form of loans (especially long-term ones) grew faster than the equity in the form of deposits. The indebtedness in the form of loans grew faster also than the disposable income, which is the resource of means to be incurred on final consumption. The data in Figure 11 shows the relative indices for indebtedness.

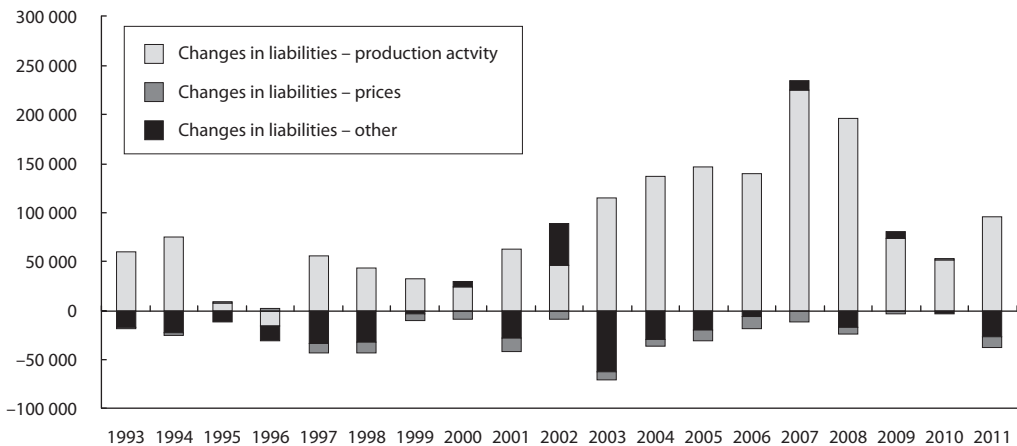
Figure 11 Rates of indebtedness of Czech households (%)



Source: www.czso.cz, our own calculations

Similar to financial assets, we can break down the financial liabilities into three components: that implied by economic production (marked as “Changes in liabilities – production” in Figure 12 and taken over from the financial account); that implied by the price evolution (in Figure 12 marked as “Changes in liabilities – prices”, taken over from the revaluation account); and that caused by random and formal changes (“Changes in liabilities – other” in Figure 12 and taken over from the account of other changes in the liability values).

Figure 12 Breakdown of the total change in the liabilities value (mil. CZK, current prices)



Source: www.czso.cz, our own calculations

This breakdown of the total increment of the liability value shows that the principal influence on the growing indebtedness of households was implied by the necessity to provide financial resources on economic activities (for households this means especially consumption and investments into housing); other factors (price variations, and random and formal changes) have rather positive effects of helping the liability values go down. It also indicates (in a way analogous to non-financial assets illustrated in Figure 5) that households' behaviour was different in both boom and crisis periods. High interest rates on loans, low saving of households depreciated by a significant growth of prices, and overall uncertainty about the future development of the Czech economy in the 1990s were factors that limited willingness of households to accept new debts. As an apparent paradox, this fact was most distinctive in the years of fast growth (1995 and 1996; compare Figure 5 with Figure 12). It was undoubtedly the instability of the banking sector that caused this very cautious behaviour of households.²⁷ The boom years from 2003 to 2007 conversely brought a massive growth of households' indebtedness, caused by demand for real property. In the crisis years of 1997 and 1998, demand for loans and real property grew, but in 2009 the households responded by an immediate drop of demand for (in particular) loans even though the prices of real property came to a standstill. The response to the coming economic and financial crisis was practically instantaneous in 2009, similar to the situation concerning financial and non-financial assets owned by households.

CONCLUSIONS

Economic behaviour of households is rather strongly affected by phases of the economic cycle. Years of booms bring about boldness of households in consumption and investments, supported by their willingness to accept new debts. The coming crisis causes a quick response by households, with decreasing demand for loans on the one hand and risky financial assets on the other hand. Response in consumption was, however, delayed and occurred after a time lag of about two to three years.

Since 1990, Czech households have been subject to two crises, each of which had different causes and resulted in different effects on the economic behaviour of those households. The reasons for the crisis in 1997 and 1998 were internal; namely, hasty economic transformation and problematical voucher privatisation, inconsistent restructuring of industry, severely restrictive anti-inflation policy of the central bank, and instability of the banking sector. From the viewpoint of the householders, the crisis came somewhat unexpectedly when they were in a quite unfavourable economic situation (their saving were deteriorated by a high inflation rate and the values of their financial and non-financial assets were low) and their economic activity had been attenuated (householders were worried about the future and the interest rates on loans were high; hence the households tried to reduce their indebtedness and – with a non-existent capital market – saved their financial means on bank deposits; moreover, they were getting rid of shares obtained within the voucher privatisation). All these circumstances led to a quick response: households lowered their financial and non-financial investments as well as consumption (a year-to-year drop in the final consumption expenditure by households occurred already in 1998).

The crash of the economic boom of the Czech economy in 2009 was caused by the financial and economic crisis “imported” from the developed world. The Czech economy as a whole, in that number the households, “had time” to make preparations. The high rates of economic growth before 2009, growing living standard, easy access to long-term loans on housing, and a wide offer of short-term loans were factors contributing to expansive economic behaviour of households – the final consumption expenditure was growing at the same (and in some years an even higher) rate as the disposable income (consequently

²⁷ In the years 1995 and 1996, five banks were placed into receivership, four of them lost their banking licences, and bankruptcy proceedings were pending for two banks, out of the total number of 53 banks as of the end of 1996. Cf. Bank supervision in the Czech Republic in 1996. CNB 1997.

households' saving rate was very low), indebtedness was growing by one-third every year, and households did not hesitate to invest into risky financial assets (shares and other equities).

When the symptoms of the economic crisis coming from abroad became apparent, the Czech households responded by lowering their debts as early as in 2008, which led to a slowdown of the indebtedness rate, sale of shares and other equities, focus on securities, and lowering of investments into real property. In the area of non-financial and financial investments and liabilities, the response of the Czech households was also very quick. The whole period of 2009 through 2011 was marked with a cautious approach to debts and risky financial investments (but in the area of non-financial investments the households responded positively to the indication of recovery in 2010, although this value went down again in 2011 due to the prevailing recession). The households were less interested in real property and invested free financial means mainly into securities and deposits.

The response in the area of consumption was "classically" delayed in comparison with the 1990s. In 2009, the final consumption expenditure by households stopped and in 2010 and 2011 it grew moderately. A real drop in the final consumption expenditure by households came as late as 2012, i.e., three years after the drop in GDP. In 2009, the first substantial changes occurred (after a long period) in the structure of disposable income (with a decrease in the proportion of wages and salaries, as well as mixed income, paid current taxes, and an increase in the balance of social income).

The analysis carried out showed that if an economic crisis is coming slowly (which is the usual situation) the households respond more or less instantaneously by caution in the area of investments and debts; self-imposed restrictions on consumption come with a time lag, that is, only after households feel the impact of all negative economic factors, such as the prevailing unemployment rate and standstill or falling wages, and the households do not see a solution. These conclusions imply certain recommendations for the economic policy. The households' willingness to at least keep their consumption on the existing level can obviously be supported by strengthening the atmosphere of trust in the economy and the entire society. Households are willing to invest their free financial means accumulated after the years of boom into non-risky financial assets, especially securities issued by the government.

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