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SAVINGS OF HUNGARIAN HOUSEHOLDS 1995 – 2000

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Contents

Conclusion

- In the second half of the 1990s, the saving and consumption patterns of Hungarian households showed strong resemblance to those experienced by other European and Latin American countries which had followed a similar course. Similarly to the countries reviewed, the increase in household borrowing and the fall in household savings in Hungary can be primarily attributed to financial liberalization, concomitant to stronger economic activity. Just as experienced by the less advanced members of the European Union, the forthcoming EU membership foreshadows an improvement in the permanent income prospects of Hungarian households, which is likely to give further impetus to consumer and investment demand growth, as well as to the level of borrowing. At the same time, on the threshold of EU accession, these developments (with special regard to financial liberalization and modernization) seem to be at a much more advanced stage than at the time when the less advanced European countries joined. Thus Hungary is not likely to experience such drastic changes in consumption and saving patterns.

- The easing of liquidity constraints and the associated gradual increase in the level of household sector borrowing are equally due to structural and cyclical factors. Robust economic growth foreshadows a gradual rise in households' real incomes, which will stimulate demand for borrowing. There is also a simultaneous expansion in the banking system's supply of lending facilities to households, thanks partly to a decline in default risk and partly to business strategy. Demand for borrowing may gain further impetus from intensifying interbank competition, which is expected to exert downward pressure on the prevailing exceptionally high real rates of interest on loans.
- The coming few years are likely to witness a convergence in financial assets and liabilities as a percentage of GDP towards ratios seen in advanced market economies. While developed countries report a ratio of financial liabilities to disposable income in the range of 50-100%, Hungary's current rate is at 7%. Thus it is not far-fetched to predict an upsurge in this rate over the near term, especially as mortgages become widespread. Increasing household sector indebtedness is a natural development, enabling households to smooth their consumption in accordance with their respective life cycles.

- Financial assets are likely to develop along the following lines in the future: the monetary aggregate M1 is expected to grow at a faster-than-average pace as the opportunity cost becomes lower due to disinflation. Furthermore, Hungarian individuals are using banking services to a lesser extent than what is common in the developed economies, thus stronger interbank competition for household funds could boost the number of current accounts and debit cards. Contractual saving is also expected to expand considerably due to the rising number of funded pension contributors and the use by increasingly wider sections of the population of other types of insurance services. At the same time, the proportion of time deposits is expected to fall as they are being crowded out by non-bank investments. All in all, against the backdrop of the existing relative differences in yield, non-transactions-based and non-contractual financial assets are expected to undergo further

disintermediation. This implies that the M3/GDP ratio is likely to remain flat rather than increase within the current regulatory framework.

- In the course of our investigations, we found no evidence of the effect of real rates of interest on savings during the post-1995 period, with neither the substitution nor the income or wealth effects playing a significant role. On the other hand, this should not lead one to conclude that the level of real interest rates has no potential influence over the rate of saving. Should the real interest rates be exceptionally high or low for a long period of time, this would be very likely to affect savings. However, since interest rate policy has limited room due to the narrow-band exchange rate system, we have not yet experienced exceptionally high or low levels of real interest rates for a long time or the households' response to them.

- Nevertheless, the effect of the relative differences in yields on the various financial assets is being reflected in the ongoing portfolio reallocation. While the reallocation of assets towards higher yielding non-bank investments has been driven by the international trend of disintermediation, the one-off large-scale occurrences of relative yield changes (e.g. those caused by the Russian crisis) have tended to result in discrete changes in the structure of savings.

Introduction

The knowledge of the effect of decision making mechanisms of households on consumption and savings is crucial for the conduct of monetary policy, as household consumption accounts for 60-65% of the absorption side of GDP. In the narrow sense, monetary policy concerns itself with the following two questions in the analysis of saving decisions:

- What, if any, effect do (real) interest rate changes have on the consumption of households?
- What kind of factors influence the changes in the structure of savings?

This paper also deals with broader issues, as apart from **an analysis of the saving patterns of Hungarian households over the period 1995-2000**, one of its main objectives is to pinpoint **prospective developments in household sector saving over the medium term**. It is based on the analysis of prevailing trends and international experience. Modern economics studies the potential effects of interest rate changes on household consumption and saving patterns in the framework of the life cycle theory (and its variants).[1] Most central banks analyse the mechanism of monetary transmission using a macromodel which allows the simulation of the effect of interest rates changes on households. Unfortunately, for a number of reasons, the Hungarian data do not enable a similar econometric analysis to be made of the interest rate elasticity of consumption. First, there are no sufficiently long time series possessing the typical properties of such series: for example, quarterly data are only available for the period after 1995. Second, due to the transitional state of the Hungarian economy, the assumption of stable parameters seems unrealistic, and the shortness of the series makes the treatment of structural breaks rather cumbersome. Although it is possible to study consumption and saving patterns in the absence of a macromodel, the Hungarian data do not allow the use of other sophisticated econometric methods either, due to the above-noted problems. Short of the analytical study of this issue of vital relevance to monetary transmission, this paper aims to collect and present the available information relating to Hungary and describe relevant international experience.

The first chapter sums up the international experience on household saving patterns in a number of countries discussed at length in the Appendix. The next chapter describes the main features of household financial wealth, i.e. financial assets and liabilities, and saving patterns in Hungary. It is followed by the assessment of the (potential) effect of interest rate change on saving decisions via an analysis of the substitution, income and wealth effects. Chapter four gives a detailed description of the changes in the structure of savings, touching upon the underlying reasons and the outlook for households' financial wealth. The Appendix gives an in-depth analysis of the experiences of some countries which have taken a similar course. These case studies form broadly the basis of our conclusions about the prospective development of financial wealth. In respect of Hungary, we focus on the period 1995 to date, as all important long-term trends are believed to have originated during that period. Furthermore, there are also quarterly data available on this period, which enables us to examine developments within the real economy. When we found it relevant from the

[1] For more details, see Menczel (2000).

point of view of potential future developments, we have also added the experience of the early nineties.

1. Household savings in the 1980s and 1990s international experience

During the eighties and nineties, the household saving rate has fallen significantly in a number of emerging countries. As Hungary has recently seen the start of a similar trend, it seems worthwhile to look into the underlying factors. A review of the international experience is all the more important as the standard econometric methods cannot be applied to the Hungarian data, due primarily to the shortness of the time series. We will focus on the Latin American emerging economies and those European countries[2] which had similar experiences to ours, since we may expect to learn some important lessons from their examples.

The reviewed countries, with the exception of Chile and Spain, have seen a drop in the household saving rate as a proportion of GDP (and disposable income), relative to the first half of the eighties. **This fall-off in household saving rates has been within the 3 to 10 percentage point range** for the past few decades. Only Chile increased its household savings to GDP ratio considerably due broadly to the effect of the pension reform. The other exception is Spain, where following a decline in the second half of the eighties the household saving rate reverted relatively quickly to its previous level during the first half of the nineties.[3]

Montiel (1997) sums up the most plausible explanations for the upsurge in consumption as follows:

1. Redistribution of incomes among various sections of the population with different propensities to consume.
2. Financial liberalization and modernization exerting upward pressure on the propensity to consume through easing liquidity constraints.
3. Expectations of a significant increase in permanent income together with certain structural changes stimulating a pick-up in consumer spending and in the demand for credit.
4. Exchange rate-based stabilization[4] may also stimulate consumption via low ex ante real rates of interest arising from a fall in nominal interest rates and from inflation inertia. This behaviour seems especially rational when the exchange-rate-based stabilization lacks credibility. Then households will tend to view the low level of interest rates as temporary and will bring forward the timing of their consumption.

The most important conclusion to be drawn from the case studies is that the main cause of the decline in the household-sector saving rate is the financial **liberalization**

[2]The countries reviewed are Argentine, Chile, Columbia, Mexico, Peru, Uruguay, Venezuela, Italy, Portugal, Poland and Spain. For the detailed case studies on the most important countries, refer to the Appendix.

[3]The temporary fall in the Spanish saving rate, going hand in hand with an upsurge in household consumption, was due not so much to financial liberalization as to positive income shocks and the temporary overvaluation of the exchange rate.

[4]Exchange-rate-based stabilization means that the monetary authorities seek to dampen inflation expectations by means of pre-announcing a path for the exchange rate. This policy may take the form of a currency board, a fixed exchange rate or a crawling peg.

and **modernization.** It was the case in Hungary and Poland in the nineties and the same in the rest of the analyzed countries in the latter half of the eighties. The key achievements of financial liberalization and modernization include the easing of the liquidity constraints, the liberalization of interest rates and the elimination of control over credit extension, as well as a gradual liberalization of capital flows. Previously, nearly each of the reviewed countries had been characterised by a high proportion of liquidity-constrained households. However, the rapid expansion of lending facilities and the easing of mortgage regulations[5] led to a rapid increase in the level of household indebtedness, to an upsurge in consumer spending and in a number of countries to asset price inflation. Consumer spending and household borrowing soared in such countries as Argentina in 1991-94, Spain in 1986-91, Mexico in 1988-94, Poland after 1996 and Portugal from 1993.

It should be noted that the first couple of years following financial liberalization coincided with a **favourable cyclical position in the economies** reviewed, that is positive income expectations played a significant role in easing the liquidity constraint. In Latin America, financial liberalization took place simultaneously with a final wave of stabilization attempts (Argentina, 1991; Mexico, 1987), and was an essential element of structural reform. Economic recovery was thus achieved as a result of successful stabilization, of which financial liberalization was only one, although a crucial element. Another key factor in Latin American economic growth was the uninterrupted expansion of the US economy experienced since 1992. As far as Portugal and Spain are concerned, structural reform and liberalization launched in the wake of their entry into the European Union, gave great momentum to economic growth, while in respect of Italy, the modernization of the financial system (forced out, among other things, by the joint EU regulations) helped ease the liquidity constraints. Furthermore, the Tequila crisis in Argentina and Mexico and the ERM crisis in Spain halted or hampered the increase in consumer spending and borrowing, these crises, however, were due to different factors. The experience of Poland and Portugal in the 1990s seems to confirm the above claim that financial liberalization combined with buoyant economic activity will lead to an upsurge in consumer spending and in the level of indebtedness, both countries enjoying favourable cyclical positions during the period under review.

The fall in the saving rates cannot be solely attributed to the financial liberalization concomitant to the economic upswing, even though it was a common factor in each country. Other effects have also played an important role in certain countries. For example, the exceptional rise in household consumer spending and borrowing in Spain was brought about largely by the consequences of joining the EU (1986), most notably the liberalization of international trade and capital markets and the fixing of the peseta's exchange rate to the other participating currencies of the European Monetary System. The **overvalued exchange rate and liberalized international trade** very soon led to an upsurge in the demand for and import of consumer goods (particularly consumer durables).

Of the above theories on increased consumer spending, **exchange-rate-based stabilization** seems to have had the most marked effect in the case of Argentina and Mexico, although in Argentina the explanation based on non-credible stabilization

[5] E.g. raising the real asset ratio that can be used as collateral.

describes above all the developments of the periods 1978-81 and 1985-88. Thus the (much stronger) upsurge in consumer spending seen in Argentina between 1991 and 1994 is attributable to the substantial rise in the permanent income expectations of households in the aftermath of the Convertibility Plan[6]. It should be noted that in contrast to the above countries, *Hungary shows no evidence of exchange-rate-based disinflation playing any role in the increase of household-sector indebtedness or the decline in the saving rate.*

In respect of Portugal, several of the above factors have played a major role in the increase of household consumption and investment, and in the decline in savings. EU accession brought about a structural change, which has significantly improved the growth prospects of the economy and household incomes. As in the case of Spain, Portugal's Union membership also brought about liberalization in international trade and financial transactions, which together with the gradual modernization of the system of financial institutions has given great impetus to households' consumer and investment demand. These effects are seen as mutually inseparable.

The effect of the **redistribution of income** between the sections of the population with different propensities to consume has been at work in the case of Italy, which shows evidence of a shift of income towards younger age groups with a lower propensity to save. The fall in the aggregate household saving rate is also attributable to the fact that while all age groups have displayed decreasing propensities to save, the pace is even higher in respect of young people. This is partly due to the improved access to mortgage and consumer credit, which is of particular interest for younger people.

Finally, subjective factors should also be mentioned, as **postponed consumption created strong feelings of impatience** in the reviewed countries. This phenomenon combined with the slackening of liquidity constraints stimulated stronger demand than could be expected in a developed economy in a similar situation.

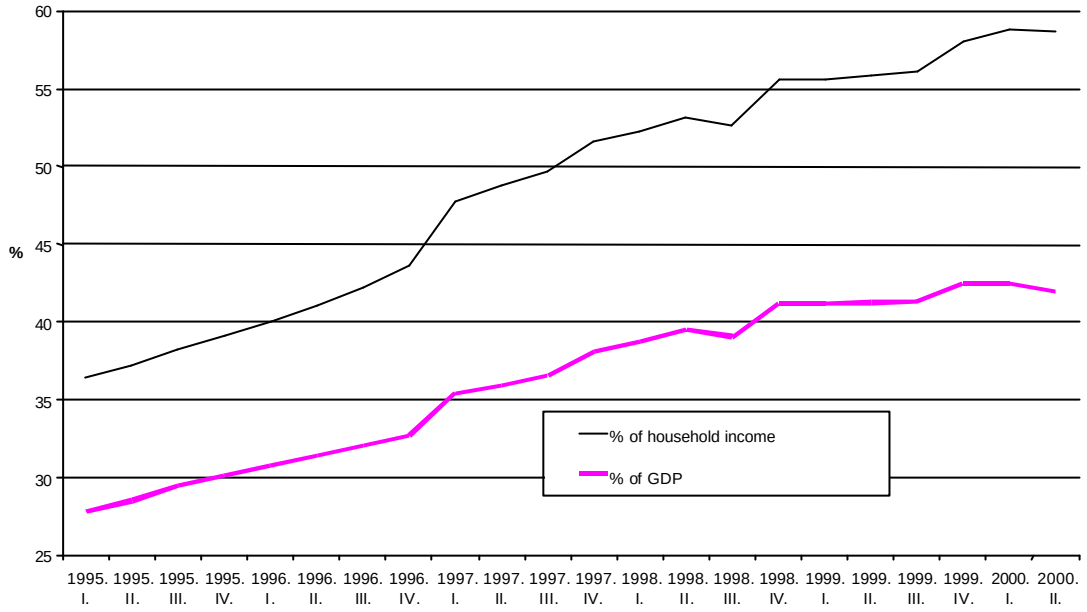
The aggregate domestic saving rate reflected the fall in households' propensity to save only to a moderate extent, if at all, as the fall in the household-sector component was largely offset by the other sectors. **However, in our international examples, the development of the saving positions of the fiscal and business sector has not followed such a definite direction as that of the household sector.** Of Latin American countries, the household saving rates of Argentina, Mexico and Peru have fallen simultaneously with flat-to-rising corporate sector saving, while the fall in private sector saving in Colombia, Uruguay and Venezuela was offset by an opposite trend in the fiscal sector. As regards Chile, the household, corporate and fiscal sectors have all increased their rates of saving, relative to the mid-1980s. As far as the reviewed EU countries (Portugal, Spain and Italy) are concerned, the decrease in the household-sector saving rate in the second half of the 1990s was broadly offset by the fiscal sector thanks in large measure to the Maastricht criterion limiting the budget deficit as a proportion of GDP. During the period 1986-91, characterised by stronger consumer spending in Spain, the household saving rate fell simultaneously with increased saving in both the corporate and fiscal sectors.

[6]The stabilization measures based on the currency board system introduced in 1991.

2. Main features of households' financial wealth and saving patterns in Hungary

We set out with an analysis of the changes in households' net financial wealth as a proportion of GDP and household incomes:

Chart 1
Net financial wealth of households
(As a percentage of households' disposable income and the trend of GDP)



In developed market economies, the net financing capacity of the household sector is usually positive and is a source of financing for the other domestic sectors (such as the corporate and government sectors). This has also been true of Hungary of late, as households' net financial wealth has risen by roughly 20% over the past five years as a proportion of household income *(see Chart 1)*.[7] As financial assets, liabilities and net financial wealth still take a far lower proportion of household income than in the developed economies, they are likely to continue to catch up over the near term.

[7]It is expedient to make a clear distinction between *flow* and *stock* categories. Households' *net financing capacity* (a flow variable) describes the balance of household saving and borrowing over a particular period, which depending on its sign, either adds to or deducts from households' *net financial wealth* (a stock variable). Accordingly, it is possible to say that while net financial wealth is on the rise, net financing capacity is decreasing compared with previous periods.

Table 1

Net household financial wealth as a percentage of disposable income [8]
(Figures for 1993, with the exception of Hungary)

	% of disposable income		
	Financial assets	**Financial liabilities**	**Net financial wealth**
Australia	207	79	128
Canada	312	86	226
France	237	51	186
Germany	218	78	140
Italy	263	31	232
Japan	333	96	237
Spain	169	58	111
Sweden	158	100	58
Great Britain	356	102	254
United States	366	92	274
Hungary*	***65***	***7***	***59***

*Figures for June 2000.

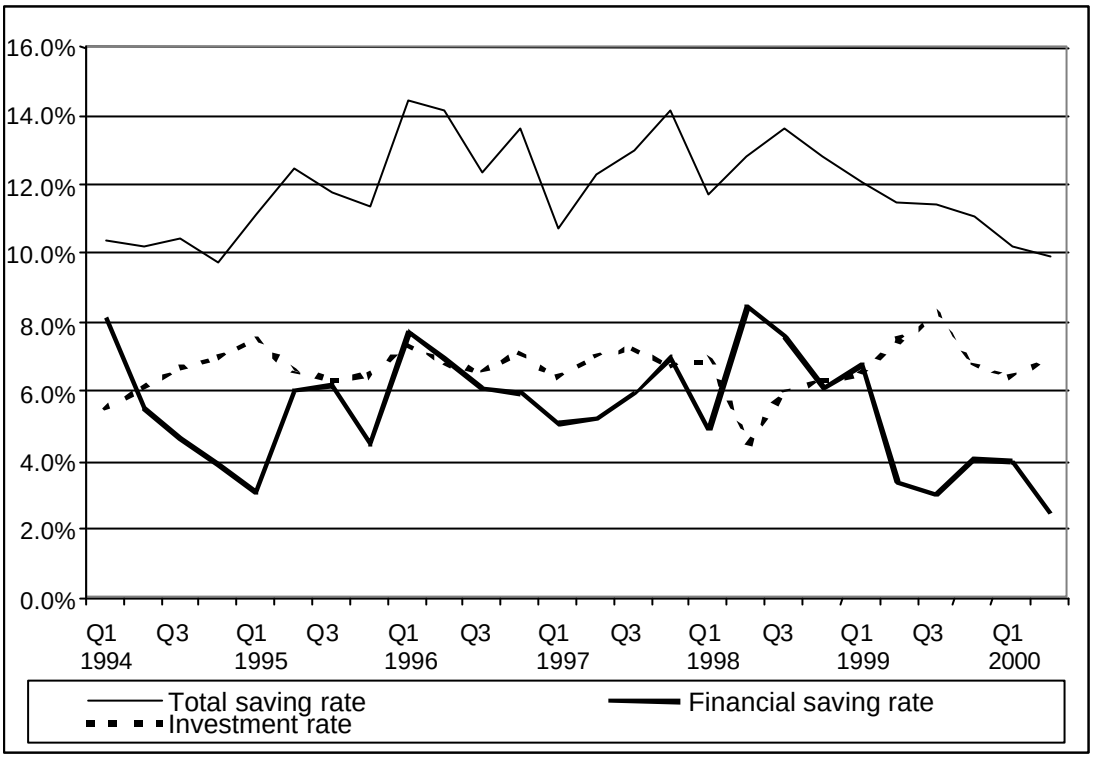
Table 1 illustrates the divergence between the advanced market economies and Hungary in terms of capital market development, reflected in the exceptionally low income-proportional value of Hungarian households' financial assets and liabilities, even though the figures for Hungary refer to seven years later than the reference data. Thus the percentages for the reviewed countries are likely to have increased since 1993, due to the buoyant capital market activity in America and Western Europe. As capital market activity is gathering pace in Hungary, similar upward pressure is expected on the ratio of financial assets and liabilities to household income, with special regard to lending to Hungarian households.

Chart 2 shows that the total saving rate is stable; its relative volatility being caused by fluctuations in financial savings. In 1999, the total saving rate fell at a slower pace than the financial saving rate as household investment picked up during this period.

[8] Source: Financial structure and the monetary policy transmission mechanism, BIS, March 1995. p. 10.

Chart 2

Operational household saving rate (as a percentage of household disposable income)



3. Substitution, income and wealth effect

Economic theory offers no clearcut solution regarding the interest rate sensitivity of household consumption and saving, as interest rate changes may affect households' consumption decisions via three channels:

- *Substitution effect:* when interest rates rise, individuals will substitute the more expensive present consumption with saving, thereby paving the way for a more abundant consumption in the future. Thus, when interest rates rise, the substitution effect at work tends to boost savings and reduce consumption in the short run.
- *Income effect:* on the other hand, the rise in the rates of interest will add to households' income obtained from future interest receipts, which may allow a reduction in saving and an increase in consumption. This is because the rise in interest rates tends to reduce the net present value of intended future consumption, which can thus be financed from a reduced level of savings. This is of course based on the assumption that individuals' net savings are positive, that is the value of their financial assets exceeds that of their financial liabilities. Should households be net borrowers relative to the other sectors of the economy, a rise in interest rates would entail higher interest charges, which could in turn necessitate increased saving and a cutback on consumer spending.
- *Wealth effect:* the change in interest rates may also influence individuals' consumption-saving decisions through the revaluation of the existing financial and non-financial wealth. The rise in interest rates will reduce the market value of financial and real wealth due to the higher discount factor, in addition to reducing the present value of the future income flows constituting human wealth. Just like

the substitution effect, this may lead to a cutback in consumer spending and an increase in saving.

Thus, a rise in interest rates will exert downward pressure on consumption via the *substitution and wealth effects*, whereas the *income effect* is generally expected to boost household consumption. Therefore the three mechanisms described above lead to consumption and saving decisions that vary both in nature and in order of magnitude. Consequently, the *full* impact on the household sector of an interest rate change cannot be estimated in the absence of preliminary information.

3.1 Substitution effect

Determining the substitution effect in numerical terms is not an easy task even in those countries, where longer and more reliable series are available than in Hungary. As the standard econometric methods cannot be applied, the only means left to determine the substitution effect are charts and qualitative information. The substitution effect reflects the intertemporal shifts in consumption (saving) triggered by the interest rate change. However, this effect can only be grasped in economies which have experienced no significant shift in the propensity to consume (save) over the period under review. During the period 1995-2000, **Hungary has embarked on a transition from one stage of equilibrium (characterised by postponed consumer spending and a low level of indebtedness) to another stage of equilibrium (more in harmony with the life-cycle theory and characterised by efforts to smooth consumption and a higher level of debt).** Normally this process of transition dominates the effects of a change in (real) interest rates. This is not to say that savings are in no way affected by a change in real interest rates. Long-term existence of extremely high/low real interest rates (i.e. much above or below those prevalent in developed market economies) would in all likelihood influence the level of savings, but the period under review (or even the 1990s) saw no such conditions. This is largely attributable to the exchange rate regime, which limited the scope of action of Hungarian interest rate policy. Thus there have not been any opportunities to observe how households would respond to exceptionally high or low real rates of interest.

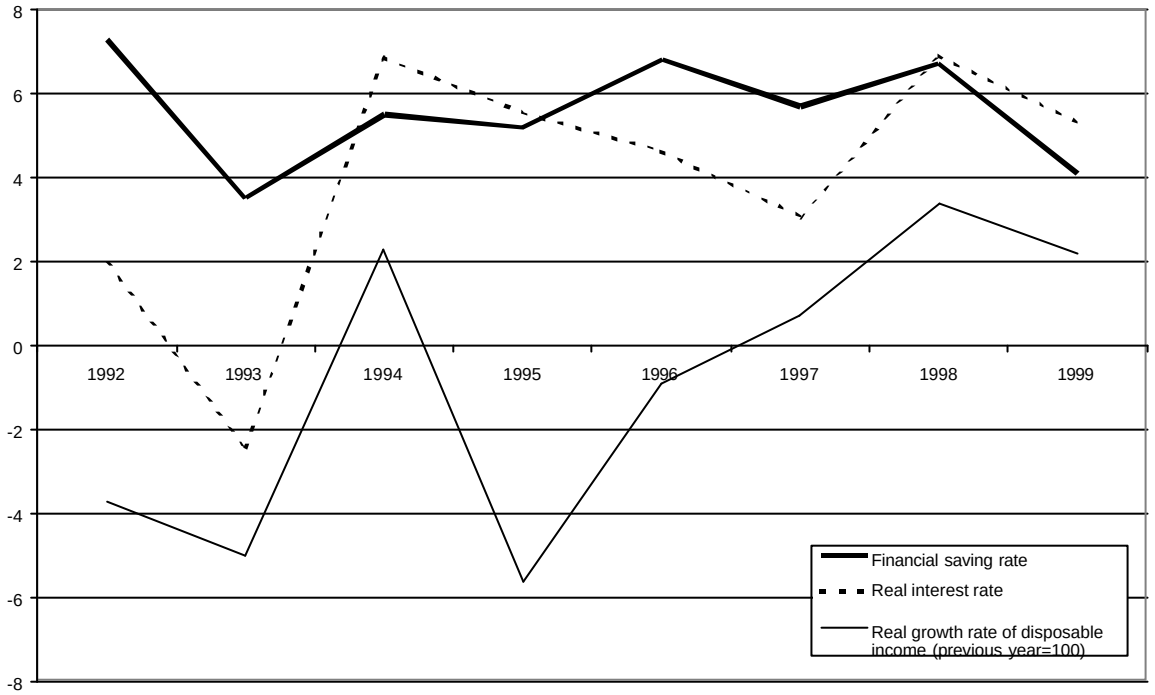
The example of Portugal and Poland described in the country studies of the Appendix also suggests that the **consequences of economic convergence – with particular regard to the expanding household borrowing based on higher income expectations, the establishment of the statutory framework of mortgage lending to wider sections of the population and the fall in inflation combined with lower level of interest rates - had a much greater impact on households' propensity to save and consume than did real interest rates.** This is particularly well illustrated by the Polish example. Although real interest rates were much higher in Poland than in Hungary (not infrequently in the range of 8 to 10%), efforts to halt the decline in the savings ratio remained unsuccessful. [9] The striking resemblance of the growing indebtedness of Polish households to the trend in Hungary is no surprise as the two countries have followed a similar path during the 1990s, except that Poland embarked on steady economic growth a few years before Hungary.

[9] Against the background of 8-10% real interest rates (calculated using market rates) in 1999, the household financial savings ratio fell from 8% in 1998 to 3%. See Appendix for more details.

Chart 3 does not shed full light on the relationship between the financial saving rate and the real interest rates, with no high correlation[10] between the two (0.38). The financial saving rate and the real growth of disposable income seem to be even less strongly correlated (correlation being 0.17). Nevertheless, the shortness of the sample does not enable far-reaching inferences to be drawn from these indicators. The relative parallel movement of real interest rates and real disposable income growth is due to the same factor, namely inflation.

Chart 3

Financial saving rate, the real interest rate* and the real growth rate of disposable income



*****The real interest rate displayed in the chart is constructed using three-month discount treasury bills and the seasonally adjusted trend of the CPI.

In the section below we will put forward our arguments in favour of the view that the level of and change in real interest rates exert only minor influence over the aggregate level of household savings, in other words, interest rate cuts or hikes by the central bank should not be expected to cause a striking shift in consumption. By contrast, due to the varying speed of interest rate transmission at different financial assets, changes in relative yields will cause households to reallocate their portfolios from one type of financial instrument to another. Therefore, the next chapter will deal with the changes that have occurred in the structure of financial wealth, in addition to our attempt at outlining prospective trends.

[10]The lagged values of the correlation are also insignificant.

3.2 Income effect

An assessment of the general effectiveness of monetary policy measures requires the determination of the proportion of assets and liabilities bearing market interest rate within the total portfolio of households. That will enable us to assess the potential ***income effect***[11] of a one-percent central bank interest rate hike, assuming that the rise will fully feed through to the yields on the market interest bearing financial instruments of households. It should be emphasised that we are speaking of a potential income effect, which, in addition to a change in income, also assumes a corresponding change in individuals' consumption and saving decisions.

Table 2

Income effect on the household sector of a one-percent rise in interest rates (2000 Q2)

Financial assets bearing market interest rates*		**Financial liabilities bearing market interest rates****		**Potential income effect**	
% of total assets	% of GDP	% of total liabilities	% of GDP	% of GDP	% of disposable income
61	30	90	4	0,3	0,4

*Bank deposits, government securities, corporate bonds, investment trust units

**Building loans, consumer credit;

The above figures for household-sector liabilities exclude lending to *small businesses*.

Not surprisingly household disposable income would increase as a result of the one-percent rise in the level of interest rates, due primarily to the sector's low level of debt. The calculations in the table assume that there is only one 100-basis-point rate hike by the Central Bank during the course of one year, with market yields remaining constant after the 1% rise, unaffected by any other factors.

Admittedly, the above conditions cannot be fully satisfied in real life. The central bank's interest rate transmission to household assets is fastest in respect of government securities and other closely related investment instruments (such as investment trust units, corporate bonds). This is because changes in demand and supply in the market of government securities will trigger immediate adjustments. By contrast, commercial bank deposit rates take longer to accommodate to the change in central bank interest rates. The difference between average banking deposit rates and the central bank benchmark rate is approximately constant over the long term, but this does not come about as a result of the banking system's rapid response to the specific central bank measures but rather by means of cautious interest rate adjustments, smoothed over time.[12] *Table 3* illustrates the distribution of financial instruments bearing market interest rates within household portfolios. The length of time that elapses until the realization of the income effect is influenced basically by two

[11]The following procedure was used to express the potential income effect in numerical terms: the stock of assets and liabilities bearing market rates was multiplied by the average rates of interest prevailing in June 2000. In the next step, the same procedure was applied with one percent higher values. The difference between the two resulting values gives the potential income effect of a one-percent hike in the interest rate.

[12]See Árvai (1998).

factors: the average time to maturity of financial assets and liabilities and the type of interest rates they command, namely if they have fixed or floating rates. In respect of bank deposits, the income effect emerges over a shorter term in Hungary than in the developed countries, as most bank deposits, accounting for the bulk of savings in Hungary, mature in less than one year's time[13]. Thus re-pricing takes a relatively short time. The high proportion of short-term assets within savings is a common characteristic of countries with high or volatile inflation.

Table 3

Distribution of financial assets bearing market interest rates (June 2000)

	% of total assets	**% of assets bearing market interest rates**
Bank deposits	40	66
Government securities, corporate bonds, investment trust units	21	34

Property income, which includes interest receipts, accounts for only a negligible portion - roughly 6-7% - of individuals' disposable income. This is explained by the composition of households' financial portfolio: assets bearing market interest rates constitute 61% of households' total financial assets and merely one-third of this latter group is composed of instruments with higher than average yields (governement securities, corporate bonds, investment units). *Table 2* also shows that the influence over household consumption and saving rates of the income effect induced by an interest rate change can amount to at most 0.4% of disposable income, provided the above-listed strict conditions are maintained. The expectation for the near term is that financial liabilities will expand at a faster pace than financial assets as a proportion of GDP, which may exert downward pressure on the order of magnitude of the potential income effect.

On the other hand, it is possible that the effect of monetary policy interest-rate measures on household expenditure will fall short of the above values, due primarily to the unequal distribution of incomes. It may be assumed that the bulk of the interest receipts go to the sections of the population which are already better off and presumably have a lower marginal propensity to consume as well as easier access to credit. As far as these groups are concerned, an increase in income brought about by an interest rate rise is more likely to stimulate saving than consumption. By contrast, the interest income received by the lower-income sections of the population accounts for a very small portion of their total income, thus a marginal interest rate hike by the central bank is unlikely to modify their consumption patterns. All in all, even the *potential* income effect on households of a central interest rate hike is not expected to be particularly strong, and due to the structure of household-sector income, the *actual* income effect would probably be even weaker.

3.3 Wealth effect

[13] According to figures for April 2000, the proportion of deposits with less-than-one-year terms to maturity accounted for roughly 89% of total time deposits.

A change in the rates of interest may also affect households' consumption decisions via the *wealth effect.* In the following section, we will attempt to explain the operation of this channel. The present value of future monetary flows linked to financial and real wealth is influenced by a change in the discount factor. A long-term shift in the market valuation of certain components of wealth may trigger changes in consumption patterns, mostly in accordance with monetary policy intentions. This is because a rise in interest rates tends to reduce the market value of financial and real wealth, which *ceteris paribus* will exert downward pressure on consumption.

The extent to which an increase or decrease in the value of real wealth (mainly property) in the wake of an interest rate change will modify consumption is extremely difficult to express in numerical terms. In a situation like this, household investment activity is likely to pick up or slow down, which of course cannot be regarded as consumer spending, but rather a rescheduling of household investment activity prompted by the altered financing conditions. The property market price explosion seen over the last one and a half years, unrelated to monetary policy, could naturally lead to major shifts in household consumption patterns over the medium term. However, the analysis of this phenomenon falls outside the confines of this paper.

By contrast, changes in household financial wealth can be monitored much more closely. However, fixed-interest instruments (government securities, corporate bonds), whose price vary in close conjunction with interest rate changes, do not carry significant weight in households' portfolios yet. A shift in the discount factor will immediately modify the present value of pre-fixed coupon payments on such instruments. This category also includes holdings of investment trust units, as the majority of investment trusts manage portfolios dominated by government securities. Consequently, investment units are liable to vary in price in close conjunction with government securities. The wealth effect of central bank changes in the rate of interest is not substantial, due to the as yet low proportion of fixed-yield financial assets. Thus it is deemed to have a weak effect on consumption. Nevertheless, the weight of such instruments has been rising over the past few years, a trend very likely to continue into years to come.

The analysis of the wealth effect should also involve equity, since changes in share prices will also affect the level of financial wealth. The effect of the central bank's interest rate moves on Hungarian equity prices is deemed to be negligible at the moment (in contrast to the equity markets of developed countries, with particular regard to Anglo-Saxon-type capital markets). This is due largely to the nature of the Hungarian exchange rate regime and the exceptionally high proportion of foreign portfolio investors. Foreign investors on the Hungarian equity market are much more interested in the interest rate moves of the Fed and the ECB and developments on the international capital markets, than in the interest rate changes made by the Hungarian central bank. This implies that equity prices are being influenced largely by the foreign investors' decisions.

Foreign currency holdings may also exert crucial influence over the wealth effect. The share of foreign currency instruments in household portfolios may also be seen as a kind of confidence indicator which reflects households' judgement of the credibility of economic policy, with particular regard to monetary policy. In 1995, when the new exchange rate regime was launched simultaneously with a large-scale fiscal

tightening, households adopted an attitude of 'wait and see' about the outcome of the prevailing economic policy, reflected in the high proportion of foreign currency instruments within financial savings. Over the past few years, consistent monetary and fiscal policy has led to the stabilization of the exchange rate system, which in turn reduced households' expectations of a sudden depreciation of the forint's exchange rate. This has led to a re-channelling of financial savings into forint instruments, promising significantly higher yields than foreign-currency-denominated assets. Thanks to the transparent economic policy pursued over the last couple of years, the wealth effect arising from the revaluation of foreign currency assets has been exerting gradually smaller influence over households' consumption choices. No landmark change is expected in this respect in the near term, supposing the continuation of responsible economic policy making.

Table 4

Percentage changes in financial assets relevant to the wealth effect

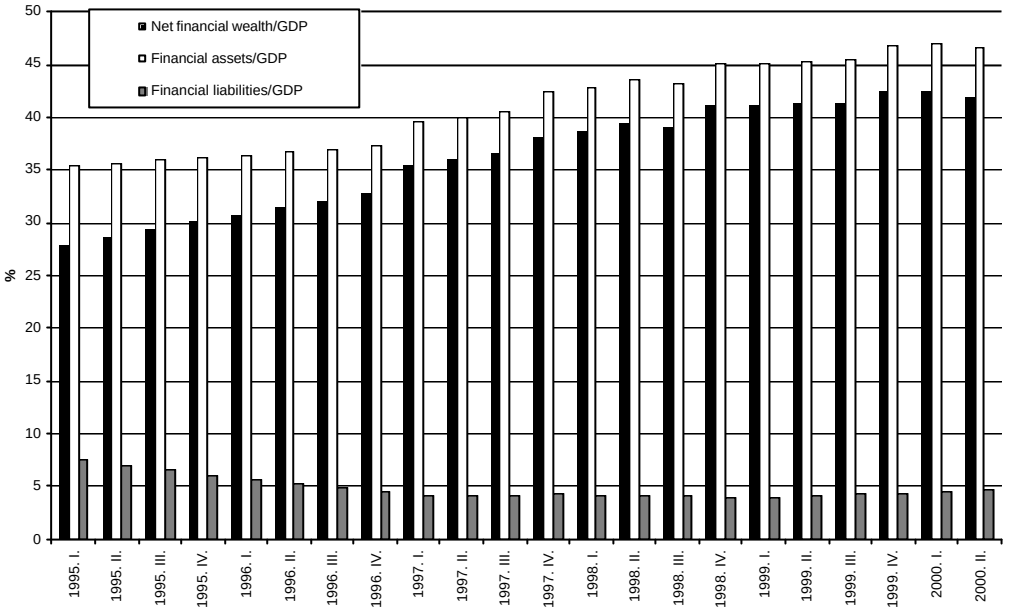
	1995	**1996**	**1997**	**1998**	**1999**
Government securities, investment trust units and corporate bonds as a percentage of ***total financial assets***	9	11	16	18	19
Government securities, investment units, corporate bonds as a percentage of ***household income***	5	6	10	11	13
Direct stock-market equity holdings as a percentage of ***total financial assets***	5	5	7	6	4
Foreign currency deposits as a percentage of ***total financial assets***	20	17	14	13	12

4. Past and prospective changes within the structure of financial wealth

Until quite recently, the composition of households' net financial wealth has been almost fully determined by investments in financial assets. Lending to individuals began to gather pace first in the course of 1998, but it still remains negligible as a percentage of GDP. Accordingly, lending to households is not a key factor in the development of net financial wealth, though this is likely to change radically over the medium term. *Chart 4* is a good illustration of the strong parallelity between the movements of the stock of financial wealth and financial assets, as well as the as yet negligible size of financial liabilities.

Chart 4

Households' net financial wealth and financial assets and liabilities as a percentage of GDP

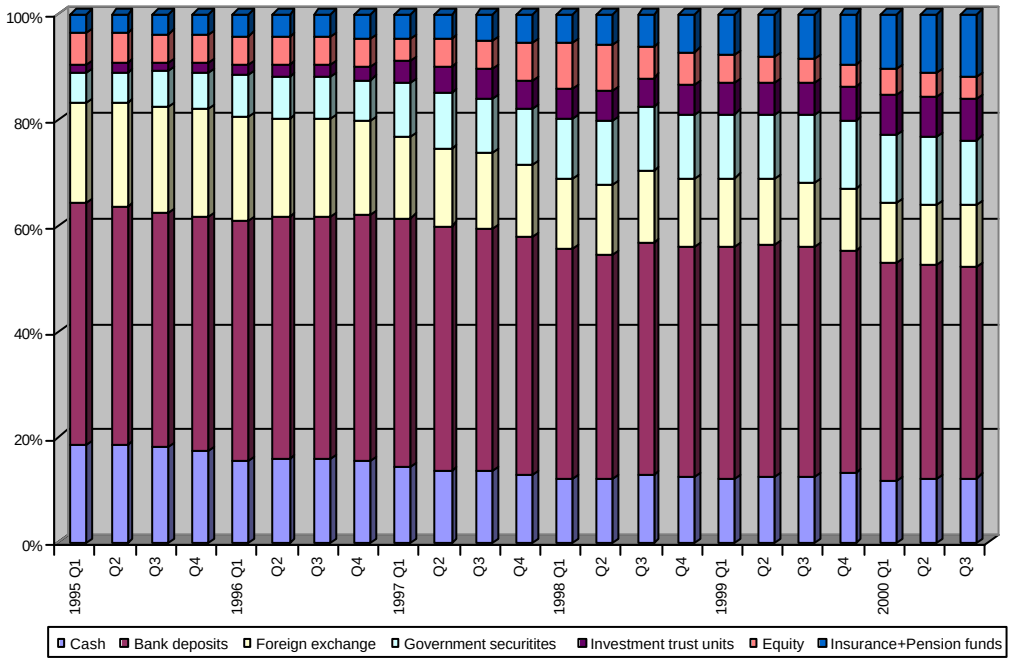


An analysis of the composition of financial assets and liabilities gives some insight into the impact of the Hungarian capital market development and the spread of modern financial investment skills across ever broader sections of the household sector.

4.1 Financial assets

Chart 5

Composition of households' financial assets



The weight of traditional asset forms (cash, bank deposits, foreign exchange) within household portfolios has declined markedly over the past five years, down by 19% in the third quarter of 2000 relative to the first quarter of 1995 (*see Chart 5)*. Over this period, the smallest change has occurred in the proportion of bank deposits[14], which implies that households are turning towards more sophisticated investment forms first of all at the expense of cash and foreign currency holdings. The stabilization of the Hungarian economy and of the forint in the wake of the March 1995 adjustment explains the decline in foreign currency savings, whereas the drop in the proportion of cash holdings is due to the rapid expansion of forint investment opportunities with favourable conditions. The reallocation of household portfolios has led to a sharp rise in the share of government securities and investment trust units beginning from 1995, while the increased popularity of insurance companies and pension funds reflects the pension reform and the rising social importance of self-sufficiency.

An analysis of interest rate policy transmission requires the study of operational transactions, adjusted for exchange rate and interest revaluation, in addition to the changes in the value of the individual assets. Starting out our analysis from the current structure of stocks of financial assets, inferences can be drawn about the transactional movements in response to a specific interest rate change and perhaps about the significance of the substitution effect. Financial assets having an important role in the financial saving transactions of households fall into the following categories in respect of how sensitive they are to changes in interest rates:[15]

- *Government securities, investment trust units, corporate bonds and equities.* These instruments are held by households who manage their portfolios in a sophisticated manner and supposedly have higher-than-average income. With the exception of equities[16], the expected real returns on these assets are directly influenced by the central bank's interest rate policy. In 1999, such assets accounted for 24% of total household financial wealth and 8% of saving transactions. A change in the real interest rate may trigger two kinds of responses from investors in such assets: a portfolio reallocation between equity-type and fixed-interest instruments and a change in net savings. This wealthy section of society is deemed unlikely to be influenced in its consumption/saving decisions by the level of real rates, thus the primary effect of an interest rate change is expected to be a reallocation in their portfolios. Interest rate change may only lead to a fall in the financial saving rate if part of their financial assets is transferred to other types of assets and the sellers of real properties are from sections with a higher propensity to consume.
- *Cash, household forint deposits and foreign currency deposits* accounted for 54% of operational savings transactions in 1999. Cash, forint-denominated sight deposits and foreign currency deposits have supposedly not been built up as a result of well-considered portfolio choices. The bulk of cash and sight deposit holdings of households serves a transactional function, governed broadly by the

[14]Nevertheless, the bank deposits underwent marked changes in composition, with a spectacular rise in the sight and short-term deposits to total deposits ratio at the expense of long-term time deposits (see Chart 6).

[15]We express our thanks to László Varró for his contribution to the following analysis.

[16]Foreign investors are a predominant presence in the Hungarian stock market, but they are essentially influenced by the interest-rate decisions of foreign central banks (Fed, ECB).

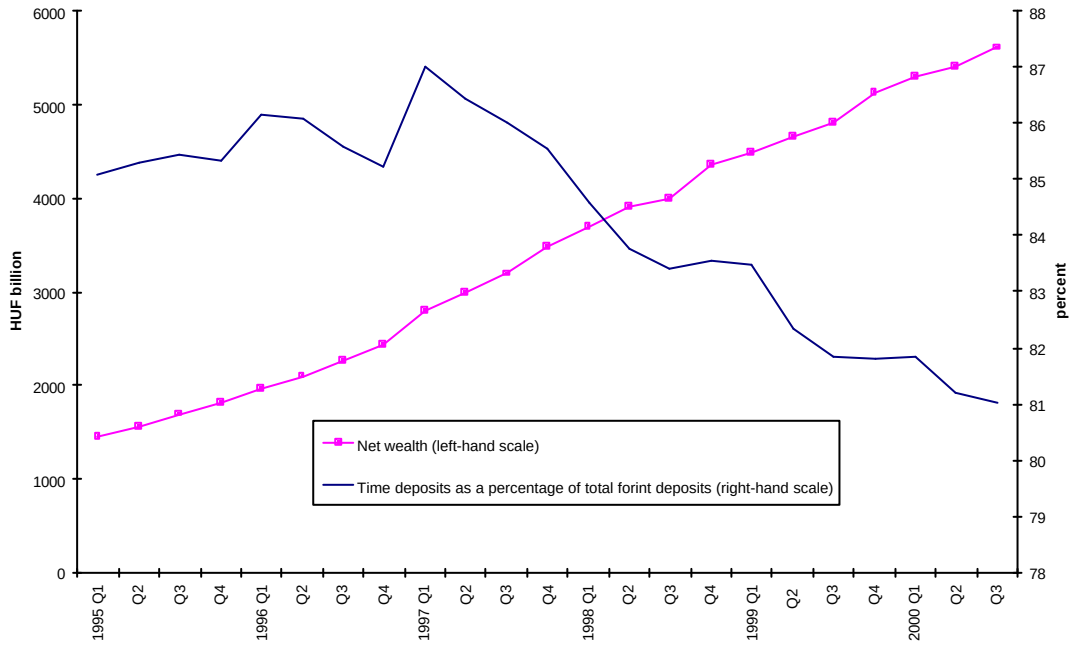
liquidity motif. The increase in income and the decline in inflation are expected to lead to a further expansion in liquid assets.

Households chiefly hold foreign currency deposits as a hedge against exchange rate devaluation. The level of these deposits is much less volatile than market expectations of the exchange rate and fluctuations in the interest rate premium, reflecting inertia in households' expectations. Apparently, the major devaluations during the early 1990s still exert some influence over households' portfolio decisions. Furthermore, uncertainty about inflation must also encourage this type of investment, as foreign currency deposits may also serve as a hedge against inflation and the volatility of yields on forint instruments. Part of the reason for holding foreign currency deposits is the intention of avoiding exchange transaction costs.

Household sector M1 does not include time deposits denominated in forints, which basically serve saving purposes and account for 81% of total household forint deposits. As they are interest rate sensitive to a certain extent, the real rates of interest may have a significant impact on consumption and saving patterns in respect of this category. Another at least as important determinant of movements within this category is the process of disintermediation, reflected in the decrease of time deposits to total deposits ratio seen for the past several years, with rising household financial wealth at the same time.

Chart 6.

Net household wealth and time deposits as a percentage of total forint deposits



In respect of risk and volatility of yields, time deposits fall in the same category as treasury bills and money market funds. Therefore, a drop in the real interest rates may lend a greater significance to the fact that time deposits tend to provide lower yields due to the reserve requirement and other costs incurred by the banking sector. This may be a potential cause of households' portfolio reallocation towards treasury bills and low-risk investment trusts.

With the exception of time deposits, the central bank interest rate transmission is supposed to be weak within this segment, thus the increase in such assets is due to other factors. Time deposits, which are gradually declining in importance within financial assets, may be more strongly affected by the central bank's interest rate policy. Nevertheless, interest rate measures are expected to lead to a reallocation of portfolio rather than a change in the financial saving rate.

- *Life insurance and pension funds.* These forms of saving are governed by long-term fixed contracts. The overwhelming majority of both pension funds and insurance contracts have longer-than-ten-year terms to maturity, and there is a strong incentive for customers not to cancel them before the date of expiry. As yields are calculated on a quarterly or annual basis, the unrealised real yields create no wealth effect or portfolio move in the absence of relevant information. Thus it is extremely unlikely that the interest rate policy of the central bank and the real interest rates could influence consumption patterns through these assets. In 1999, these elements accounted for 38% of total saving transactions. There are numerous indications that they will continue to increase in weight over the coming years. The year 1999 witnessed an upsurge in pension fund membership, and it has been only for a couple of months that these new members have been putting their savings in the funds. In addition, the membership of privately managed funds is expected to increase at a steady pace as school-leavers enter employment. The stock of both pension fund and insurance premium reserve savings are currently in the phase of accumulation. This implies that the real yields on the existing stock of savings, which in an economic theory sense means interest income saved, is going to increase at a steady pace for several years to come.

Expected future trends could be summed up as follows: the monetary aggregate M1 is likely to grow at an above-average pace because of the decrease in the opportunity cost due to disinflation. Also, cash holdings may increase as a result of a rise in the income of those sections of society which cannot afford banking services. In addition, Hungarian households have fewer banking contacts than households in developed countries, which projects strong interbank competition for household funds together with a rise in the number of current accounts and debit cards. Contractual saving constitutes the other category which is likely to expand substantially thanks to a rise in the number of private pension fund contributors and the fact that other types of insurance services are also becoming more and more widespread. By contrast, time deposit holdings are expected to contract, being crowded out by non-bank investments. All in all, against the background of the relative yield differences, disintermediation is likely to continue in respect of non-transactions- and non-contracts-based financial assets. As a result, the M3/GDP indicator is expected to remain flat rather than increase in the current regulatory framework. Hungary is not likely to ever attain the banking system/GDP ratio typical of developed countries. The reason for this is that the start of economic transition and international financial modernization and liberalization in Hungary occurred during a development phase in which disintermediation had taken off before the stock of traditional commercial bank deposits had been built up. Consequently, it seems more appropriate to study the development of total financial assets (including non-bank investments) than the

M3/GDP ratio, which figure can no longer be viewed in the same way as prior to financial liberalization.

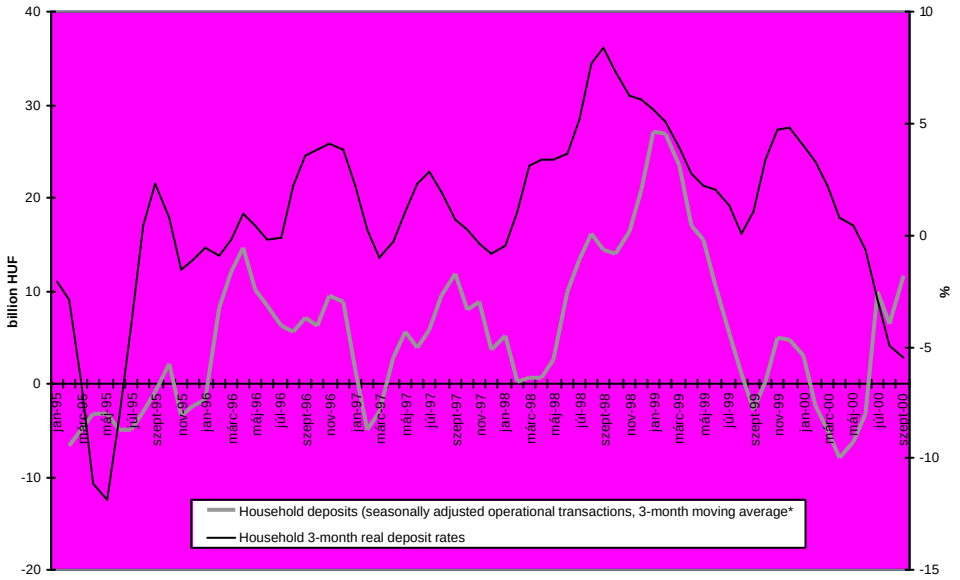
4.1.1 Changes in the composition of financial asset portfolios during the period 1995-2000

The above reasoning allows us to put forward the proposition that a central bank change in the interest rates is more likely to stimulate a reallocation of financial assets than to trigger a substitution effect. Therefore in the following section we will attempt to account for the movements within the composition of household financial assets between 1995 and 2000.

Changes in the relative yields on the various portfolio components are a major determinant of changes in portfolio composition. Traditionally this is analysed in the framework of portfolio models, where changes affecting a particular component are explained in terms of the yields on that particular component and on the other components of the portfolio. However, Hungarian data allow no exact econometric analysis. Still, it is clear from the charts that there is a connection between the individual portfolio elements and the real yields. The following inferences about the factors underlying portfolio reallocation will be based on the evidence of these charts.

Chart 7

Deposit holdings of households and real interest rates on deposits



*Adjusted for the effect of the year 2000.

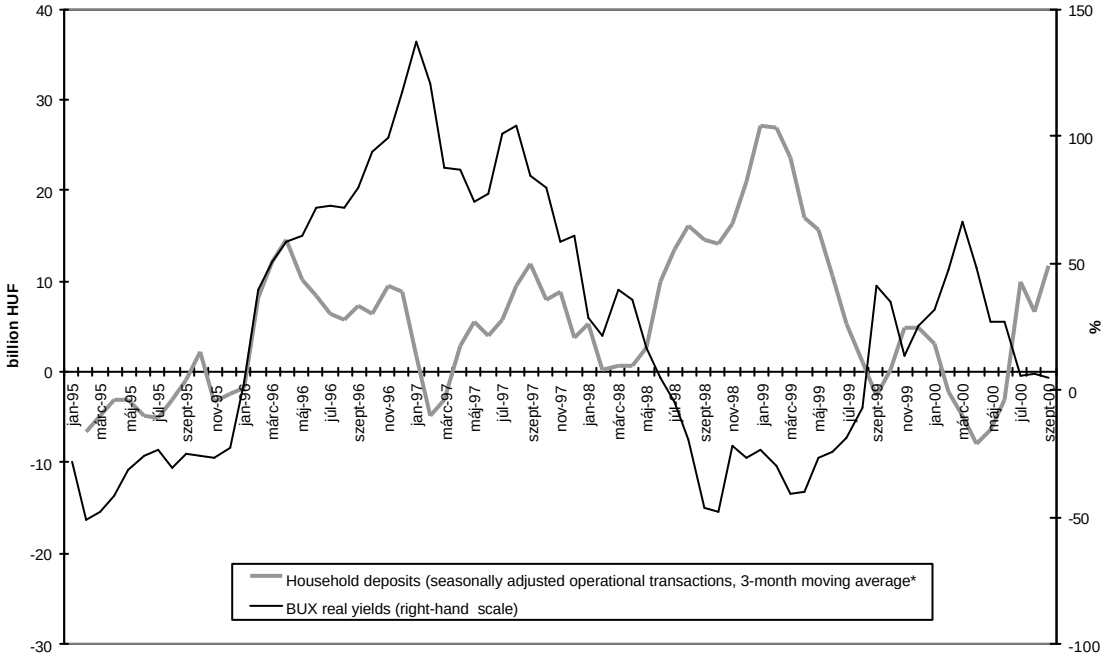
The period 1995-2000 can be divided into two parts: until the summer of 1998 deposit transactions within the banking system were at a significantly lower level than during the subsequent period (*see Chart 7*). The same is true of real interest rates with some lead (the lag cannot be determined accurately in the absence of an econometric analysis). This may even imply the existence of significant correlation between real interest rates and bank deposit transactions. We believe in fact that contrary to appearances there is no clear connection, since the interpretation of portfolio reallocation requires the study of other types of returns as well. *Chart 8* illustrates the rising popularity of bank deposits in the aftermath of the decline in the BUX (the

index of the Budapest stock exchange). When stock-market prices plunged in the wake of the Russian crisis, households flew to saving alternatives involving a lesser element of risk than equities. The Russian crisis did not cause a similar rise in demand for government securities even though they are also regarded as basically risk-free. The most plausible explanation for investors' preference of bank deposits is that the returns on bank deposits appear to be much less volatile than the yields on government securities. For example, regarding risk-free assets, the real yields on MAX (Index of Hungarian Government Securities) are much more volatile than those on treasury bills and bank deposits (*see Chart 10*).

The data on the period 1995-2000 point to no clear relationship between real interest rates, bank deposits and government securities. The high level of real interest rates compared with the period between 1995 and the second half of 1998 are associated with the Russian crisis, just as the plunge in the BUX index. The reason for this is that the jump in the interest rate premium on forint investments seen in the aftermath of the Russian crisis led to a rise in real interest rates. Thus although the timing of the portfolio reallocation towards bank deposits and the existence of high real interest rates seemed to coincide, the investments in bank deposits were not attracted by the high real rates, but were rather the result of the Russian crisis combined with the nature of the exchange rate regime. A further proof for the non-existence of a clear link between bank deposits and the level of real interest rates is that government securities attracted no similar reallocation despite the fact that market yields exceeded deposit rates in real terms. Establishing a clear link is also hindered by the noise in the series due to the monthly frequency and the shortness of the sample.

Chart 8

Household sector deposits and the real yields on the BUX



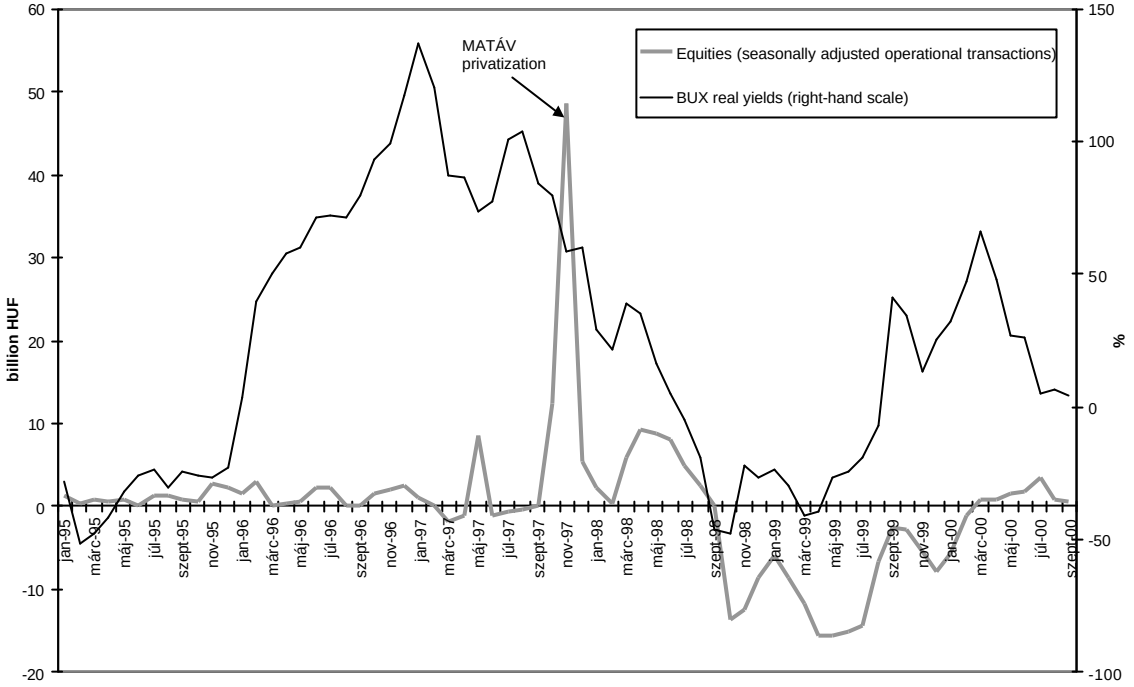
*Adjusted for the year 2000 effect.

The fact that the underlying factor in the portfolio reallocation seen in the aftermath of the Russian crisis was the desire to flee from high-risk securities is also illustrated by

Chart 9. The chart clearly shows the fall in demand for equities simultaneously with the plunge in stock market prices.

Chart 9

Equity holdings in households' portfolios and the real yield on the BUX



All that can be concluded with reasonable certainty from the above is that even though relative yield changes have undoubtedly affected operational saving transactions over the period from 1995 to date, only large-scale yield changes, such as the stock market plunge in Autumn 1998 have led to a radical rearrangement of saving transactions.

The substantial portfolio reallocation in the wake of the Russian crisis somewhat conceals the process of disintermediation in progress for the past several years, even though it has a greater effect on the portfolio composition over the long run than one-off shocks. By the third quarter of 1999, the share of non-bank savings within net household financial savings had returned to the level seen before the Russian crisis.

Chart 10

Commercial bank, government security market and stock market real yields

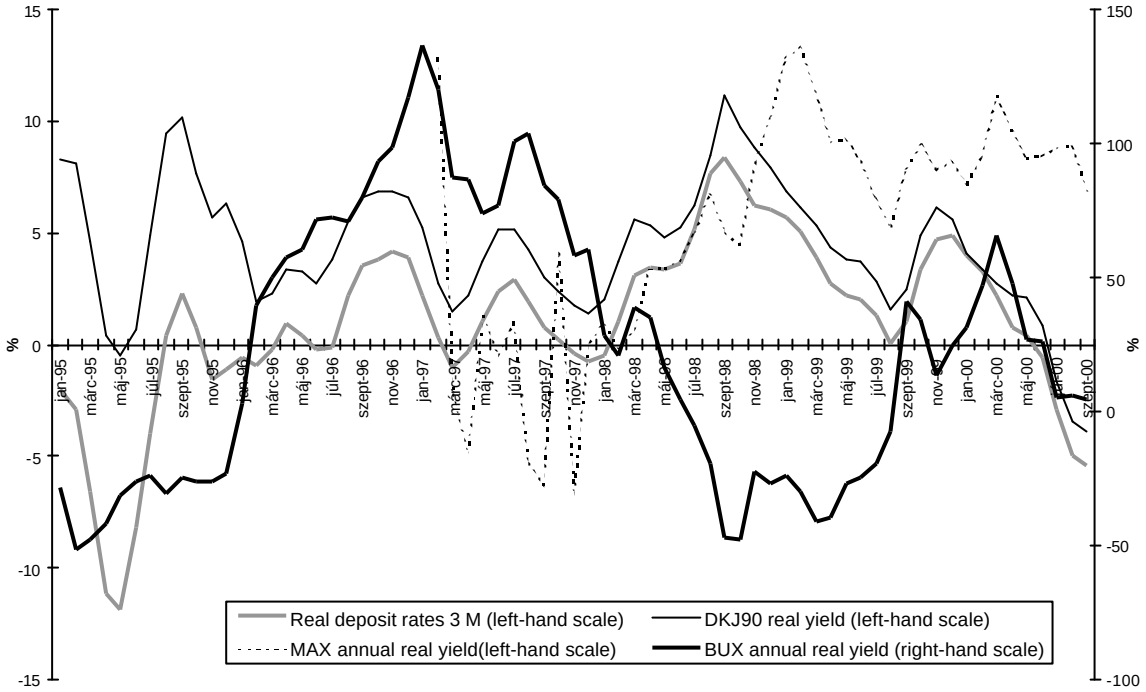


Chart 10 shows movements in real yields over the period under review. Although having narrowed significantly over the past few years, the yield gap between bank deposits and government securities, which carry broadly the same element of risk, clearly exists with market yields being higher. The gradual expansion of non-bank savings at the expense of forint and foreign currency deposits can be traced in *Chart 5*, and this trend is also indicated by the decline in the time deposits to total forint deposits ratio displayed in *Chart 6*.

Interest rates on savings deposited with the banking system

In addition to the macroeconomic background, the effectiveness of interest rate transmission is greatly influenced by the market structure of commercial banks and their business strategy, which have undergone major changes in the period under review. The following section will briefly describe the changes that have occurred in the Hungarian banking system in respect of the household market. For many years, the structure of the Hungarian banking system has carried on the legacy of the former regime, banking services to households were provided by one single bank in addition to savings and loan associations. When the two-tier banking system was launched, the National Savings Bank (OTP) had an enormous edge, which has been preserved to the present day, although its influence has been gradually decreasing. In the market of corporate clients competition has been intense ever since the mid-nineties[17] primarily among foreign-owned banks with strong parent companies. By contrast, up to 1998 the market of banking services to households had been characterised by a high degree of concentration controlled by OTP and Postabank, as the other commercial banks

[17] By the end of 1999, the spread between market yields and corporate lending rates had stabilized at around 1.5 percentage points.

had not yet paid much attention to the household sector. However, since 1998 many other banks have been gradually extending their operations from the corporate market to taking deposits from and lending to households. The reasons for this are varied, with the most important being that strong competition has drastically dampened the profitability of corporate lending, forcing the banks to look to new, more profitable areas. Lending to the household sector, which carries a great growth potential is one of the key new areas. Many banks give equally high priority to deposit taking from households, which is giving additional momentum to competition in the retail market. Pick-up in lending is stimulating the banks to increase their domestic liabilities. This appears to be a realistic objective as the household sector deposit holdings to GDP ratio in Hungary is far below the ratio prevailing in developed countries (undoubtedly, this is also due to the fact that the ratio of total financial assets to GDP is far below from that of developed countries).

Changes in concentration

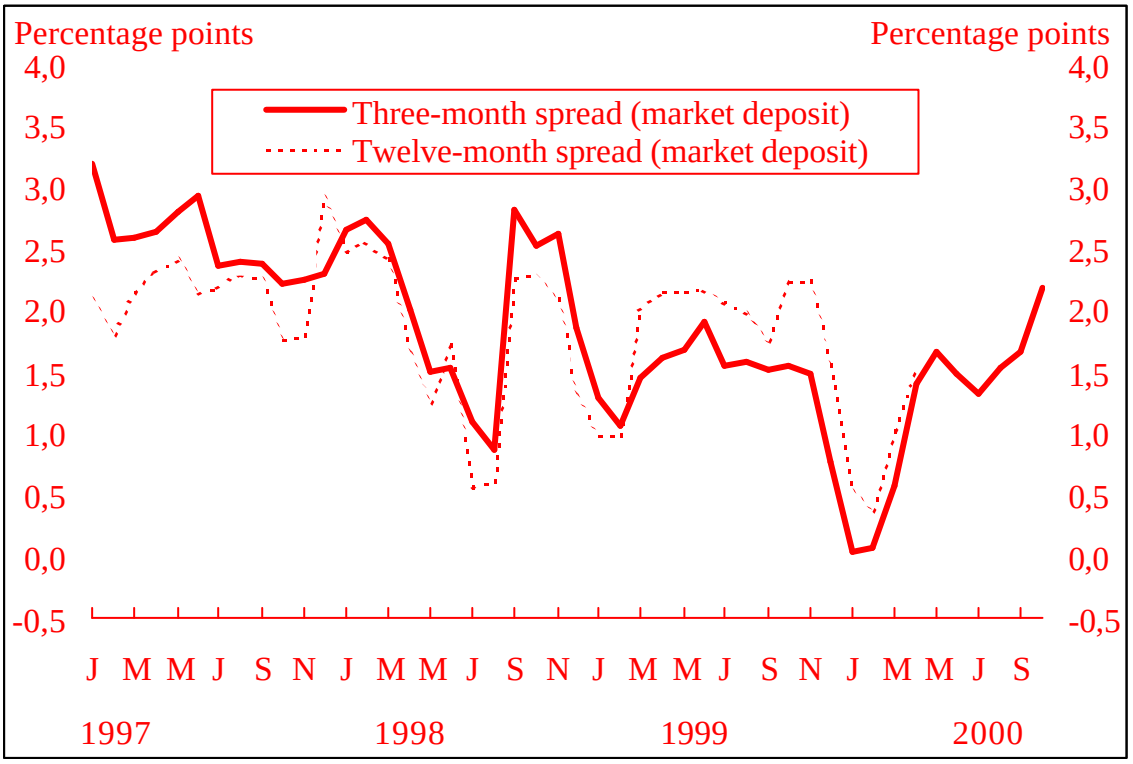
	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 I.
Lakossági betétek piaca											
A legnagyobb bank	80,5	78,3	71,1	69,0	66,2	63,4	60,5	56,9	52,9	44,4	43,4
Elso 3 legnagyobb bank	82,2	81,8	78,6	78,1	75,5	72,1	69,6	70,5	66,0	61,9	59,9
Elso 5 legnagyobb bank	82,6	83,4	81,2	80,8	78,8	76,3	74,5	76,6	72,4	69,4	67,8

Source: Banking Department of National Bank of Hungary

There is increasing competition for the household market. Ever since the stabilization of the crawling devaluation exchange rate regime, the spread between market yields and household deposit rates have been narrowing, down from 3.5 percentage points in 1996 to 1.5 percentage points in 1999 (*see Chart 11*).

Chart 11

Spread between market rates and commercial bank deposit rates



Undoubtedly the narrowing of the spread between market and commercial bank interest rates was also stimulated by the disintermediation in progress as the services provided by non-bank fixed-income saving facilities are in essence similar to those of bank deposits, but offer perceptibly higher yields. In the long run, bank deposits cannot maintain competitiveness in the face of non-bank savings facilities with a similar element of risk unless the costs incurred by banking sector liabilities, above all the reserve requirement ratio are substantially reduced. Of the factors potentially influencing the alternative saving facilities which involve a similar element of risk, changes in the deposit insurance system may be of additional relevance as a substantial rise in the upper limit of insured amounts will increase the allure of bank deposits.

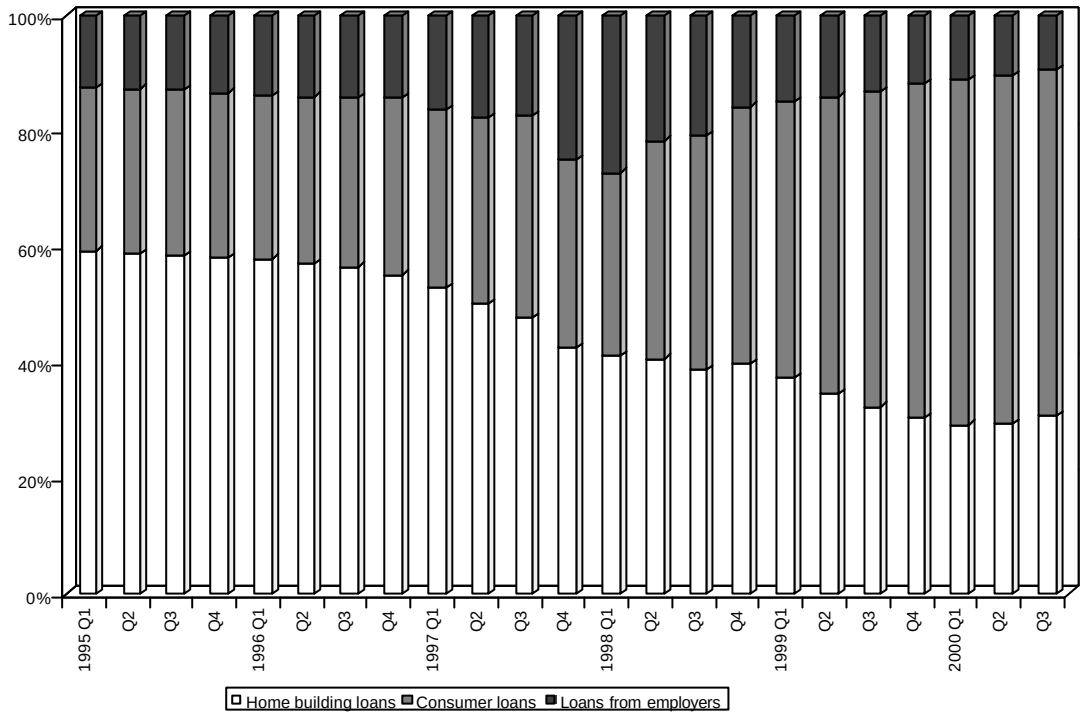
In the long run, the volume of savings and the portfolio composition of financial assets are influenced by a number of factors we can only speculate upon at the moment. Such key factors include the macroeconomic background,demographic changes, income distribution, the availability of investment instruments and the readiness to take risks. As the analysis of these factors is beyond the boundaries and objectives of this paper, only a few of the most plausible effects will be touched upon below. The most crucial impact of real income increase concomitant with economic growth appears to be the rise in household sector indebtedness and the decline in financial savings, as a result of the ongoing lifting of liquidity constraints. Although the effect of demographic changes is not clear, it can be safely said that the aging of the population indicates a potential tendency in portfolio choice towards more conservative assets, such as insurance and pension fund saving facilities. Increased income concentration may affect portfolio composition to the extent that the portfolio of higher-income households is likely to contain a higher proportion of riskier instruments, which also holds good for aggregate savings. The increase in the variety of financial instruments will pave the way for more sophisticated investment choices and a more efficient diversification of risk, which will enhance the progress of disintermediation.

4.2 Financial liabilities

Household sector financial liabilities had steadily contracted between the time of the change of political regime and 1999, featuring a decline in old home building loans and the expansion of consumer borrowing after 1998 (*see Charts 12 and 14*). The near term expectation is that consumer borrowing will continue to expand. In addition, an increase in the level of borrowing for home building projects is also likely, following a long period of stagnation.

Chart 12

Composition of household sector financial liabilities



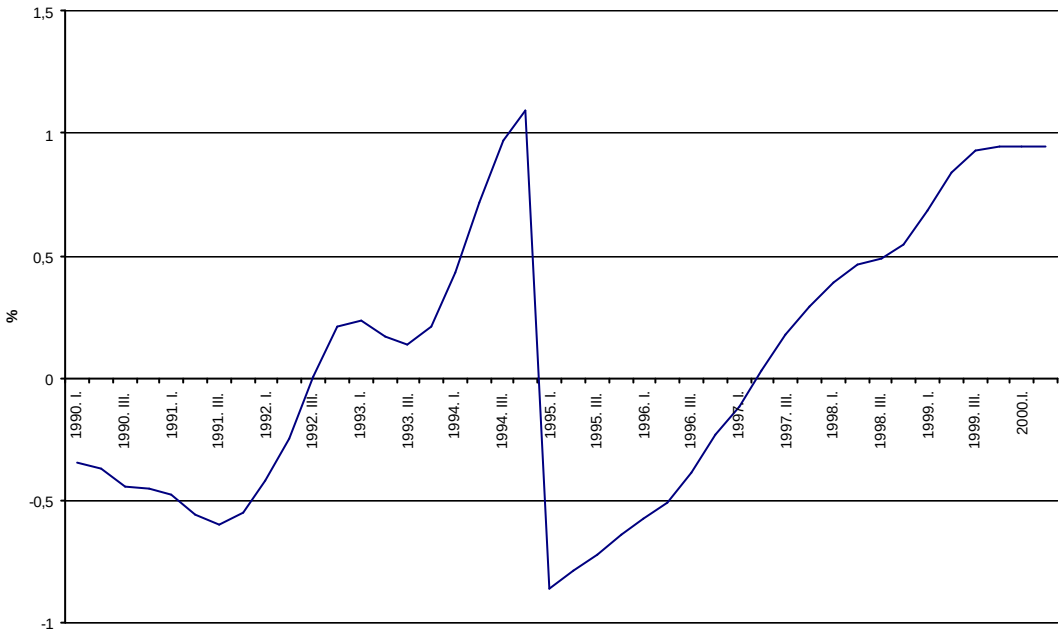
The upward trend in household borrowing, which started in 1998, is likely to continue in the future, causing a persistent fall-off in the household saving rate. The stock of lending to households as a proportion of both income and GDP is an order of magnitude smaller than in advanced market economies. It is highly doubtful that the structural adjustment, which is in effect taking place, could be slowed by any kind of central bank interest rate policy. The recent increase in household borrowing has taken place simultaneously with exceptionally high real interest rates, thus the underlying development here must be the lifting of a liquidity constraint, with the availability of credit playing a more important role than the cost associated with the real interest rates. Loans provided for households will remain unaffordably expensive for interest rate sensitive borrowers even if lending rates keep pace with the decline in market interest rates. In view of the high proportion of grey market incomes, which cannot be taken into consideration by banks when evaluating credit requests, and the absence of the household sector's borrowing history, the equilibrium ratio of household borrowing to income must be admittedly lower than in Western Europe. At the same time, it seems almost certain that this equilibrium ratio is much above the current level, in other words, adjustment is all but independent of the real rates of interest and the central bank's interest rate moves.

If only the post-1995 period is examined, the increasing structural indebtedness cannot be separated from the strong borrowing confidence stimulated by the favourable business cycle. On the other hand, Chart 13 indicates that structural catch-up took off as early as the first half of the 1990s, reflected in the upsurge in consumer borrowing, although from a very low starting point. This development was, however, disguised in the aggregate household borrowing by the repayment of building loans. Later even consumer borrowing stopped short as a result of the economic adjustment and soaring interest rates. As the financial and legal infrastructure is much more

advanced today than in the early part of the 1990s, households have a wider variety of loan facilities to choose from, and lending, interest rate and risk management is also at a higher standard. Therefore it is difficult to judge how a potential economic recession would break the rising trend of household indebtedness. It seems nonetheless likely that household borrowing is less sensitive to the business cycle than it was during the noted period.

Chart 13

Consumer borrowing as a percentage of household disposable income*

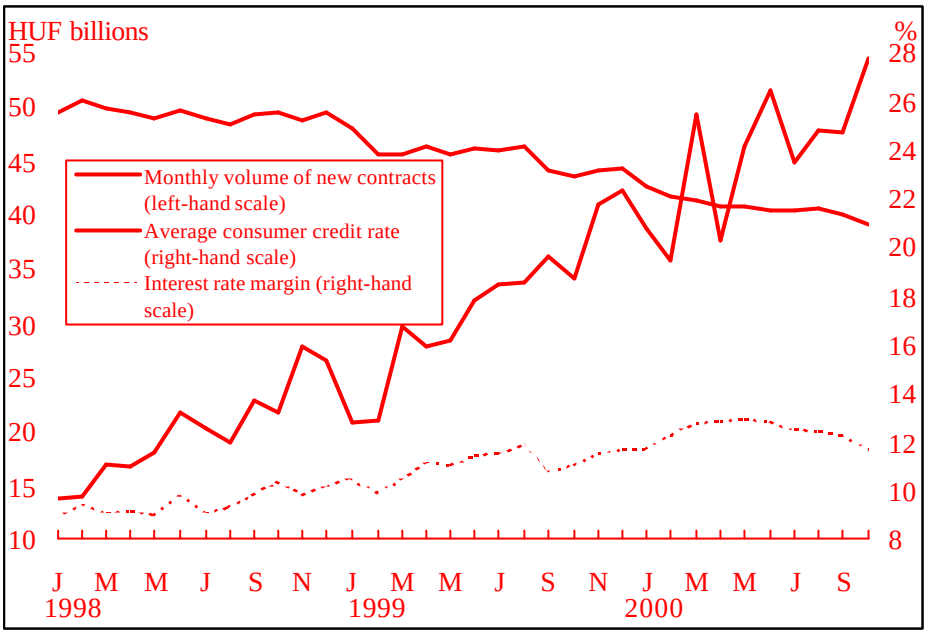


*The chart displays the values derived from the trends of seasonally adjusted series

The robust growth of household borrowing is attributable to factors associated with both demand and supply. The key factor on the demand side is the higher income expectations accompanying the positive economic outlook for the Hungarian economy, in addition to the fact that liquidity constrained households are less sensitive to changes in interest rates. The driving force behind increased borrowing on the supply side is the banks' greater interest in the household market. Strong competition on the corporate market caused corporate lending to decrease significantly in profitability compared with the mid-1990s, prompting more and more banks to extend their operations to household lending. Despite growing supply, the margin (between lending and deposit rates) is still on the increase, reflecting the enormous demand for household loans, the low interest rate sensitivity of borrowers and the weak competition among banks providing credit to households. As competition intensifies, the prevailing very high interest rates are expected to decline, further stimulating household borrowing.

Chart 14

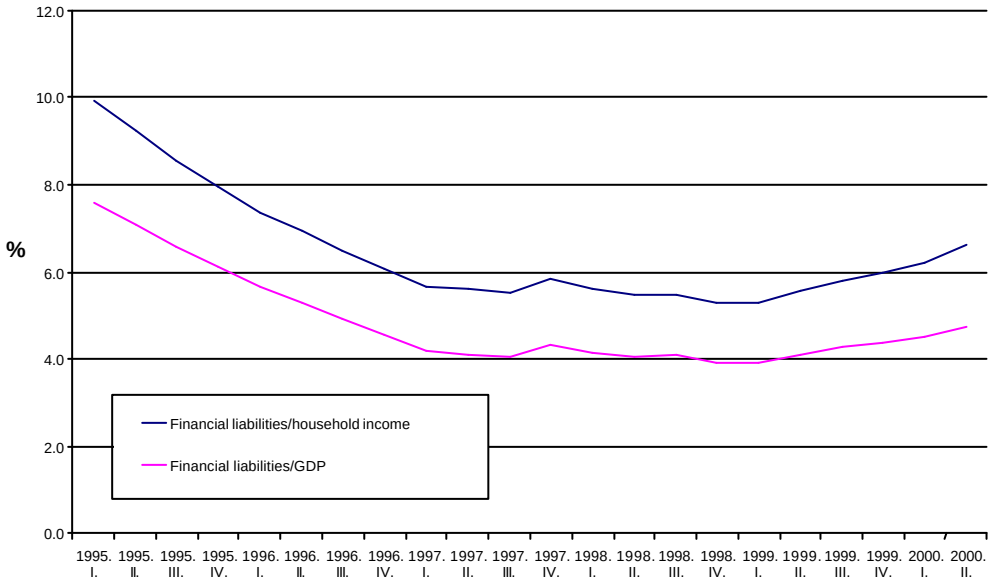
Consumer lending and related interest rates



A substantial increase in the stock of mortgage lending will entail a landmark change from the point of view of monetary transmission, as that involves long-term lending of large amounts, likely to significantly raise the level of household indebtedness. At a higher level of indebtedness, changes in interest rates may cause significant changes in households' monetary transactions.[18] Nevertheless, this is only expected to come to pass in Hungary over the medium term, as even centrally subsidised mortgage lending is only available for a very narrow section of society.

Chart 15

Indebtedness of Hungarian households



[18]Great Britain is a classical example.

5. Outlook

Over the medium to long term[19], a significant rise in the level of household sector indebtedness can make for more efficient interest rate transmission. However, over the near term structural factors are expected to remain predominant, in other words Hungarian households' consumption/saving patterns are appearing to be catching up as a result of postponed consumption. This postponed consumption is attributable above all to a decline is real income associated with economic transition and the strong liquidity constraints prevailing in the early part of the nineties. Of structural changes, the widespread availability of mortgage lending is expected to make the greatest impact, as this kind of long-term lending of large amounts can perceptibly push up the level of household debt. As shown by Portugal's example presented in the Appendix, mortgage lending may affect the level of household indebtedness within the relatively short term of five to eight years. These developments are very likely to bring about a fall-off in the household (financial) saving rate. The countries reviewed in the Appendix have experienced similar transformation to that taking place in Hungary, and the greatest influence over their levels of household sector debt have also been rising household income, financial liberalization and modernization. Even though monetary policy only has minor influence over such developments, some sector of the economy must adjust to the altered household saving position in order that external equilibrium is maintained. International experience on the whole indicates that in some countries the decline in household sector savings has been offset by the corporate sector, while in other countries (with particular regard to the EU members) the fiscal sector made the necessary adjustments. Acceding to the EMU, which is to follow EU membership, will require Hungary as well to considerably reduce the budget deficit from its current level. Over the coming few years, the corporate sector is not likely to witness that kind of deterioration in the net saving position as that experienced by the household sector. This expectation is based on the fact that as financial liberalization within the corporate sector concluded several years ago, large and medium-size companies will probably not see a radical change in respect of credit availability, and only small enterprises are facing liquidity constraints. Despite the fact that the corporate debt to GDP ratio of 33% seems low in comparison with the 50 to 130% rate [20] for developed countries, there is little likelihood of major deterioration in the Hungarian corporate sector position as no upsurge in borrowing is expected over the coming years. This is because of the high profitability of the corporate sector, which enables companies to continue to rely on their internal resources. Another argument against a substantial rise in external financing is that the interest burden/income ratio of the Hungarian corporate sector appears to be rather high, which is putting a brake on the increase in corporate sector debt, despite the low leverage.

[19]Medium to long term means a time span likely to extend over the period following Hungary's accession to the European Union. However, EU (and even more so, EMU) membership will radically alter the scope of action of Hungarian monetary policy.
[20]BIS (1995) p.7.

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Annual Reports by the Polish and Portuguese central banks.

APPENDIX

1. International comparison

Spain

After a steady decline during the 1970s, the household saving rate in Spain continued to fall rapidly from 1986 onward, simultaneously with a major boom in consumer spending, due primarily to Spain's entry to the EU. EU membership added the finishing touch to the ongoing liberalization of international trade and the financial system, aligning the exchange rate of the peseta with the other European currencies within the EMS. A factor at work in the consumption boom was the appreciation of the currency putting downward pressure on import prices, even though real appreciation only got in full swing one or two years after the upsurge in consumer spending started. The ERM crisis, which had a strong effect on the Spanish currency as well, seemed to prove those opinions right, which viewed the overvalued state of the exchange rate during the period 1998-91 as only temporary and tried to take advantage of the (temporary) cheapness of imports. The consumption boom went hand in hand with a jump in household borrowing, thanks partly to the financial liberalization stimulated by EU membership. Another major cause was the increase in the income expectations of Spanish households. These factors combined with postponed consumption of a substantial size may underlie the upsurge in consumption, which was terminated by the ERM crisis of 1992-93. During the early 1990s, the household saving rate resumed its upward trend and by 1995 had exceeded the rate prevalent in the early 1980s.

Between the early 1980s and mid-1990s, net household sector financial wealth amounted to 55-70% of GDP.[21] Changes in net savings were primarily determined by movements in financial asset holdings (between 110 and 130% of GDP), as liabilities proved to be relatively stable (at 55-60%) as a proportion of GDP during this period. This bears witness to prudent behaviour on the part of both household sector lenders and borrowers. On the demand side, Spanish households seemed to be unwilling to run into debts in excess of GDP growth, which reflects their income expectations, and at the same time, the banking system appeared to be cautious in its lending operations on the household market. Over 50% of total household financial assets are made up of liquid instruments, although ever since the early nineties investment trusts and life insurance have been playing an increasing role. As far as liabilities are concerned, the credit extended by the banking system during the period under review accounted for over half of total liabilities, with the share of bank loans even rising at the expense of lending by employers.

Due to the net saving position of the household sector, the interest income arising from holdings of financial assets (at 7% of GDP) significantly exceeded the interest payments charged on household borrowing (at 3% of GDP). When households are net lenders, the income effect resulting from changes in the interest rates is expected to run contrary to the objective of monetary policy. Accordingly, the income effect following a rise in the interest rates is expected to stimulate consumer spending, even

[21] The data refer to the period 1982-1995.

if the very aim of the interest rate hike was to reduce consumption. By contrast, a cut in interest rates may have the opposite effect.

Spanish households hold a great part of their financial investments in liquid, short-term financial instruments, whilst their liabilities have on average longer terms to maturity. [22] This structure suggests that in the short run monetary policy can only keep household spending in line with monetary policy intentions to a minor extent. The interest income obtained on short-term financial assets can relatively quickly adjust to the direction of interest rate changes, counteracting thus the original intention of the central bank's interest rate decision. By contrast, the costs on financial liabilities take longer to be repriced as the prices of financial liabilities are primarily determined by long-term financial market instruments which are only affected by monetary policy over the medium to long term. On the other hand, the effectiveness of monetary policy is enhanced by the fact that floating rate loans as a proportion of total liabilities are continuously increasing in Spain, accounting for over one-third of total lending in the mid-nineties. As the interest rates on these liabilities are mostly linked to money market interest rates, the short-term interest rate changes take a short time to feed through into liability costs. Therefore, due to the spread of floating rate instruments, monetary policy has an increasing influence over household spending patterns.

Households' consumption and saving decisions may also be influenced by the wealth effect generated by a change in interest rates altering the value of fixed and floating rate financial assets (government securities, corporate bonds, equities). Such securities account for 13% of the financial assets held by Spanish households. This percentage is not sufficient to trigger a wealth effect that could make a fundamental impact on household consumption patterns.

In recent years there has been no substantial change in the role of banking intermediation despite the fact that investment trust, life insurance and pension fund investments have been growing in popularity of late. These institutional investors are expected to extend their operations over the coming years, which will curtail the influence of central bank decisions, due to the longer time horizons of the investments involved, which are independent of current monetary policy. Nevertheless, over 50% of lending transactions are in charge of the banking system, and the household sector has hardly any other borrowing alternatives. Therefore, the dominant position held by the banking sector in household borrowing substantially enhances the efficiency of monetary policy measures.

Portugal

The 1990s witnessed substantial changes in the savings position of the agents of the Portuguese economy. While the aggregate domestic saving rate decreased by 2 percentage points as a proportion of GDP between 1991 and 1998 (from 24% to 22%), households cut their saving rate by roughly 7 percentage points during the same period. The saving rate of non-financial companies was approximately identical at the

[22] 70% of total financial assets are held for a short term, while short-term liabilities account for only 30% of total liabilities. The great majority of household borrowing is composed of mortgage loans taken out to finance real property purchases. The average time to repayment of mortgage loans is 10-20 years.

start and end of the decade, which means that the falling household savings were offset by the fiscal position. The household financing capacity fell drastically during the course of the decade. For instance, the level of households' (current) savings was exceeded by their investment in 1998, and the financing requirement of the household sector amounted to about 1 per cent of GDP. This was a very unusual development as households are normally net savers and the primary source of funds for the other sectors. The main factor at work in the continuous worsening of the financial position was the soaring household borrowing, reflected in a rise in households' financial liabilities from 15% of GDP in the early 1990s to 47% of GDP in 1998, with the debt to disposable income ratio up from 43% in December 1996 to 72% in May 1999. Increasing household indebtedness has been largely associated with the widespread availability of real asset[23] borrowing, following a dramatic improvement in the conditions of mortgage borrowing (relative prices of houses and flats, mortgage rates, households' disposable incomes). The sharp rise in the level of indebtedness linked to mortgage loans was primarily due to the fact that just as in Hungary, this segment of the market remained underdeveloped for a long time due largelly to the unfavourable macroeconomic background, and the rising supply of credit was met with enormous demand accumulated over previous years. Another factor behind the household borrowing upsurge was strronger interbank competition, brought about by the liberalization of the financial sector and the increasing presence of foreign financial institutions. The saving rate was further reduced by the fact that mortgage borrowing went hand in hand with the winding down part of the savings accumulated previously. In addition to real estate borrowing, the stock of consumer lending also went up substantially, thanks to deregulation, the decline in nominal interest rates, stronger competition among financial institutions and the rise of households' real incomes. On the other hand, the rapid and substantial household indebtedness exerts upward pressure on the household sector exposure to risk. Accordingly, a major rise in the interest rates (especially as the bulk of mortgage loans have variable interest rates) or a recession may significantly lower households' disposable income, and hence repayment ability. The EMU membership of Portugal prevents monetary authorities from making an interest rate policy response to the expansion of credit. Thus the Portuguese central bank was only able to tighten the requirement of provision building for household lending in order to mitigate the banking sector's exposure to risk. The Portuguese authorities are not particularly concerned because of the rapid rise in household indebtedness as it is hardly next to the EU average and they expect a slowdown in the growth of the stock of lending. Thus the upsurge in borrowing is being viewed as a temporary situation brought about by the regime shift associated with entry into the monetary union. The past decade has also seen significant changes in the composition of financial assets. Disintermediation is taking place in accordance with international trends: investment in the time deposit holdings of the banking sector plunged against the rapid increase in the proportion of equities and trust-managed investments within household portfolios.

[23]Real asset borrowing denotes household borrowing for purchasing or building houses and flats.

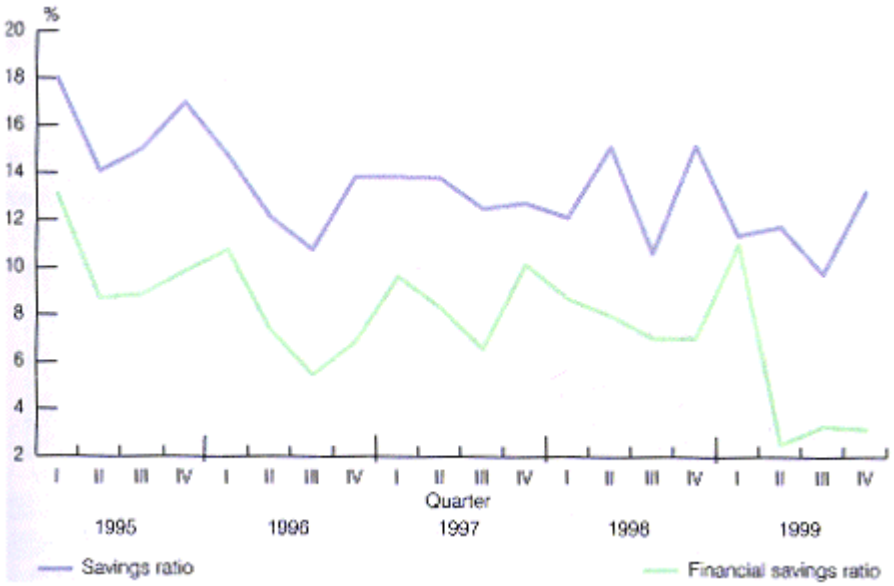
	1991	1992	1993	1994	1995	1996	1997	1998	1999
M3/GDP	72%	72.5%	73%	73.5%	74%	75.5%	74.5%		
Household borrowing from banks	14.0	16.0	18.0	22.0	25.0	30.0	35,0		
Domestic savings (%GDP)	24.0	22.0	21.0	19.0	21.0	20.0	21.0	22.0	
Household savings (%GDP)	14.0	12.0	10.0	8.0	7.0	7.0	7.0	7.0	
CPI inflation		8.9	6.5	5.2	4.1	3.1	2.2	2.8	2.5
GDP real growth		1.9	-1.4	2.4	2.9	3.6	3.8	3.9	3

As noted above, the worsening of households' financing capacity was to some extent offset by the improvement in the fiscal sector's saving position during the period after 1995. Nevertheless, the steady decline in the fiscal sector's financing requirement failed to be sufficient to offset the fall-off in households' financing capacity. Consequently, the current account deficit on the balance of payments in Portugal rose from 2.1% as a percentage of GDP in 1996 to 4.3% in 1998. The developments described above clearly show that the rising indebtedness of Portuguese households is largely due to structural factors, with monetary policy making only negligible impact. Still it seems worthwhile to point out that the prudent budgetary behaviour was not exclusively motivated by the intention to counteract the rising level of household indebtedness. This is because during the second half of the nineties would-be EMU member countries have had to satisfy the Maastricht criteria, which encouraged a reduction in the budget deficit in its own right.

Over the past decade, the developments in Portugal have shown many similarities with the developments in progress in the Hungarian economy. While Hungary is also experiencing a dynamic rise in the level of household borrowing and a substantial decline in the propensity to save, large-scale mortgage lending has not taken off yet and liabilities are being built up at a much slower pace than in Portugal. One of the great lessons of the Portuguese example is that Hungary will probably also need fiscal adjustments simultaneously with the decline in households' financing capacity. In view of the events of the past few years, this will not be such a smooth process as in Portugal unless there exists similarly strong incentive, such as the Maastricht criteria were for the Portuguese.

Poland

Since economic growth stabilized in Poland, households have been vigorously increasing their incomes and consumption year after year. In the following section we will focus on the development of household indebtedness, but let us first take a look at the relationship between the total savings ratio and the financial savings ratio illustrated in the chart below.



Clearly, both the total and the financial savings ratios have been going downwards during the second half of the nineties. The plunge in the financial ratio to around 3% in 1999, accompanied by very high real interest rates (nominal market rates were up by 6-7% in the course of the year) was a noteworthy development. The year 1999 was no exception regarding real interest rates: due to the attempts at disinflation and the relatively low efficiency of interest rate transmission, the Polish economy has had high real interest rates during the nineties. In other words, there is no clear connection between savings and real interest rates in Poland either. Similarities between the two countries' developments paths indicate that Poland is also experiencing structural changes, which are stimulated by persistently buoyant activity.

Household sector borrowing in Poland developed along similar lines to those experienced by Hungary during the post-1995 period, the only difference being that lending to Polish households began to pick up two years earlier, in 1996. In that year lending to households was up by 77% over the previous year, and it is still expanding at a fast pace, although somewhat slower. In 1998, the Polish household borrowing to GDP ratio amounted to 4.3%, which Hungary only reached at the end of 1999. The Polish edge in household lending is due to essentially two factors. First of all, robust economic growth started as early as 1993, and GDP has been increasing at a fast pace ever since. Economic growth entailed a steady rise in household real income, which reduced the banking sector's risk involved in lending to households. The other condition of the pick-up in household sector borrowing has been the decrease in inflation and interest rates. The significant drop in inflation in 1995 contributed in all likelihood a great deal to the upturn in household borrowing. The reasons for higher demand for credit by households seem to be similar to those in Hungary, with the most important being postponed consumption. As in Hungary, the building up of the stock of lending was also accompanied by very high real interest rates in Poland, indicating that households are little sensitive to interest rates.

In real terms (base period = 1991) zloty million

Household borrowing	1991	1992	1993	1994	1995	1996	1997	1998
Less than one year	335	439	533	561	709	944	1081	1400
1-5 years	255	235	388	510	846	1785	2494	2737
Real assets	115	137	174	183	180	275	433	655
Other long-term	9	7	9	14	28	103	318	384
Unpaid interest	0	6	24	25	28	66	54	66
Total	**714**	**823**	**1127**	**1293**	**1792**	**3172**	**4380**	**5242**
Growth rate - total		15.3%	36.9%	14.7%	38.6%	77.0%	38.1%	19.7%
Household borrowing/GDP		0.3%	0.6%	0.9%	1.4%	2.7%	3.9%	4.9%
M3 real growth				6.8%	10.7%	9.3%	14.0%	15.2%
M3/GDP				34.5%	34.0%	35.5%	37.6%	40.2%
CPI inflation (Dec/Dec)		44.3	37.6	29.5	21.6	18.5	13.2	8.6
GDP real growth			3.8%	5.%	7.0%	6.1%	6.8%	4.8%

The two countries differ to the extent that while the household borrowing to GDP ratio has been continuously increasing in Poland since 1991, it followed a downward trend in Hungary during the first half of the nineties, starting from a higher level. The Hungarian ratio reached its low in 1998 and has been increasing steadily ever since (see *Chart 15* in main text). The difference probably lies in the situation of property lending. As illustrated in the table above, during the first half of the nineties, borrowing for purchases or building of houses and flats increased at a slow pace in Poland from a very low starting-point. By contrast, the bulk of lending to households in Hungary was made up of property loans. As these were being gradually repaid and new lending was at a low level, the ratio of total household borrowing to GDP fell off during the first half of the decade. After the legal framework of mortgage lending in Poland was laid down in 1998, there was a pick-up in property lending. The table shows that the majority of household borrowing is for one-to-five-year terms, comprising largely loans for vehicle and consumer durables purchases. A further difference between the two countries is that while the Hungarian M3/GDP ratio stabilized around 67-68% in the latter half of the nineties, Poland has seen the ratio rise to over 40% today from 34% in 1994-95. This difference may be due to several factors, with an important one being the low starting point at the start of the change of political regime in Poland. Consequently, against the background of increasing economic activity, financial deepening was much faster in Poland than in Hungary, where it started from a higher level (in Hungary, the M3/GDP ratio decreased relative to the early nineties). Furthermore, disintermediation has been taking place at a much faster pace in Hungary than in Poland. This is partly explained by institutional reasons, namely that Hungarian households had access to a higher number of non-bank investment opportunities even as early as the beginning of the nineties. The attraction of such alternative investments lies in the higher returns and various tax concessions offered. The other plausible explanation is that the Polish real interest rates have considerably exceeded those in Hungary over the past decade, which must have had an effect on household demand for bank deposits. On the other hand, the relatively low Hungarian real interest rates added to the allure of non-bank investments. All in all, it seems worthwhile to pay attention to developments in Poland as they appear to closely resemble those taking place in lending to Hungarian households.

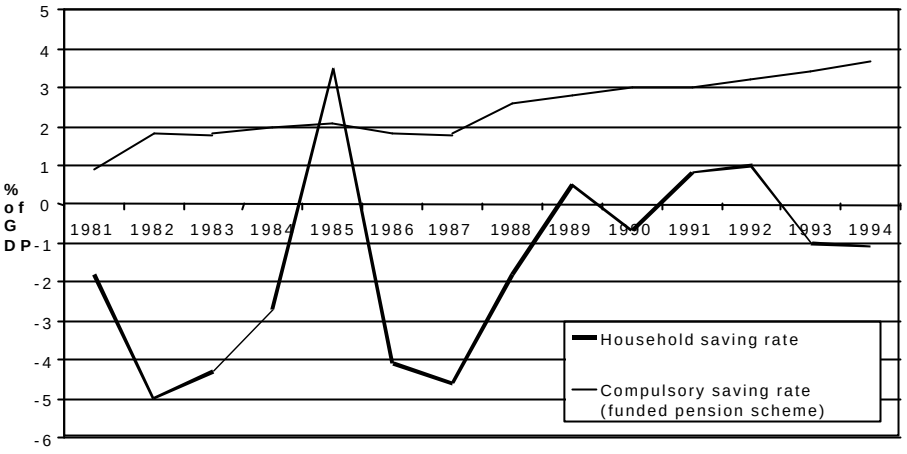
Latin American countries: Argentina, Chile, Mexico[24]

Since the 1980s, the domestic saving rate in **Argentina** has been around 20%, following a slightly downward trend due primarily to the activity of the fiscal sector. Although the exact value of the household saving rate is not available, the saving and consumption patterns of households can be relatively well monitored via the cycles of spending on consumer durable goods. Accordingly, the past two and a half decades have witnessed three upsurges in consumption in Argentina (1978-81, 1985-88 and 1991-94), the most important being the final one. These episodes have entailed a natural decline in the household propensity to save. Economists engaged in related research say that each of the three episodes was linked to an attempt at exchange-rate-based stabilization. The upsurge in consumption was motivated by intertemporal substitution as these stabilization attempts went hand in hand with a drop in real interest rates, which stimulated consumer spending. This was especially the case during the first two episodes, when stabilization was not credible. The Convertibility Plan, introduced in the early nineties, was viewed as having much greater credibility, and it involved two other important factors in addition to the intertemporal effect. On the one hand, financial liberalization tended to reduce households' liquidity constraints, thereby stimulating consumption. On the other hand, this was an era of economic restructuring (within both the financial and the real sector), which boosted households' permanent income expectations. The success of the currency-board-based stabilization was also one of the factors at work. The economic recovery seen during the first half of the nineties was cut short by the Tequila crisis, dampening consumer spending. In the aftermath of the crisis, more stringent prudential rules were imposed on the Argentine banking system, a further disincentive to growth in borrowing.

Chile is different from the other Latin American countries and the less developed European countries in several respects. In contrast to the universal trend, Chile's household-savings-to-GDP ratio has been in the negative range for the past twenty odd years.[25] Another divergence from international experience is that the household saving rate was up relative to the early eighties, due primarily to the introduction of funded pension schemes in 1981, which in effect made saving compulsory. The rise in the saving rate from 0.9% in 1981 to 3.7% in 1994, associated with the pension reform, reflected a 2-percentage-point rise in household savings as a proportion of GDP (in other words, negative savings fell by this percentage).

[24]The experiences of Latin American countries are summed up with reference to Reinhart's volume of studies (1999).

[25]This is a surprising piece of information is difficult to believe. Source: Agosin, Crespi, Letelier: Explanations for the Increase in Saving in Chile.



Nevertheless, there was a dramatic rise in the private sector's saving rate as a proportion of GDP, thanks to an over 15-percentage-point increase in the corporate saving rate (up from 6% in the early eighties to over 20% in 1994). This is primarily attributed to the tax reform relating to business associations of 1984, which proved to be strong encouragement to firms to retain earnings.

In the case of **Mexico**, the implications of financial liberalization concomitant with economic recovery can be clearly seen during the period 1988 - 1994. The table below shows that household consumption was especially buoyant between 1989 and 1992, thanks to falling uncertainty about future incomes, higher income expectations arising from the heterodox adjustment programme of 1988 and financial liberalization launched in 1987. The latter involved above all a cut in the reserve requirements, the elimination of interest rate ceilings and the reprivatization of state banks, which all led to a substantial rise in the supply of bank loans. The increased supply of loans met with rising demand for borrowing on the part of households, due to rising income expectations in addition to the fact that households had postponed spending because of liquidity constraints. The property price explosion also contributed to the fall in household savings and the fast rise in the level of indebtedness, as owners were able to use their property as collateral for loans. The bottom-line is that the net lender position of households turned into a net borrower position in the first half of 1992, and then reverted to net lender by the year-end (although by a small margin).

	1983	**1984-85**	**1986-87**	**1988**	**1989-92**	**1993-94**
Real growth rate						
GDP	-4.2	6.1	-1.8	1.3	15	4.2
Private sector disposable income	-0.38	3	-8.6	8.6	10	6.7
Private sector savings	24.29	-10.4	-32.9	52.8	-48.7	39
Household consumption:						
Total	-5.36	6.6	-2.7	1.8	23.5	3.9
Consumer durables	-22.1	19	-18.2	8.8	35	-3.4
Consumer goods	-3.3	7.1	-2.6	-0.3	22	3.6
Services	0.3	-0.2	4.5	2	19	4.8

Italy

The case of Italy is of interest as it confirms our hypothesis of the importance of financial liberalization. During the period under review, the Italian economy experienced no such large-scale restructuring as did the countries described above. Yet both the aggregate and the private sector's rate fell off substantially over the period 1970 to 1990. As far as the private sector is concerned, this was clearly due to the development of the credit and insurance market. Prior to the 1990s, Italy had had a rather underdeveloped consumer credit, mortgage and insurance market, in comparison with the developed countries. The resulting liquidity constraints prevented young households from smoothing their consumption to the desired extent and required them to accumulate savings to cover consumer durables and flat purchases. In addition, the depressed state of the insurance market tended to stimulate precautionary saving. The factors to blame for the imperfection of the household credit and insurance market include the inadequate incentive and regulatory framework of financial institutions (in comparison with developed countries). For example, the maximum value of a real asset that could be used as collateral for a mortgage was much lower than in any other developed country. Other reasons were the shortcomings of the legal infrastructure – the foreclosure on the collateral took several years on average – and the absence of competition by foreign banks. All these constraints have eased significantly in the course of the nineties, thanks partly to approximating Italian regulations relating to financial markets to EU standards. A microeconomic analysis of the decline in the propensity to save suggests that demographic factors are no sufficient explanation for the drop in the household saving rate, as there was a fall in each age group's propensity to save. By contrast, the reallocation of incomes towards younger age groups, characterised by a lower propensity to save, may have been one of the factors at work.

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