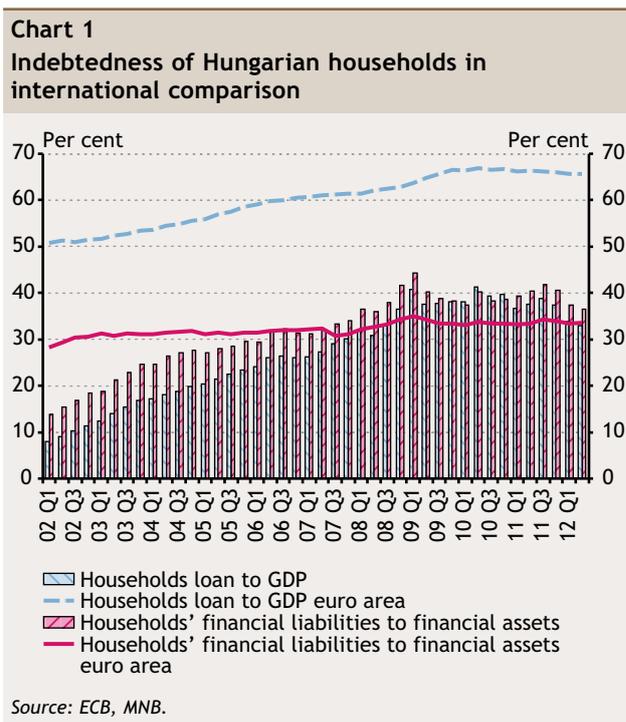


Tamás Balás: Households: indebtedness and debt service ratio*

Before the crisis, the over-indebtedness of households represented an ever growing risk. Over the past years, mostly due to a decline in credit demand, but also to some extent because of tighter lending conditions, households have taken a net repayment position. This, together with the option of early repayment at preferential exchange rates, has significantly reduced the portfolio of households' outstanding foreign currency loans. Against this background, it is worthwhile to investigate the changes in household indebtedness and the debt service burden across various income brackets.

Even before the crisis escalated in 2008, there were already signs of household borrowing overheating in Hungary and mounting evidence which suggested that the level of household debt was becoming excessive. In its 2007 and 2008 Reports on Financial Stability, the Magyar Nemzeti Bank discussed these risks in greater detail, supplementing its review with the results of questionnaire surveys as well. However, once the crisis struck, the lending trends previously observed changed fundamentally, while at the same time government measures also had a profound impact on household indebtedness. Consequently, we believe it is important to re-examine the issue of household indebtedness.

While in earlier years households had essentially had a savings position, starting from the 2000s the level of household debt began rising at a dynamic rate. Broadly speaking, this occurred in two major waves. The first surge lasted from 2000 to 2003 and was fuelled by state-subsidised housing loans, while the 2004–2008 period saw yet another boom in household borrowing, this time, in the form of foreign currency lending. Nevertheless, Hungary's household debt-to-GDP ratio was roughly half of the euro-area average, and, as a result of early repayment scheme and subdued lending, this ratio has fallen dramatically over the past year. At the same time, looking at the relationship between financial liabilities and financial assets, the situation is far less encouraging. This indicator for Hungary shows a higher level of indebtedness, although comparisons may be rendered more difficult by the fact that a high proportion of Hungarian households own their homes. On

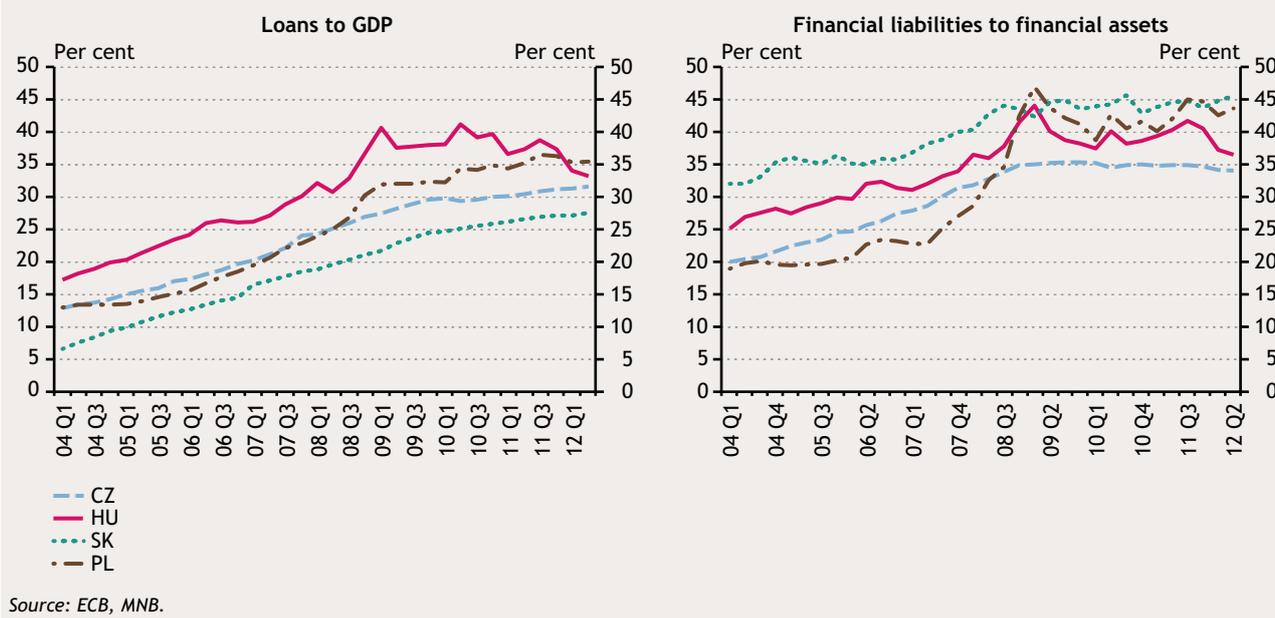


the whole, based on these two indicators alone it cannot be confirmed whether Hungarian households are currently over-indebted.

Even looking at the more immediate region (the Visegrad Four), one cannot conclude that Hungary's household debt is excessive. Hungary's figures now approximate the regional levels for both of these indicators.

* The views expressed in this article are those of the author(s) and do not necessarily reflect the official view of the Magyar Nemzeti Bank.

Chart 2
Indebtedness of Hungarian households in regional comparison



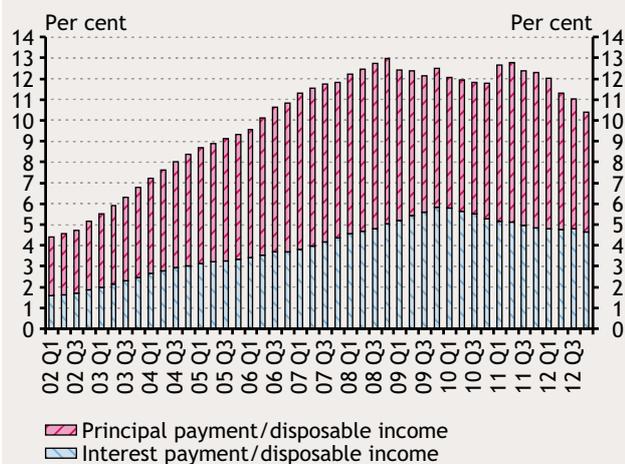
In addition to stock-type indicators, the debt service ratio, which is a flow-type indicator, is often used as a measure of indebtedness, as it provides valuable information concerning both interest levels and the maturity of liabilities. Consequently, it is more closely linked to the consumption and investment decisions of households, and therefore to economic growth as well. Although the indicator reached 13 per cent immediately before the crisis, households took a net repayment position afterwards. This was essentially due to an uncertainty-induced setback in credit demand, which was further compounded by tighter lending conditions. The possibility of early repayment at a preferential exchange rate resulted in further acceleration in the decline in loan portfolios. Moreover, the service burden was further eased by the extended exchange rate cap scheme, bringing down the debt service ratio to nearly 10 per cent.¹ In assessing this estimate, it is important to note that it is based solely on interest and principal repayments actually paid out by clients. In other words, interest pending because of a deteriorating portfolio and unpaid-yet-due principal repayments are not taken into account in these calculations. The higher the share of defaulting loans the larger the deviation between the debt service burden actually paid and outstanding. Given that the NPL (non-performing loan) rate currently stands at approximately 16-17 per cent, the 'outstanding' service burden would approach 12 per cent in relation to disposable income.²

Since a significant number of Hungarian households are indebted in a foreign currency, weakening of the forint has slowed the decline in the debt service ratio, and this was also further exacerbated by the rising interest burden. In an international comparison, this latter process sheds light on some rather substantial differences. In most countries featured in the sample, base rate cuts implemented over the three years following the onset of the crisis eased the interest burden on households. Wherever an increase in the interest-to-income ratio was observed, it was either caused by growth in lending activity (as was the case in Bulgaria, Slovakia and the Czech Republic) or by falling disposable income due to rising unemployment (such as in Greece). By contrast, Hungary saw the most pronounced increase, despite its shrinking loan portfolio. The underlying reason for this is that, in Hungarian household lending practice, interest rates linked to a benchmark rate are rare, even though many countries regularly apply such pricing methods. This has led domestic banks to attempt to offset higher CDS premiums, the increased levels of impairment due to a degrading portfolio, as well as the losses in revenue in the wake of the bank levy by raising interest rates on their existing retail loans. Nevertheless, the fact that they are capable of even retroactively passing on some of the losses resulting from regulatory shortcomings clearly indicates the dominance of banks in Hungary.

¹ By contrast, this is on par with the value recorded for the whole of the Eurozone in 2006 and is approximately 30 per cent below US figures.

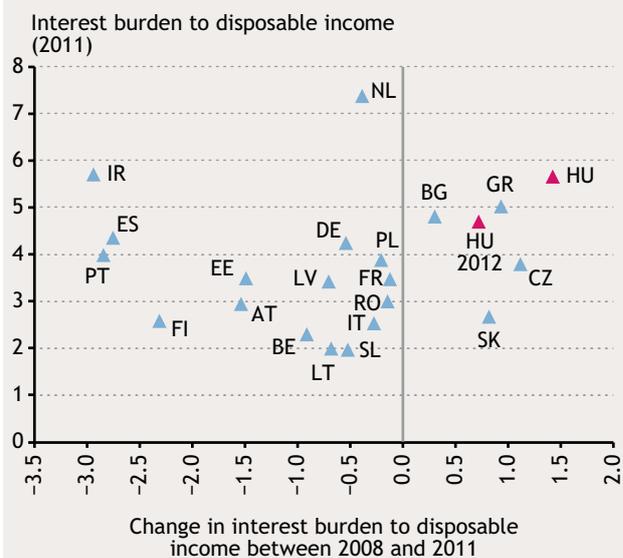
² Defaulted repayments were intentionally left out of the calculations because, whenever households are faced with execution, they generally make payment by selling real estate or movable property, rather than from their available disposable income.

Chart 3
Average annual debt service ratio of households



Note: Calculations for household debt service burden are based on information provided by credit institutions. These include data concerning interest paid, which are then prorated to determine interest for other financial intermediaries. Principal payments are determined using opening and closing stocks and gross new disbursements. Early payments are excluded from the calculations and loan conversion is estimated at various rates for different periods.
Source: MNB estimate.

Chart 4
Changes in the interest-to-income ratio of households



Note: For the sake of comparability, the Hungarian interest burden was also determined using portfolio and interest data, rather than indicating interest rates actually paid. Therefore, the interest burden is higher than what is shown in Chart 2, as the latter does not feature the unpaid-yet-due interest on non-performing loans.
Source: Szigel and Fáykiss (2012).

Looking at the ratio of interest burden to disposable income, Hungary's 2011 figures still ranked among the highest. In the period since then, however, the interest burden has fallen notably due to a number of factors. Portfolios have been on a steady decline since the onset of the crisis, a process that the early repayment scheme accelerated. Additionally, the share of higher-priced products (personal, point-of-sale and auto loans) is steadily declining, which also mitigates households' interest expenses. By late 2012, this caused the indicator to drop to near 4.7 per cent.

While neither stock nor flow-type indicators currently indicate over-indebtedness in the entire household sector, for households with a loan excessive debt can be seen as a valid risk. This is a particularly important consideration because stock-type indicators suggest significantly lower loan penetration among Hungarian households. Although

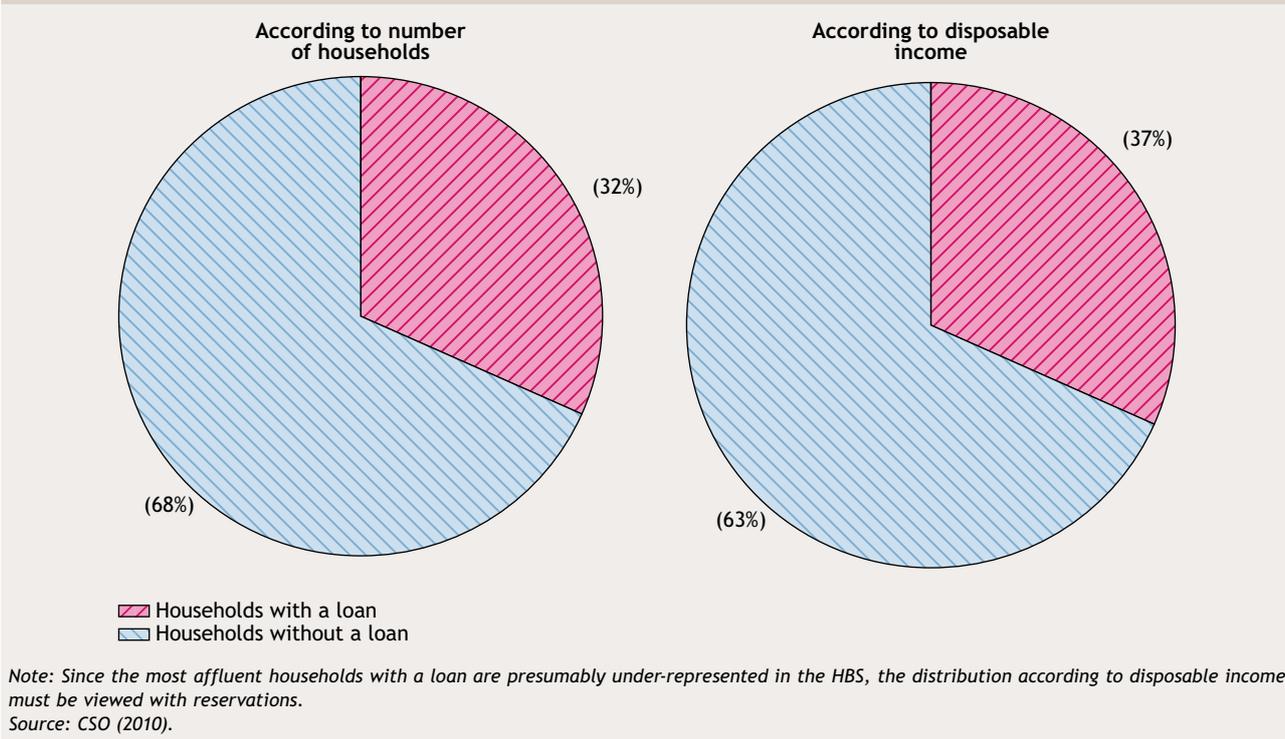
comparative statistics based on an international micro-database are unavailable, it is reasonable to assume that Hungary's penetration rate of 32 per cent, representing 1.2 million households with a loan, is much lower than the penetration rates in developed countries. It is therefore also recommended to separately assess the distribution of the debt service ratio – or the share of debt service in relation to disposable income – from which we shall attempt to draw conclusions using the Household Budget Survey³ (hereinafter: HBS) created by the Hungarian Central Statistical Office.

According to the most recent HBS, the distribution of the debt service ratio still indicates the same unfavourable trend as seen in previous studies. In 2010, the average debt burden for households with a loan in the lowest income quintile was already close to the critical 30-percent mark.⁴

³ Conducted on a representative sample selected according to key demographic factors, the HBS features close to 10,000 households each year, all of them asked to maintain a detailed log about their monthly revenues and expenditures. In addition, the database contains important household parameters, as well as a short list of questions concerning loan applications. It comprises two parts: a personal and a household section. Carried out since 1993, the most recent survey was completed in 2010. As one of its drawbacks, some of the important factors – such as income distribution – do not provide representative results, because interviewers are unable to reach out to people in the lowest and highest income brackets. However, this does not affect the findings featured in this paper, as the poorest households typically do not have any loans and the richest are generally not at risk of being overly in debt.

⁴ The literature abounds with estimates of exactly what households consider as the maximum acceptable instalment amount in relation to their income. It is most likely affected by the prospects of income growth, as well as by a number of other attributes (such as the number of members in a household and their consumption-to-income ratios, etc.). The 30 per cent used in our paper roughly matches the values featured in studies that have been published in this field.

Chart 5
Share of households with loans according to number of households and disposable income

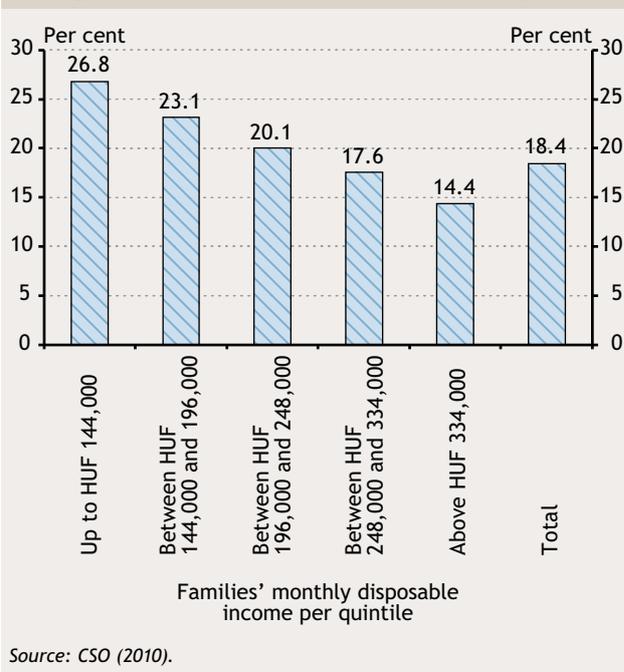


Given that the Swiss franc has since appreciated 20 per cent against the forint and somewhat more than half of all household loans are denominated in Swiss franc, the debt burden in this income bracket may have easily exceeded this critical level.

Other factors probably could not have had a major influence upon this, either. The significant tax cuts and restructurings have tended to have a negative impact on households in the lowest income bracket. Since these families rank at the bottom based not only on current income but also on savings, only a fraction of them could have benefited from the option of early repayment at a preferential exchange rate. While repayment could indeed have significantly affected the entire spread, it had little impact on the number of families with a high debt service ratio.

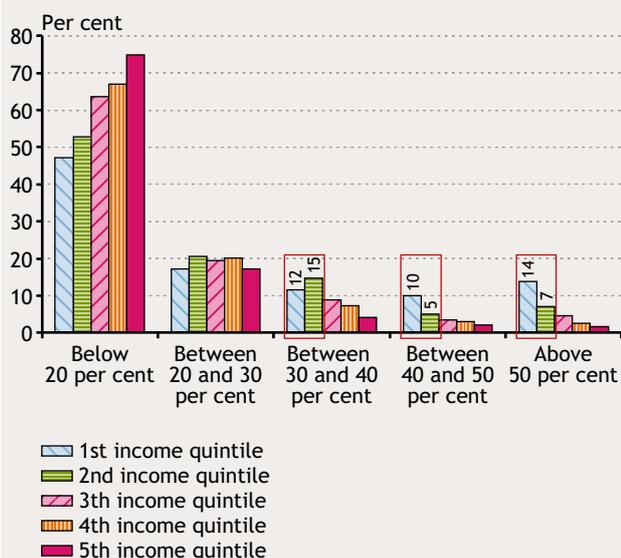
Looking at the distribution of the debt service burden within the individual income quintiles, the situation is even more complex. Among the poorest households it averages around 30 per cent, but 35 per cent of them have even higher debt servicing, with 14 per cent of them seeing more than half of the family budget spent on loan instalments, which is already past a critical level. Focussing only the two lowest income brackets, the number of at-risk families with debt service ratios exceeding 30 per cent is estimated between 80,000 and 100,000.

Chart 6
Average debt service ratio for each income quintile



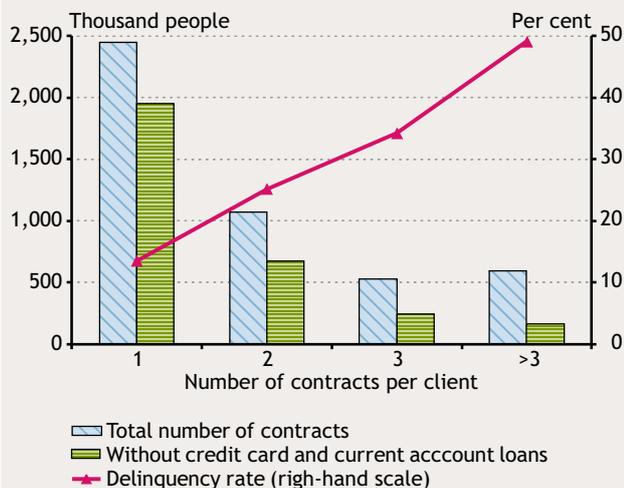
Last but not least, looking at the number of different loan contracts held by a single debtor, one can study indebtedness from a rather peculiar angle. According to data available via the Central Credit Information System (KHR), the higher the

Chart 7
Distribution of debt service ratio in each income quintile



Source: CSO (2010).

Chart 8
Correlation between number of contracts and non-payment



Source: KHR (30 September 2012).

number of contracts held, the higher the probability of default. This clearly relates to the fact that more contracts mean both higher credit exposures and a higher service burden.

CONCLUSIONS

As a result of government measures and the shrinking demand for credit, Hungary's household debt-to-GDP ratio has fallen to approximately half of the euro-area average.

In parallel with this, the debt service has been declined to close to 10 per cent of disposable income, which, on an international scale, cannot be considered excessive. It is therefore probably safe to assume that over-indebtedness does not affect the entire household sector. At the same time, however, significant differences remain between individual income brackets regarding the distribution of the debt service ratio. In the lowest income bracket, families with a loan struggle with an average service burden amounting to 30 per cent of their income, whereas 14 per cent of them spend more than half of their earnings on instalments, which is already past the critical level. Focussing only the two lowest income brackets, the number of at-risk families with debt service ratios exceeding 30 per cent is estimated between 80,000 and 100,000.

REFERENCES

BALÁS, T. AND M. NAGY (2010), "Conversion of foreign currency loans into forints", *MNB Bulletin*, October.

CENTRAL STATISTICAL OFFICE (2010), *Household Budget Service (HBS)*.

CSAJBÓK, A., A. HUDECZ AND B. TAMÁSI (2010), "Foreign Currency Borrowing of Households in New Member States", *Opinion*, 87, Magyar Nemzeti Bank.

HOLLÓ, DÁNIEL AND MÓNICA PAPP (2007), "Assessing household credit risk: evidence from a household survey", *MNB Occasional Papers*, 70.

HOSSZÚ, Zs. (2011), "Pre-crisis household consumption behaviour and its heterogeneity according to income, on the basis of micro statistics", *MNB Bulletin*, October.

Household data in the Central Credit Information System (KHR) on non-performing clients.

MAGYAR NEMZETI BANK (2007), *Report on Financial Stability*, May.

MAGYAR NEMZETI BANK (2008), *Report on Financial Stability*, May.

SZIGEL, GÁBOR AND PÉTER FÁYKISS (2012), "The effect of indebtedness on the financial and income position of Hungarian households", *MNB Bulletin*, February.