

# Impact of the Economic Crisis on the Institutional Sectors of the Czech Economy

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## Abstract

The article analyzes institutional sectors of the Czech economy since 2000 with respect to the year 2009 when impacts of economic crisis were felt. It is an empirical analysis based on data of the national accounts. The sense was to show the different influence of this crisis on the sector of nonfinancial corporations, sector of financial institutions, government sector and household sector. Initially, the economic crisis hit significantly mainly nonfinancial corporations in sphere of their performance but with little impact on profitability. Sector of financial institutions found in deficit itself in 2009 due to adverse development of interest balance and huge outflow of dividends, as well. The result in the household sector was reinforced by changes in redistribution processes both received benefits and paid payments. Received wages and salaries in household sector stagnated. Government sector was hit very significantly by crisis when its deficit doubled in 2009. From a broader perspective the global financial and economic crisis brought for statistics and analyses also a need to watch not only total figures for economy but also an emphasis on the detailed view on the institutional sectors. This article is an attempt to contribute to this newly arisen and emphasized need.

## Keywords

*Economic crisis, institutional sectors, nonfinancial corporations, financial institutions, government sector, households*

## JEL code

*E01, E02, E21*

## INTRODUCTION

The system of national accounts (CZSO, 2002) enables to take a look on economy from point of view not only traditional macroeconomic quantities (Spěváček, 2000) as gross domestic product (GDP), gross fixed capital formation, employment, etc. Besides segmentation of economy into branches or sectors in concept rather “evolutionary” (e.g. primary, secondary, tertiary or quaternary sectors) it is possible to look economy also according the groups of institutions.<sup>2</sup> This way distinguishes the total

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<[http://apl.czso.cz/pll/rocenka/rocnkavyber.sek\\_en](http://apl.czso.cz/pll/rocenka/rocnkavyber.sek_en)>.

CZSO. *Sector Accounts Time Series* (database) [online]. Prague: Czech Statistical Office.

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economy in nonfinancial corporations, financial corporations, government sector, households, and non-profit institutions serving households (the weight and role of the latter is up to now smaller in comparison with other sectors and therefore it is not analysed in this article). These mentioned institutional sectors can be further segmented for example according predominated character of ownership (e.g. public nonfinancial corporations, national private nonfinancial institutions, foreign controlled nonfinancial corporations) or according character of activity (e.g. the central bank, other monetary financial institutions, other financial intermediaries, financial auxiliaries, insurance corporations and pension funds). The government institutions exist on so-called central level or local level, households' sector has a part regarding inhabitants and a part of self-employed persons. Naturally, each of sectors has its particularities.

The method of analysis is a pick of comparable indicators in each of sector on one hand and also — due to specifics of particular sectors — it was necessary to use other indicators taking into consideration the particularities of sectors, as well for finding out the changes during crisis. In case of nonfinancial corporations the special attention is devoted to performing characteristics, in case of financial corporation's it is rather an indicator taking into consideration a strong influence of cost interests and yield interests. For calculating of the impact of the crisis on government sector its deficit is crucial. The households are described according the most important parameters for handling with money and also the changes which the economic fall caused for this sector in 2009. Therefore the gross disposable income and financial and tangible accumulation in households sector was used for it.

The final comparison of sectors comments their surpluses or deficits as a final result of their activity and compares them with the size of these surpluses of deficits during preceding years.

Calculations and used data sources are based on data published at the end of February 2011.

## 1 GLOBAL AND EUROPEAN CONTEXTS OF CRISIS

Global financial and economic crisis meant the significant reduction of the global economic activity.<sup>3</sup> Global GDP decreased by 2.6 % in real terms after increase by 1.7 % in 2009. However the developed countries suffered deeper recession when real GDP in euro area dropped by 4.1 %, in Japan even by 6.3 % and US economy declined by 2.6 %. The emerging and developing countries of so-called BRIC group (Brazil, Russia, India, and China) showed only moderate loss of growth rate in case of China and India. On the contrary, Russian economy fell in rapidly and Brazilian economy stagnated in fact.

Due to shrinking of demand the reduction of global economic activity was connected with the contraction of international trade, as well. Its turnover according World Trade Organization dropped by more than fifth (–22.7 %) after enhancement by 15.6 % in 2008. Intra turnover in the EU27 came down by 23.4 % after upgrowth by 9.0 % in 2008. European labour market with 7.1 % rate unemployment in 2008 further deteriorated to 9.0 % people without jobs.

The Czech real GDP slumped only negligibly less (–4.1 %) y-o-y compared to the EU27 (–4.3 %) in 2009 (Dubská, 2010). But previous growth rates in the Czech Republic were more than twice faster against the EU27. It resulted to the strong real convergence to the average EU economic level. But as the structure of expenditure side of GDP in 2009 the fall of investment (gross fixed capital formation) was deeper in the Czech Republic compared to the EU27 average. However, the final consumption expenditure increased above all due to expenditures by general government. On the contrary, in the EU27 total expenditure decreased (by households more markedly). Also in the Czech Republic final consumption expenditure by households reduced when more than 1.7 % jobs got lost on the labour

<sup>3</sup> More detailed analysis of the impacts of the global financial and economic crises on the Czech economy is made in Dubská (2010).

market (even  $-5.9\%$  in manufacturing). Foreign investment inflow fell on one half of 2008 level. Exchange rate weakened both against EUR and USD (more significantly), Interest rates on the interbank deposits market declined in 2009.

## **2 DEVELOPMENT IN THE INSTITUTIONAL SECTORS OF THE CZECH ECONOMY**

The sector of nonfinancial corporations felt impacts of the imported crisis due to slumps of the demand from abroad (Dubská, 2011). In certain sense the “reciprocal” development in the sector of government institutions and sector of the households (due to redistribution process) revealed in 2009 through unprecedented level of deficit in government sector. It was caused not only by the size of budget expenditures but the economic decline brought also significant decrease in tax incomes. Overall the relatively small impact of crisis on households in 2009 can be attributed just to the redistribution process. Nevertheless, the distinctive cuts in government expenditures in 2010 and its further reduction in 2011 protracted and highlighted the negative effects of crisis so that just 2011 can be considered as real crisis’ year in the Czech households.

### **2.1 Nonfinancial corporations**

#### **2.1.1 Changes in performance of sector**

The hit of crisis was heavier in the sector of nonfinancial corporations compared to the “rest” of the Czech economy. Although in 2008 the growth rate of the output (production) in the nonfinancial corporations was identical as in total the Czech economy ( $+4.8\%$  y-o-y), in 2009 the output in this sector fell by more than  $11\%$ . It was more compared to its decline in the total economy ( $-9.2\%$ ).

The massive decline of the market output was seen especially in comparison with previous average growth. In 2009 the decrease of market output in the Czech economy was nominally even higher than its nominal increment on boom in 2007. Between 2005 and 2007 the market output in total economy grew yearly in average growth by CZK 571 bn. It was possible due to massive foreign demand which was generated by the favourable economic development in the countries of the main trade partners. Apart from the Czech foreign trade strengthened also due to cancelled trade barriers as a further factor supporting growth of the Czech market output.

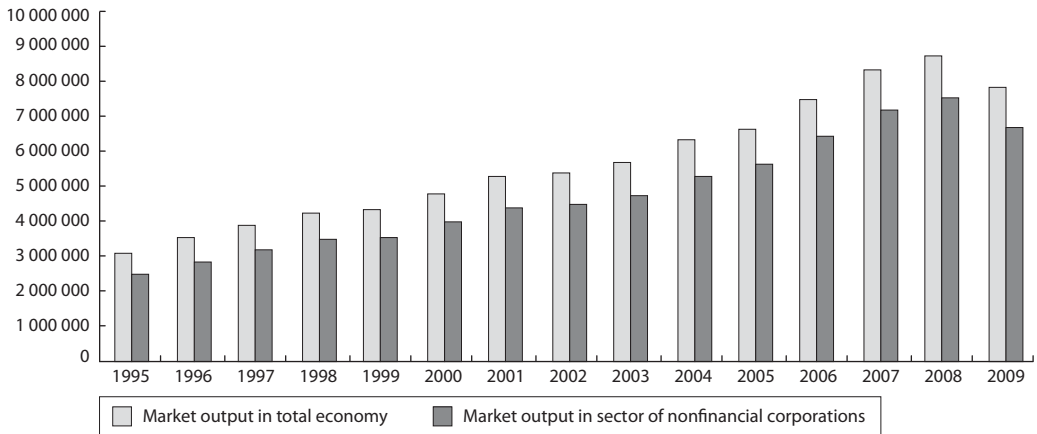
In 2007 which was the last year untouched by recession the size of output according national accounts increased by the historically highest y-o-y increment, i.e. CZK +915 bn. In 2008 this increment diminished on only one half (CZK +439 bn) following the fall by CZK 891 bn in 2009.

Logically, due to the weight of the nonfinancial corporations in the Czech economy, output (78 %), market output (86 %) and intermediate consumption (85 %), also the impact on this sector was analogical in the development of growths and declines of total economy.

The shares of nonfinancial corporations on the total decreased in all mentioned indicators in 2009 y-o-y. In 2008 difficulties appeared in the second half of year but proportions of the nonfinancial corporations on volume output, market output and intermediate consumption grew or stagnated, y-o-y.

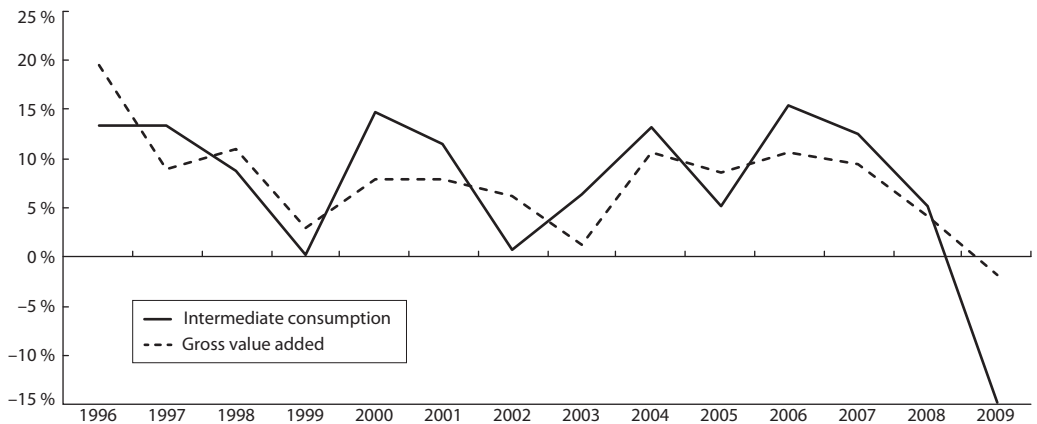
Only in case of gross value added the share of nonfinancial sector declined in 2008 yet. It can be explained by fact that the financial sector was not hit by crisis in that time. In financial institutions the gross value added grew sufficiently also in the second half of 2008 when nonfinancial corporations (especially in industrial branches) slowed down yet (the industry fell since October and since November even of two digits).

Consequently the nonfinancial institutions’ fall of output amounted CZK 840 bn ( $-11.2\%$ , the total economy  $-10.2\%$ ). There were no previous nominal positive change of market output in size comparable to this extreme drop in 2009 namely even in years of big boom of the Czech economy during 2005–2007.

**Figure 1** Market output in sector of nonfinancial corporations and in total economy (in million CZK)

Source: Czech Statistical Office

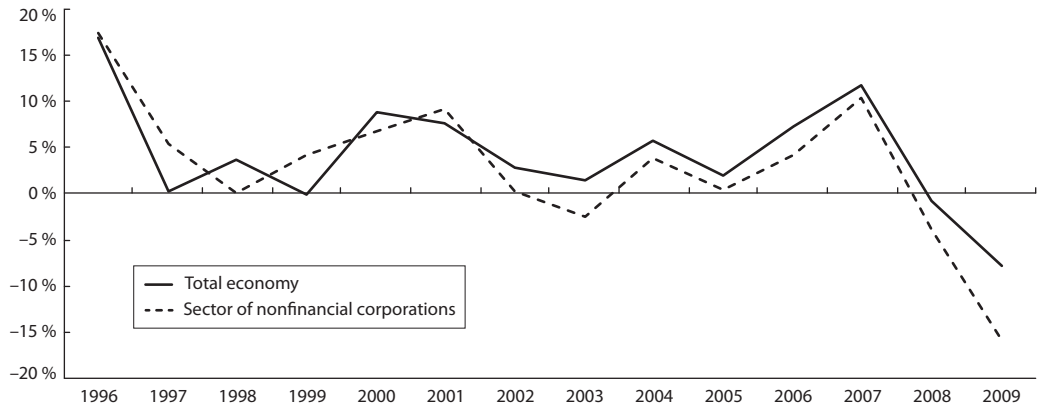
In the sphere of intermediate consumption the decline during crisis in 2009 was substantial ( $-14.8\%$  against  $-13\%$  in total economy) compared to gross value added ( $-1.9\%$  against  $-1.7\%$  in total economy). The reason is that the companies reacted on the much declined demand through the emptying of the warehouses. In addition to that they did not refill the stock in time of uncertainty.

**Figure 2** Nonfinancial corporations — intermediate consumption and gross value added (year-on-year changes in %)

Source: Czech Statistical Office, own calculation

The impact of crisis was hardest on the gross fixed capital formation. Investment of the nonfinancial sector fell by  $16\%$  y-o-y in 2009 ( $-7.8\%$  in total economy). This development is not surprising but households and also government sector were able to increase investment. It led to the diminished share of nonfinancial corporations from previous very strong proportion on investment in the Czech economy. In 2009 this proportion decreased by 5 percentage points to roughly one half ( $51.4\%$ ).

**Figure 3** Gross fixed capital formation in nonfinancial corporations and total economy (year-on-year changes in %)



Source: Czech Statistical Office, own calculation

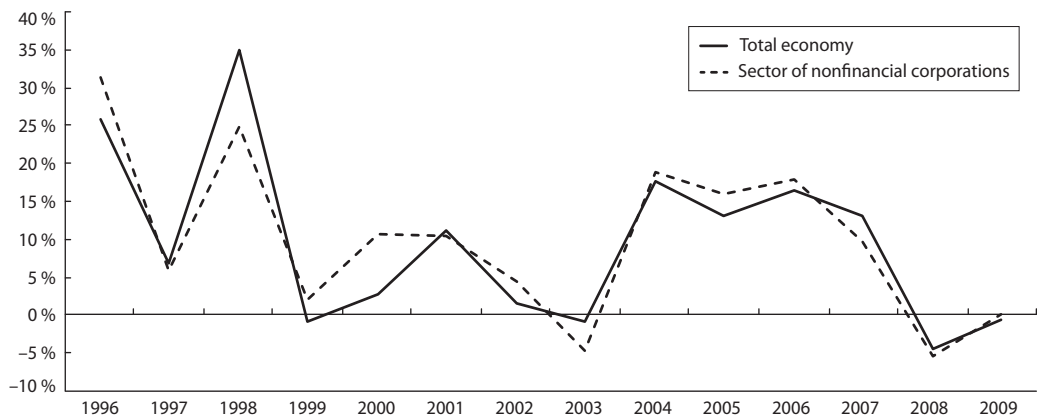
**2.1.2 Changes in income parameters**

The development during economic crisis in the Czech economy influenced the income side of sector of nonfinancial corporations. Not only in the sphere of compensation of employees and only wages but also in the sphere of profits and their distribution, i.e. in net operating surplus and in the structure of property income.

While in total economy the compensations of employees decreased in 2009 by 1.6 % y-o-y, in non-financial corporations by 3.6 %. The fall was all the more because in 2008 this indicator had increased by 9.5 % in the sector (also in total economy the growth was significant, +7.7 %, but not as dynamic as in nonfinancial corporations).

In 2009 wages and salaries had the similar development as compensations of employees. But the difference both in dynamics and in comparison between total economy and nonfinancial corporations was even much more significant. In the nonfinancial sector the corporations paid their employees by

**Figure 4** Net operating surplus in sector of nonfinancial corporations and in total economy (year-on-year changes in %)



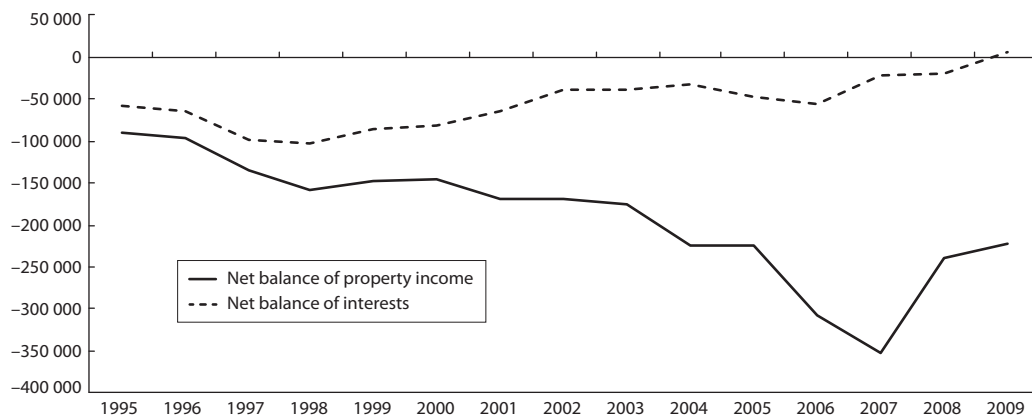
Source: Czech Statistical Office, own calculation

2.0 % less in comparison with 2008. On the contrary, in that time the wages rose by 10.6 % because the tendencies of the first half 2008 outweighed with huge pressures on the labour market. According Jobcentres in the first quarter 2008 the offer in total economy achieved 151 thousand of vacancies in the Czech Republic.

Net operating surplus in nonfinancial corporations as an indicator of their profits stagnated in 2009 on the level of previous year (in 2008 net operating surplus in this sector decreased by 5.4 %). It was a signal of the exit of crisis in the sector of nonfinancial corporations. During 2005–2007 the increments of this key parameter of the financial situation in mentioned sector increased +17.5 % yearly on average and in total economy by 14.2 % yearly. The nonfinancial corporations had the possibility to create a “pillow” of the profits and to strengthen the capital in their balance sheets for the risk period.

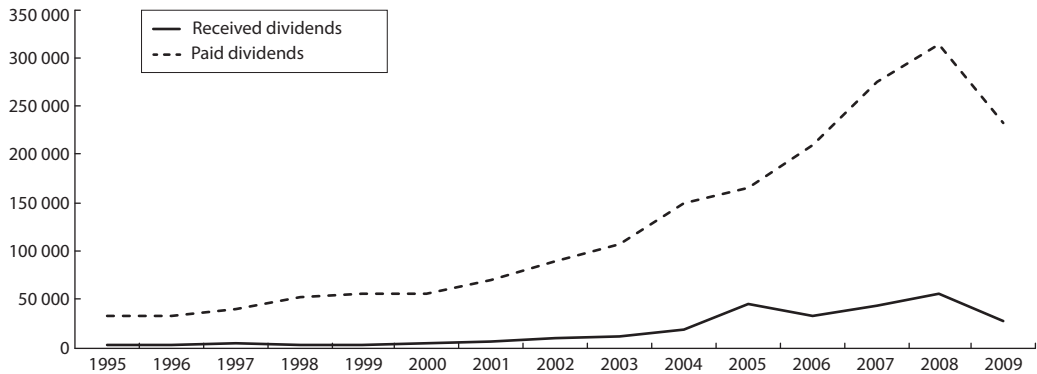
The negative net property income in the sector of nonfinancial corporations diminished in 2008 and 2009. The negative balance used to be logical because the nonfinancial sector pays higher interests of its loans usually in comparison with the interests of its deposits (the nonfinancial sector is due to its character lent largely). In 2009 the interest balance in property income was first positive when received volume of interests from deposits was higher than the paid interests of the loans. The opposite development noticed in 2009 is possible to explain by the lower lending of this sector during crisis resulting from by the caution of the commercial banks on one hand and a lower need of the operating finances in this sector during a crisis.

**Figure 5** Net balance of property income and net balance of interests in nonfinancial corporations (in million CZK)



Source: Czech Statistical Office

Paid dividends dominate the side of use of property income in the sector of nonfinancial corporations. The volume of these payments was lower by CZK 82 bn year-on-year in 2009 and their net balance was improved by CZK 53 bn. The dominance of the paid dividend on side of the use in property income is the specificity of the Czech economy due to the very significant share of the companies under the foreign control. Their owners download CZK 257 bn in 2008 in net balance of dividends which was historically the highest level. Maybe the fears connected with the situation in global financial markets influenced “mother companies” to act by this way and to use the profits generated in their Czech acquisitions at home. In 2009 net balance of dividends reduced to CZK 204 bn. One of the reasons had been the diminished net operating surplus (up to deficit) which did not enable to draw the volume of dividends as previous year. The proportion between paid and received dividends in the sector of nonfinancial corporations is shown in the Figure 6.

**Figure 6** Paid and received dividends in the sector of nonfinancial corporations (in million CZK)

Source: Czech Statistical Office

However, totally the change in net property income did not lead to the worsening in total income situation of the nonfinancial corporations.

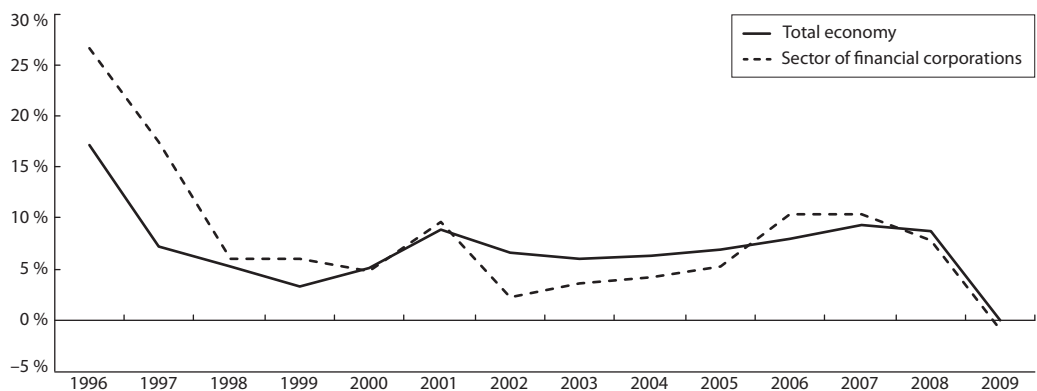
## 2.2 Financial corporations

The sector of financial institutions in the Czech Republic was not hit significantly by crisis as a whole. The balance sheets of the banks were relatively healthy without toxic assets, i.e. without sophisticated instruments of the derivative character and huge share of bonds of the countries which were endangered by default.

High profitability of the banks in the Czech Republic resulting from the strengthening retail trades with the highest margins which even further increased during the crisis. Constantly growing share of the fees in the structure of total yields against interest yield also contributed to the stability of the yields and strengthened profitability in times of the lower interest rates.

In 2009 net operating surplus in financial institutions grew significantly (+11.9 %) after its factual stagnation in 2008 (-0.4 %). It was the highest result during time series since 1995.

As the second part of the income characteristics of GDP, the volume of the compensations of employees in sector of financial institutions even increased slightly in 2009 (+0.4 %). But only wages, in comparison

**Figure 7** Wages and salaries in total economy and sector of financial corporations (year-on-year changes in %)

Source: Czech Statistical Office, own calculation

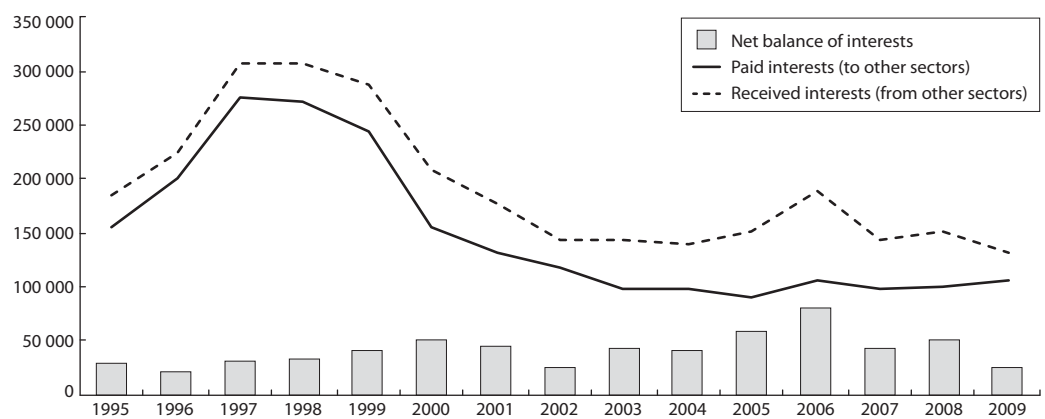
with the development of compensation of employees, showed the reduction (-0.9 %). The average wage was twice higher in sector of financial institutions compared to its level of total economy.

Segment of other financial intermediaries suffered from the weak results of the trades of leasing companies and in 2009<sup>4</sup> also the instalment sale companies showed the same development. It above all influenced net operating surplus towards its stagnation in 2008 because the segment of other monetary financial institutions — which commercial banks belong to — showed constantly the increments of net operating surplus since 2001 without wobble in 2008.

But there is a better measurement of the profit in the sector of financial corporations than net operating surplus. It is so-called business profit indicator which the statistics of national accounts do not publish usually but it is available. This indicator is preferable especially due to its capability to show the net yields resulting from interests. Just this net interest income is main factor of profitability in financial corporations.

Net business profit as a truer picture of the financial results in this sector significantly decreased in 2009 (-40.4 %). It was caused by a huge reduction of balance of interests when the paid interest increased and on the contrary the received interest (from the provided loans) diminished. The reason was the development in economy during the crisis.

**Figure 8** Interests in sector of financial corporations (in million CZK)



Source: Czech Statistical Office

Therefore, the financial corporations got on received interests by CZK 20.8 bn less in 2009 compared to 2008. The volume of the received interests was market lower due to state of the provided loans began to decrease. Namely the banks accessed to their clients from point of view a cautious weighing of the risk. But also the need of the operating funding showed a lower as a logical usual symptom of crisis.

On the contrary, the financial corporations paid on interests by CZK 5.7 bn more year-to-year in 2009. As a result of the all mentioned movements the net balance of the interests in this sector shrank to CZK 25.5 bn which was the lowest level since 1996.

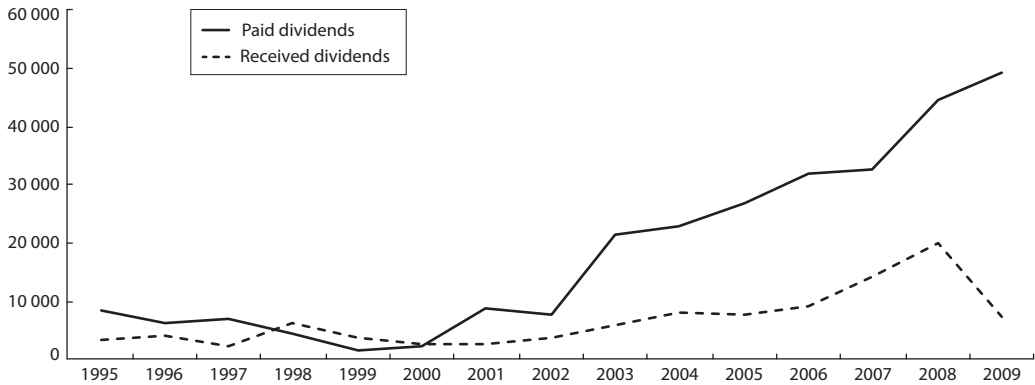
Next unfavourable factor influencing negatively business profit in financial corporations was the development of dividends. The foreign owners reacted responded to global financial crisis in 2008 yet and they pumped away a significantly higher share of profits achieved on the financial market of the Czech Republic. Compared to 2007, the outflow of profits in the sector of financial corporations in the form of

<sup>4</sup> Data from time series of the annual national accounts were not available in time of the processing of this analysis.



dividends increased by more than CZK 12 bn (from CZK 32.6 bn to CZK 44.7 bn). This extreme relative movement had only parallel during 1996–2009 — year 2003 but it followed after year 2002 when no money did not pass toward the foreign owners (thus it was the accumulation of two years practically).

**Figure 9** Paid and received dividends in sector of financial corporations (in million CZK)



Source: Czech Statistical Office

In 2009 the outflow of the profits in the financial sector further continued if not so sharply as in 2008. It achieved historical level CZK 49.4 bn with y-o-y increment by CZK 4.7 bn.

If the volume of dividends in the financial corporations paid to foreign owners significantly grew in 2008 and 2009 but the volume of the dividends received by this sector did not. Received dividends fell by two thirds and they were only CZK 7.5 bn which was roughly the same level as in 2005 (CZK 7.6 bn). In 2008 on the contrary the financial sector received on dividends almost CZK 20 bn, i.e. the absolutely greatest amount since 1995.

This sharp opening of scissors between paid and received money as dividends was together with reduction of net balance of interests the second reason of the marked decrease of business profit in the sector of financial corporations of the Czech Republic during crisis year 2009. The volume of this business profit achieved only CZ 69.7 bn against historical CZK 117 bn in 2008.

### 2.3. General government sector

The crisis in 2009 doubled the deficit of the general government sector how in nominal conditions so in ratio to GDP in current prices. It was the worst impact of the crisis of all institutional sectors of the Czech economy.

According notification of the government deficit and debt in 2009 the net borrowing rose to 5.8 % of nominal GDP from 2.7 % in 2009. While during the strong growth of the economy the Czech Republic was able to keep the general government deficit under level of convergence criterion but six-percent growth rates were not able to generate surpluses of government sector. During 2006–2008 the deficits were 2.6 %, 0.7 % and 2.7 % of nominal GDP.

In 2009 the general government sector found itself in deficit of CZK 209 bn which was the highest level since 1995 (just in 1995 the deficit was the second deepest when did CZK 197 bn). The deficit of central government represented CZK 176.6 bn in 2009, i.e. 84.4 % of the total deficit of government sector (only in 1995 it was higher, CZK 224 bn).

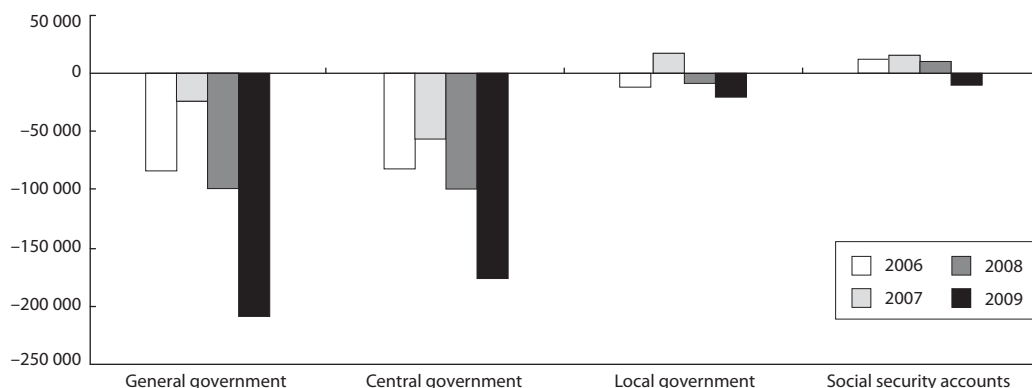
Nevertheless, the deficit of general government sector rose faster than deficit of the central government. Namely the deficits of the other segments of the government sector grew significantly in 2009 although they are lower a lot in comparison with the central government. Against 2008 (CZK –98.9 bn)

the general government sector deficit was double in 2009 and in previous year (CZK -23.2 bn) it was quadruple y-o-y. But they were not the same dramatic increments in the case of the central government deficits (in 2009 its deficits deepened by 78 %).

The crisis year 2009 brought also the significant negative jump in the deficit of the local government and the segment of social security on the worst historical level. Nevertheless, these deficits remained substantially lower compared to central government deficits. The local government deepened its deficit by 140.0 % to CZK 21.8 bn in 2009 when in 2008 the expenditure was greater than revenues by CZK 9.2 bn. In 2007 this segment reported surplus (CZK 16.8 bn) yet.

After four years a deficit in the social security accounts appeared, as well. Its range was very large (CZK -10.6 bn) if we consider that the previous years with deficits (2001–2005) had showed a lot of narrower negative differences between revenues and expenditures (hundreds of millions usually). Before the largest deficit was reported in 2002 (CZK -4.2 bn).

**Figure 10** Sector of general government and its structure — deficits / surpluses (in million CZK)



Source: Czech Statistical Office

Paradoxically, the compensations of employees in general government sector rose also in 2008 and 2009. The salaries in this sector increased by CZK 12.7 bn (+6.0 %) in 2009. It was even more than in 2008 (CZK +8.3 bn, i.e. +5 %). This increment of salaries exceeded nominally annual average increases of period 2004–2008 (CZK +9.9 bn) and also the average annual additions in peak year of boom in economy (CZK +11.8 bn yearly during 2005–2007). Wages and salaries in the total economy stagnated in 2009 compared to 2008.

One of the most important changes which appeared in 2009 and which influenced the deficit in general government sector was the change in money inflows and outflows reflecting the redistribution processes. It associated with the household sector especially with the sides of resources and use of the gross disposable income of households.

## 2.4. Households

The decade 2000–2009 can be divided into three periods in terms of handling money in the Czech households:<sup>5</sup> (1) period 2000–2004 with the featureless growth or stagnation of the main parameters,

<sup>5</sup> Aggregates of the household sector bring information both from the entrepreneurs-actual persons and from behavior of the consumers (Duspivová, 2009).

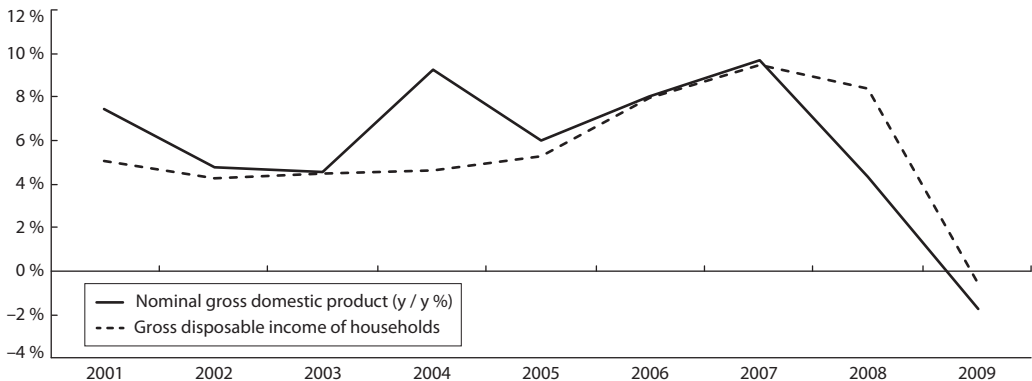
(2) period 2005–2008 benefiting from the strong boom of the Czech economy and (3) 2009 as a year of crisis.

Period 2000–2008 and especially its second half brought the growth of the Czech households. Development of its tangible accommodation and financial accommodation, as well enabled that its increment of capital gains doubled due to savings and capital transfers in 2008 against 2000. An ability of the households to finance others sectors of economy failed in two years of decade only. It was the strongest in 2008 with the surplus of almost CZK 39 bn. This sector maintained its ability to finance others sector also in 2009 but the surplus as a net lending to others sectors dwindled to half compared to 2008. While capital gain in the sector of household annually rather fluctuated, since 2005 its growing trend was already apparent clearly. So the Czech households benefited from the strongest boom of the Czech economy in modern history of the country (and simultaneously, it was significant resource of the high economic growth in many respects).

Compared to the growth of the Czech economy the gross disposable income of household sector grew smoothly since 2002. But also it modestly lost its position measured by the share on nominal GDP. It can be concluded that the others sectors strengthened their incomes which was logical especially in case of nonfinancial corporations and their good financial health during strong boom. But in 2008 the share of gross disposable income of household sector on nominal GDP grew again year on year because nominal GDP had been losing the pace significantly.

In 2009 households' gross disposable income decreased year on year but it was milder compared to nominal GDP.

**Figure 11** Nominal GDP and gross disposable income of households (year-on-year changes in %)



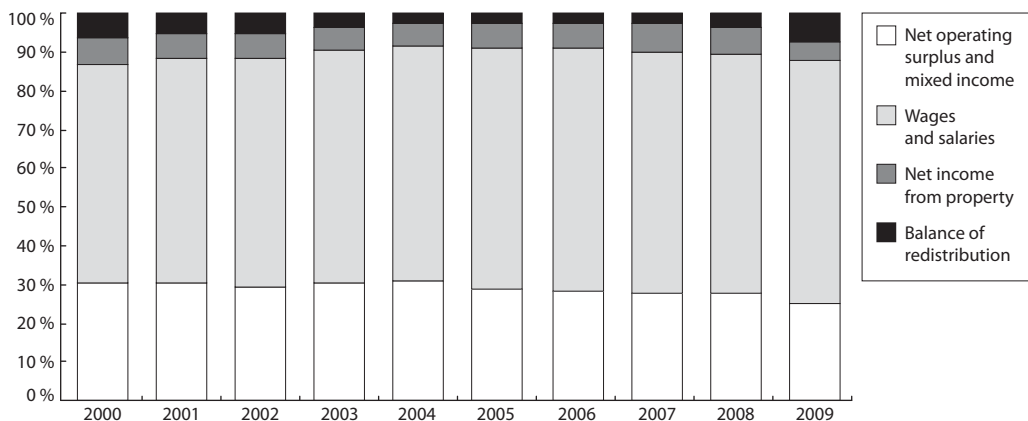
Source: Czech Statistical Office

The Czech households were affected ambivalently in the year of crisis — their net worth grew year on year though in lower growth against 2008. The range of this increase was comparable with 2007: capital transfers did not dropped significantly but gross saving of the Czech households diminished relatively markedly. But the side of resources of gross disposable income of household sector showed substantial changes in its structure.

In 2009 the Czech households disposed of less money compared to 2008 (CZK –5.9 bn). Their gross disposable income decreased by 0.3 % year on year when during 2005–2005 it was rising annually on average by CZK 128 bn (+7.8 %). In year of crisis especially income from property dropped significantly (–15.4 %) with the decreasing in 2008 (–8.1 %). Also their income from business (as a net operating surplus and mixed income) diminished by 8.8 % in 2009 against 2008. Balance of redistri-

bution<sup>6</sup> rose significantly not only due to strengthening of the expenditures from the public resources which used to be logical during crisis but also due to legislative changes (mainly introduction of the flat tax).<sup>7</sup> The volume of the wages and salaries recorded factual stagnation (−0.3 %).

**Figure 12** Shares of components of households' gross disposable income on its total volume (in %)



Source: Czech Statistical Office, own calculation

Wages and salaries dominate in the structure of the primary income of the Czech households. During 2000–2008 they were rising by 7.3 % annually on average. It was roughly the same pace as the average growth of the second significant resource of income in household sector which is received income from redistribution (+7.4 %) especially social benefits. Both of resources were developing from point of view of household more favourably than their gross disposable income in total (+6.0 %). However, compared to it also gross capital formation grew faster (+6.4 %). Especially the gross fixed capital formation increased very strong (in 2006 and 2007 by one fifth year on year on average). It was connected with acquisition of the owner occupied housing which culminated in mentioned two years. It was also hurried by high increments of the real wage, attractive conditions of the interest rates on lending for home purchase and in general positive future expectations based on ongoing phase of the business cycle.

On the contrary, in 2009 the wages and salaries slightly reduced (by 0.3 %, i.e. CZK 1 244.185 bn). This factual stagnation seems to be surprising at the relatively large fall of the Czech economy. But it can be explained by the structure of changes on the labour market. It means not only by layoffs mainly of the low-income employees but also lower numbers of the employees which were sick in 2009 compared to 2008. Both of these reasons caused that impact of crisis on the reported level of the wages and salaries in the Czech households was not so adverse on average.

Profits in the household sector (Duspivová, 2009) expressed as the sector's net operating surplus and mixed income decreased more significantly compared to wages and salaries. Profits in the sector of non-financial corporations only stagnated in 2009 and the decrease appeared there in 2008 yet. But the seg-

<sup>6</sup> In logic of the gross disposable income of households the “resource” is understood from their point of view, i.e. as a receiving social benefits. On the contrary, the side of “use” means in this context also (from point of view of households) the payment to the system, for example any paid tax.

<sup>7</sup> The contributions of employers are not involved to the balance of redistribution. All results mentioned in this chapter regard only the relationship between the household sector and government sector.

ment of entrepreneurs as a part of the household sector was in “the black figures” in 2008 yet (+7.5 %). In 2009 the fall appeared (−8.8 % year on year). The reason was probably the character of business activities in the household sector responsive slower on the cyclical fluctuation. The second reason may be some specificity of employment especially in construction industry in the Czech Republic (considerable preferences of employment for Trade Certificates, so-called “svarc-system”).

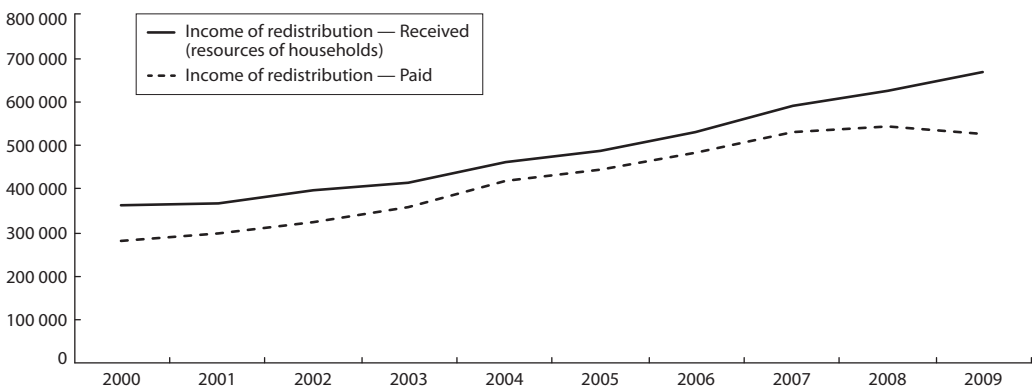
Despite of the perceptible reduction in profits of this sector the Czech households suffered much more due to a fall in the net income from property. It was lower by CZK 18.2 bn. The strong reduction of the income from property (by CZK 29.6 bn) was caused mainly lower received interests. But the fall of the net income from property was moderate by lower expenditure on property (by more than CZK 11 bn). The reason was also significant decrease in interests paid by households.

Just the changes in interest balance influenced decisively the net income from property of the Czech households during crisis. The lower volume of interests from banks was caused by the historically lowest basic interest rates in economy and their projections to the trade policy of commercial banks. The second reason is that households’ deposits were moving from the term deposit accounts to demand deposit accounts. Logically, it influenced the volume of the received interest in household sector.

On the side of the paid interest probably played a role the fact that the new loans were not so high compared to previous period. People mainly paid their current loans which had provided from the banks and other financial intermediaries. Increased tendency of the Czech households to debt was also motivated — along with desire for their own housing — by exceptionally low level of the interest rates. The most of loans for housing was provided just during the period of very low interest rates and this type of loans for households did almost three quarters of the total indebtedness of the Czech households. In 2005 and 2006 the interest rates of loans for housing decreased to 4.34 % or 4.66 % respectively. But the largest annual volume of housing loans were provided in 2007 (CZK 139.4 bn) of which only mortgage loans CZK 95.3 bn when the interest rates go higher in this year (5.67 %). It means that the Czech households need to have own housing was very strong in spite of the growth of the price of money. In 2009 during crisis the increment of housing loans was only half (CZK 70.7 bn) compared to 2007 and thereafter in 2010 the Czech households borrowed for housing only CZK 43.9 bn. This situation reflected the state of the budgets of the households which have suffered due to restrictions in public sector and not so good situation on Czech labour market.

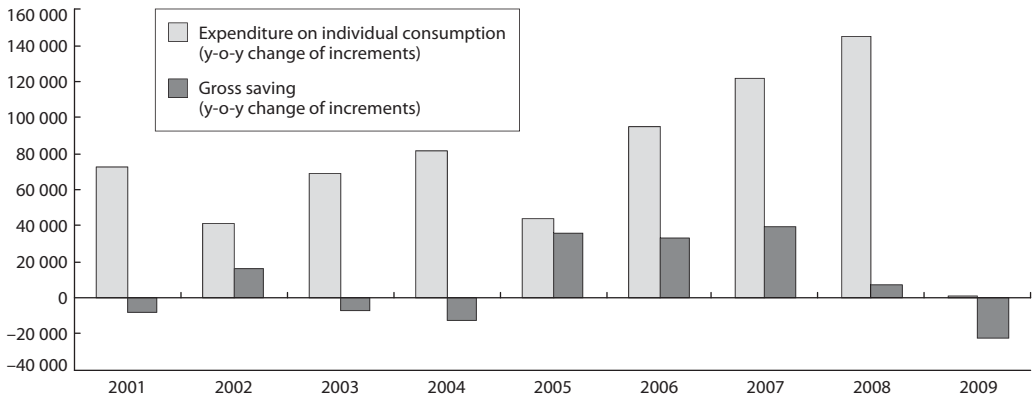
Balance of redistribution recorded a significant strengthening of the side of resources and, on the contrary, substantial reduction on the side of use.

**Figure 13** Resources and use of the income of redistribution in household sector (received and paid, in million CZK)



Source: Czech Statistical Office

**Figure 14** Household final consumption expenditure and gross saving (increments y-o-y, in million CZK)



Source: Czech Statistical Office

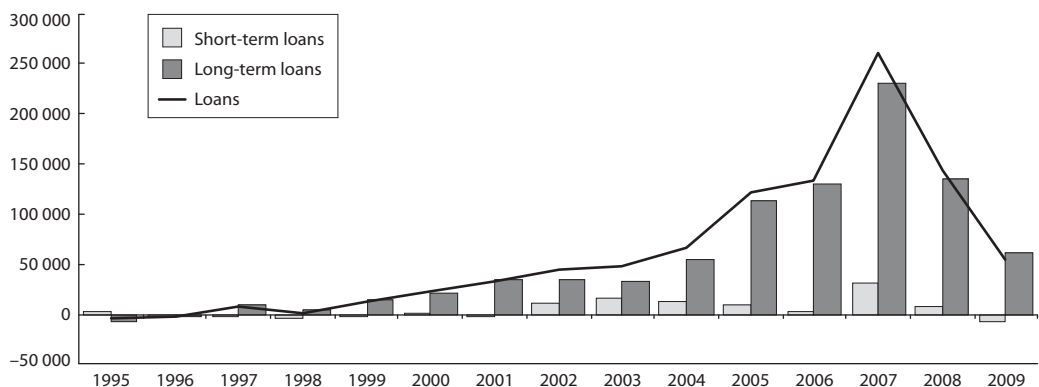
Household final consumption expenditure stopped in 2009 on the level of 2008 when surprisingly grew year on year in the historically highest annual increment. The impact of crisis on consumption was relatively low with the year on year decrease since the third quarter 2009.

Besides stagnation of the households' consumption also the increment of their gross saving was lower year on year. The decrease of the savings rate was observed in 2008 yet. During 2000–2009 the Czech households were able to save more than one tenth of their gross disposable income. In 2009 they gave aside only substantial less.

Lower savings influenced the accumulation of Czech households. But in 2009 the recovery of the tangible accumulation was seen after its decrease in 2009. This recovery was approximately same as the dynamics of the gross fixed capital formation in 2004 and 2005. On the contrary, the strong impact of economic crisis on the household sector was seen in the sphere of the financial accumulation and it was connected with the shift to the higher liquidity of deposits.

In 2009 the significant growth of net equity of households in life insurance reserves was caused by administrative chase (a reclassification in banc-assurance in one of the big financial institution when

**Figure 15** Year-on-year change of state of total loans provided to households (in million CZK)



Source: Czech Statistical Office, Czech National Bank

term deposits were reported as capital life insurance). Exactly the opposite trend showed net equity of households in pension funds reserves. In 2009 it decreased by CZK 10.3 bn, i.e.  $-42.0\%$ . The people saved there less compared to 2008 when a moderate reduction was observed yet. But during previous monitored period (2000–2007) the constant growth of increments was seen year on year.

Households' indebtedness was hit by crisis not so dramatically as the lending in sector of non-financial corporation. In spite of it the increment of the total loans provided to households diminished to 2004 level. This development was different structurally. Although state of short term loans decreased year on year in 2009, the long term loans continued in growth.

### 3. COMPARISON OF THE IMPACTS OF CRISIS ON THE INSTITUTIONAL SECTORS

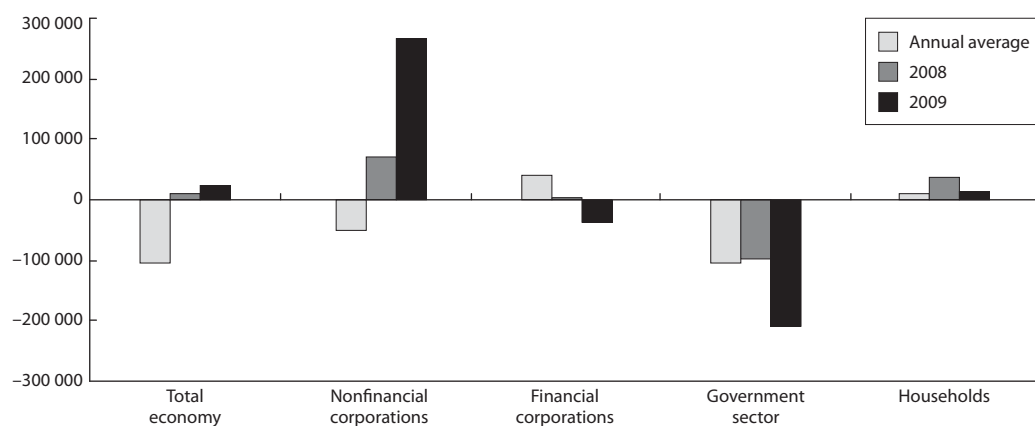
In the first phase of crisis mainly the sector of nonfinancial corporations was influenced negatively. The huge fall of the foreign demand led to the lost of the pace of the value of the market output, intermediate consumption and gross added value. In 2008 this parameters only lost pace but in 2009 a reduction was seen. Firing of the employees resulted to the fall of the wages and salaries. So in the performance, the nonfinancial corporations suffered more than other sectors. Just the strong fall in performance changed an existing proportion of this sector in net lending / borrowing. While since the beginning of the time series — and finally, in logic of things — the sector of nonfinancial corporations demanded a financing from other sectors, in 2009 it was conversely. This sector created huge surplus. It was due to lower loan financing, lost of the activity in investment and significant smaller need of the operational funding.

The surplus in sector of nonfinancial corporations was higher than the deficit of the government sector in 2009.

The sector of financial institutions generated a historically first deficit in 2009. Net borrowing represented CZK 35 bn. These institutions were hit by substantial deterioration of the balance of interests (CZK  $-25.5$  bn) and also higher dividend payments (CZK 50 bn in 2009 when the significant outflow of repatriated profits was seen in 2008 due to uncertainty induced by global financial crisis). In this sector especially the segment of the other financial intermediaries failed as leasing companies but also the companies of hire purchase suffer a huge fall of income. Their net worth decreased.

The household sector was hit by crisis up in the second half of 2009 when gross disposable income diminished. But their wages and salaries only stagnated in that year. The biggest fall showed the net income

**Figure 16** Comparison of net lending/borrowing (surpluses or deficits) of the institutional sectors and total economy (2008, 2009 and annual average 2000–2007, in million CZK)



Source: Czech Statistical Office

from property. Interesting development was recorded on the side of resources in balance of distribution. Due to new legislation more money remained in household sector. The higher social transfers (unemployment benefits and others social benefits for people without job) were the second strengthening supply for the households' budgets. So the crisis hit the Czech households came later and it was tempered by stagnation of the wages and salaries in economy and bigger balance of redistribution.

The hardest impact of crisis felt the government sector of the Czech Republic. Its deficit was twice higher in 2009 compared to 2008 and achieved CZK 209 bn. It was the historical record. The public sector could not count on the sufficient revenues of the central government due to weak tax collection on one hand and, on the other hand, emerging needs of additional expenditure resulting in a crisis.

Fortunately, the Czech government sector was not forced to carry bank bailout as some countries in Europe or especially in US. Also providing of liquidity was not necessary to support interbank market (except a very short period).

In total the Czech economy generated surpluses in 2008 and 2009 (net lending). Its internal resources sufficed to finance the strong subdued economic activity. Refilling from the external resources was not necessary in those years as in all period 1995–2007.

## CONCLUSION

The institutional sectors of the Czech economy were influenced by crisis in a different extent, both in the size of damage and the time period when the impact was observed.

The non financial corporations were afflicted the soonest and this affect was heavier compared with the rest of the Czech economy. The output of total economy — which fall in 2009 was nominally larger than its biggest increment from the climax (peak) in 2007 — had declined in comparison with 2008 by 9.2 % but nonfinancial corporations' output had dropped by 11.2 % y-o-y. Gross added value in the sector of nonfinancial corporations was lower as well. Their gross fixed capital formation decreased by 16.0 %, it means more than in total economy and likewise the downswing in wages was worse compared to total economy.

Net operating surplus in nonfinancial corporations sector which expressed their profits decreased in 2008 yet and stagnated in 2009. Although the substantial reduction of the provided loans was assigned to the weaker willingness of the banks to give credits, it was only one of truth. Actually, non-financial corporations did not need the credits in the same magnitude as during period before, mainly the working funding. In addition — in spite of the anaesthesia of investment activity and lower need of the credits during the crisis — a surplus appeared in the sector of nonfinancial corporations. It was historically for the first time and this surplus was even larger than the deficit of sector of government institutions in 2009.

The healthy and capital strong sector of financial institutions in the Czech Republic was not afflicted so much by crisis as the same institutions on European or global level. They did not need to be reactivated or made stronger through the capital injections from the shareholders. In spite of it this sector felt effects of the crisis. In 2009 the wages descended year-on-year (−0.9 %) compared to their significant growth in 2008. Nevertheless, an average wage in the sector of financial institutions remained more than twice higher in comparison with its level in total economy in crisis.

Although the profits of financial institutions (as their net operating surplus) increased in 2009 year-on-year next by 12 %, a more important indicator taking into consideration the specifics of this sector, so-called entrepreneurial profit influenced by the balance of paid and received interests and increasing in trend since 2003, dropped by 40.0 % year-on-year in 2009. The reason was also the lower interest yield due to weak giving credits to corporations and households, as well. Especially the segment of other financial intermediaries did not was not found in the good condition (leasing companies, companies of instalment payment, factoring companies).



A very strong outflow of dividends to the mother companies which own the financial institutions in the Czech Republic was larger than their positive result of profits on operating level in 2009. It was just reason for rather surprising deficit of total sector in this year.

The government sector was hit very significantly by crisis. In 2009 its deficit was twice higher against 2008 and it amounted to CZK 209 bn. The cyclical effect became evident which was enhanced by exposed legislation since 2008 (income tax, social insurance). The changed legislation cut revenues of the state budget by almost CZK 30 bn. Logically, the expenditure side of state budget spread during crisis and it was paid roughly CZK 45 bn more against 2008 from the budget. Nevertheless, after period of decreasing growth pace in wages in government sector during 2006–2008 their increase appeared in 2009 (+5.8 % y-o-y).

The main feature of the significant worsening of the Czech government sector deficit was its complexity. Apart from the traditional deficit of state finance which went deeper also the deficit of local governments spread. The segment of social funds (health insurance companies) dropped into deficit, as well. The total deficit of the government sector in ratio to nominal GDP was twice as big (5.8 %) against 2008 (2.7 %). In spite of it the worsening was not so much expressive as in EU27 where this ratio was 6.8 % while only 2.3 % in 2008.

However, very unfavourable balance in the government sector in 2009 had a positive impact on households due to income from redistribution. But in spite of this fact their gross disposal income as a complex indicator of the treatment of money was weakened mildly in the year of crisis. The reason was only an imperceptible growth of wages and salaries y-o-y (+0.3 % to CZK 1 235 bn) as main source of the gross disposable income of households and decline of net operating profit of self-employed persons (–8.8 %), as well. Also sharp downswing in net income from property (by one quarter, i.e. CZK 32 bn) caused together a slight decline of gross disposal income in household sector y-o-y.

Household final consumption expenditure stagnated and their gross savings decreased by 11 %. Tangible accumulation as an increment of investment for tangible fixed assets rose in 2009 paradoxically when it had decreased in 2008 yet. People invested to the dwellings also in crisis year. But it was financial accumulation which noticed the sharp negative change — the increase of the households' deposits (with exception of so called non-fixed term deposits) was only one third of the rise in 2008.

On the whole, the Czech households were able to make their wealth by CZK 121 bn in crisis year 2009 as a result of the changes in savings and capital transfers. It was in narrower measure in comparison with 2008 or 2007 (CZK +137 bn). The ability of this sector to finance the deficits of the other sectors of economy (which was observed for almost all the period 1995–2009 except 2001 and 2004) remained preserved.

The Czech economy as a whole, i.e. in summary of all institutional sectors, generated surpluses in 2008 and 2009. However, according to the running recession it was not necessary to use external resources of financing for funding of its performance as yearly during 1995–2007.

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