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Financial Literacy and Macro-economics

SUMMARY: Financial literacy, moving to the forefront on account of the economic crisis, is a crucial element of the proper functioning of any society. Our goal is to identify the indicators of financial literacy in topic-related Hungarian and international literature which can then be used to draw macro-economic conclusions and be tested through Hungary's example. We have identified four main indicators, which are: (1) income, (2) savings, (3) external funds (loans) and (4) the economy's demand for cash. A number of criticisms can be raised in connection with the above indicators, most importantly the fact that the perception of financial literacy is overly linked to income. In spite of this, all these indicators are conducive to providing information on one of the financial literacy-related issues (self-provision, confidence, planning, long-term thinking, profitability, etc.).

KEYWORDS: financial literacy, indicator, macro-economics

JEL CODES: A13, A14, D03, D12, D14, D31, D81, G11, H24, I22, J11

INTRODUCTION

The significance of financial literacy – parallel to intense innovational activity in the field of financial products – has undergone considerable revaluation starting at the end of the eighties, jointly impacted by demographic, economic and political changes. (CBF, 2004a; Habschick, 2007; IBRD, OECD, DFID and CGAP, 2009)

Habschick et al. (2007) divided up the factors impacting the increase in the demand for financial literacy into two fundamental groups: (1) the changes in the needs of individuals, and (2) the changes that occurred in the financial sector. At the very centre of individual needs, the need (compulsion) for self-provision is a determining factor within which heightened social uncertainty, the increase in expected life span and the lack of workplace stability all play a

role. In contrast, the factor primarily influencing the changes in the financial sector is the deregulation of financial markets. The prominent role of financial literacy is due to the fact that individuals, in order to satisfy their changing needs, must seek out financial products that are increasingly complex and opaque in nature. In this context, financial literacy represents a sort of bridge between arising social needs and the financial products meant to satisfy these needs.

The true significance of financial literacy was revealed by the financial crisis of 2008 (Klapper – Lusardi – Panos, 2012) as the irresponsibility of individuals (households) in the field of finances carries considerable macro-economic risks.

The objective of our paper is to identify the macro-economic indicators used by various Hungarian and international studies to attempt to measure financial literacy, to estimate its impact on macro-economics and to assess them using the example of Hungary.

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The first part of the study deals with the definition of financial literacy and its various interpretations; this is followed by the presentation of micro and macro-economic indicators collected from technical literature. After presenting the data used and the methods applied, we will move on to the evaluation of macro-economic indicators discovered during the processing of the aforementioned literature. The paper ends with our conclusions and a summary.

THE CONCEPT OF FINANCIAL LITERACY

The roots of research dealing with financial literacy go back as far as the beginning of the 20th century. At the time, such research was primarily limited to examining the methods of reaching consumers with financial products (Jelly, 1958). With the passage of time and as a result of innovation activity in the field of financial products, research focus shifted constantly. In line with the shift in focus, the conception of financial literacy was transformed, along with the system of concepts itself. In practice, this resulted in the various studies defining financial literacy in different ways.

The majority of the research (up until the beginning of the 2008 financial crisis) dealing with financial literacy was typically focused on countries with ties to Anglo-Saxon culture. If we only examine the 27 states of the European Union, nearly 81 per cent of the 618 initiatives dealing with the development of financial literacy can be linked to the United Kingdom. (Habschick, 2007)

Besides the United Kingdom, financial literacy is more emphasised and focused on in Germany, Austria and France, as is well illustrated in *Chart 1*.

Ever since the financial crisis, people's financial literacy and education has taken on added significance, and, as a result, related research

has commenced in other countries of the world as well.

The differences in the studies related to financial literacy have posed great challenges and continue to do so for those who wish to create a standard and uniform definition. Therefore, in the summary works published in the topic¹, satisfying the need for standardisation is not presented as a definition; financial literacy is treated instead as a concept. This concept includes:

- financial knowledge (financial understanding),
- familiarity with and experience in finances,
- financial skills, and finally
- financial awareness,

the totality of which in the end determines how individuals and organisations make their financial decisions (Habschick, 2007; Hung, Parker – Yoong, 2009; Remund, 2010).

Certain elements of the concept are also identifiable in the definition provided by the National Bank of Hungary:

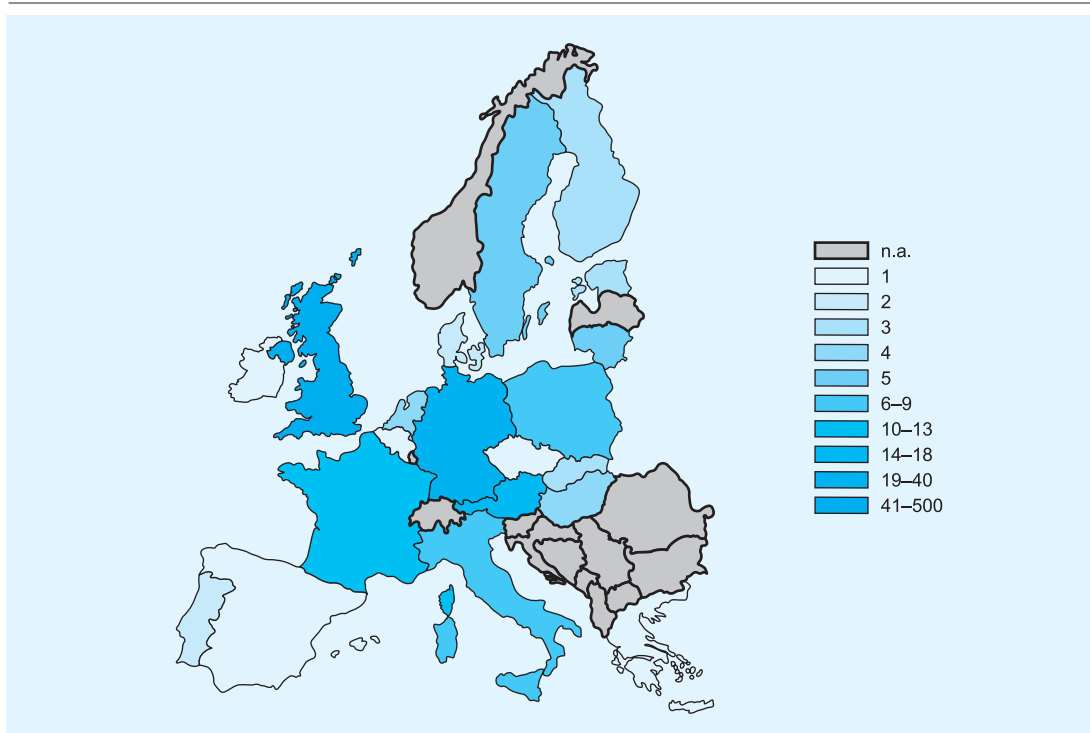
“A level of financial knowledge and skills that enables individuals to identify the fundamental financial information required to make conscious and prudent decisions, and after the acquisition of identified data allows them to interpret said data, make decisions on their basis, all the while assessing potential future financial and other consequences of their decisions” (MNB, 2008).

We accept the above definition as valid for the present study, in spite of the fact that our paper primarily focuses on the relationship between financial literacy and macro-economic processes.

The indicators of financial literacy

In the following, we will briefly present the results of past studies dealing with the correlations of financial literacy and macro-economics. In the interest of increasing the clarity of

INITIATIVES DEALING WITH THE DEVELOPMENT OF FINANCIAL LITERACY IN EUROPE (2006)



Source: authors' own editing based on Habschick et al. (2007)

these correlations, we will also touch upon other aspects of the relationship between financial literacy and social structure. The relevant literary materials found will serve as the basis for our approach.

According to its definition, money is “a medium of exchange with the role of universal equivalent” (Solt, 2001) and is therefore closely linked to all other walks of life. Consequently, this means that financial literacy should not be examined independently of social factors either; therefore, we shall begin our topic-related literary review – prior to commencing the presentation of the macro-economic impacts of financial literacy – along the lines of the demographic characteristics of financial literacy.

Practically all research conducted in the topic contains demographic segmentation. Table 1 summarises the characteristics the given

studies have linked to low and high levels of financial literacy.

According to the literature, it is clear that financial literacy is high primarily where income-levels and life situations make savings possible, thereby allowing short-term views to be discarded. Since income correlates to the number of years spent in education (Petőné, 2011), it comes as no surprise that *Beal* and *Delpachitra* (2003) have discovered correlations with higher levels of financial literacy. According to them, the orientation of the training is also important; students in economic faculties were observed to have higher levels of financial literacy.

Klapper et al. (2012) found correlations between high financial literacy and risk-averse behaviour, while *Lusardi* and *Mitchel* (2007) considered investment in more complex finan-

Table 1

THE DEMOGRAPHIC CHARACTERISTICS OF FINANCIAL LITERACY

Low financial literacy	High financial literacy
Women*	Men*
Low-level schooling, unskilled workers without qualification	Degree-holders
Persons under the age of 24 and over 74	Persons between the ages of 45 and 59
Low income level	High income level
Little work experience	A lot of work experience
Poor	Wealthy
Individuals with little or no savings	Individuals with (a high level of) savings
Workers in the agricultural sector	Entrepreneurs, business owners
Single persons	Couples without children
Immigrants	
Minorities	

Note: *compared to each other

Source: Beal – Delpachitra, 2003; CBF, 2004b; Hung et al., 2009; Lusardi – Mitchell, 2007; RMR, 2003

cial products an indicator of higher financial literacy. It was also Klapper et al. (2012) who pointed out that those with lower levels of financial literacy tend to choose simpler, yet more expensive financial products, and it is in part due to this that they become distrustful of all other financial products.

Studies approaching financial literacy from a socio-dynamic aspect (Cleek, 1985; Kinnunen, 1998; Yeung, 1998) showed that low financial literacy goes hand in hand with a high frequency of divorce as well as mental illnesses and other stress-induced illnesses. Moreover, in her article Wolcott (1999) elaborates on how financial difficulties increase isolation within society and lower the self-esteem of individuals. Marcolin and Abraham (2006) have linked lower financial literacy with a higher desire to smoke.

With respect to the macro-economic indicators of financial literacy, relevant research distinguishes four main fields:

- disposable income,
- savings,
- external funds,
- and cash demand of the economy.

We will deal with macro-economic indicators in detail later on.

MATERIAL AND METHOD

The literature related to financial literacy was collected from the EBSCO, JSTOR, Wiley and Science Direct online databases as well from websites of various international organisations. We tested the macro-economic indicators found during the review of the literature on the basis of data acquired from the databases of the Hungarian Central Statistical Office (HCSO), the National Bank of Hungary (MNB) and Eurostat, using the methods of descriptive statistics.

RESULTS

In the following, we will be using Hungary’s example to present the indicators which, according to relevant literature, can be used to track the levels and changes of financial literacy at a macro-economic level. The chapter ends

with the criticism of the general indicators used to measure financial literacy.

Disposable incomes

With respect to financial literacy, the development of the composition of the indicator is not the primary aspect in the case of disposable income. The greater part transfers (social incomes) represent of total income, the lower financial literacy is considered to be. This is mostly in connection with the motive of self-provision.

Income size is influenced by a number of factors. Such factors are for instance the growth rate of the economy, employment, the average number of people in households² or demographic conditions. In his book, *Kopátsy* (2011) represents a rather interesting viewpoint when he states that in societies where populations are shrinking,³ the standard of liv-

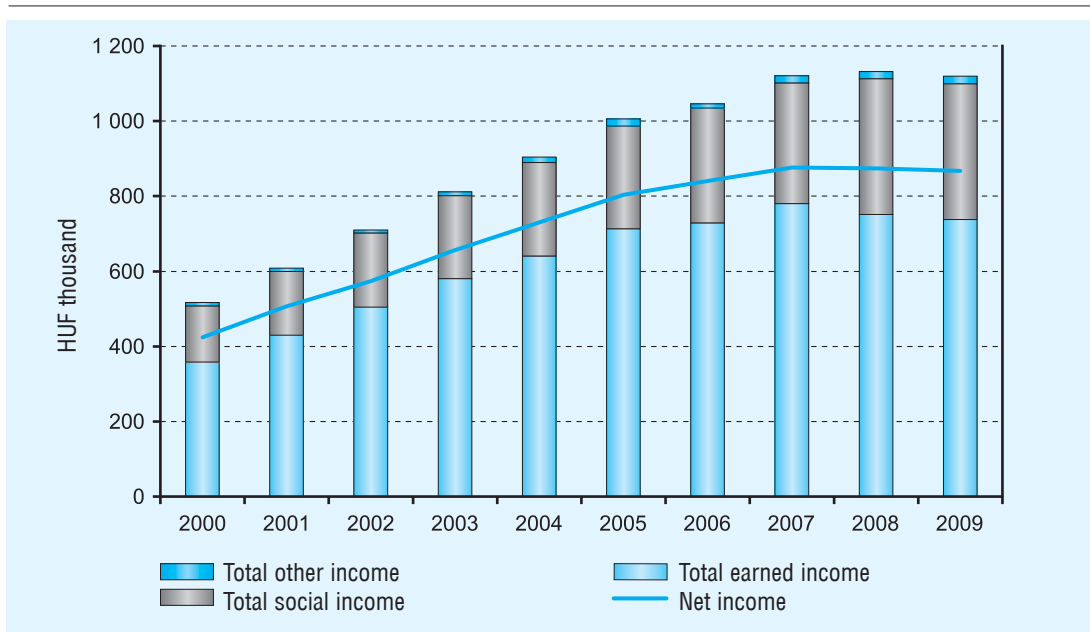
ing rises as the value of GDP per capita becomes greater. This particular approach fails, however, to take into account income distribution within society or the age composition of society.

From our viewpoint, what is important is not per capita income, but rather income composition. *Chart 2* shows the composition of the income of Hungarian households.

By the end of the 2000's, more than 30 per cent of the income of Hungarian households was social income. These are social benefits in cash which are provided in connection with old-age, unemployment and child bearing. According to *Sapir's* (2005) European social model, Hungary is decidedly continental, i.e. not efficient as employment is low even compared to the EU average; however, the country has a strong sense of solidarity. This is also shown by the fact that the second largest income source of households is social income, three quarters of which is pension and various

Chart 2

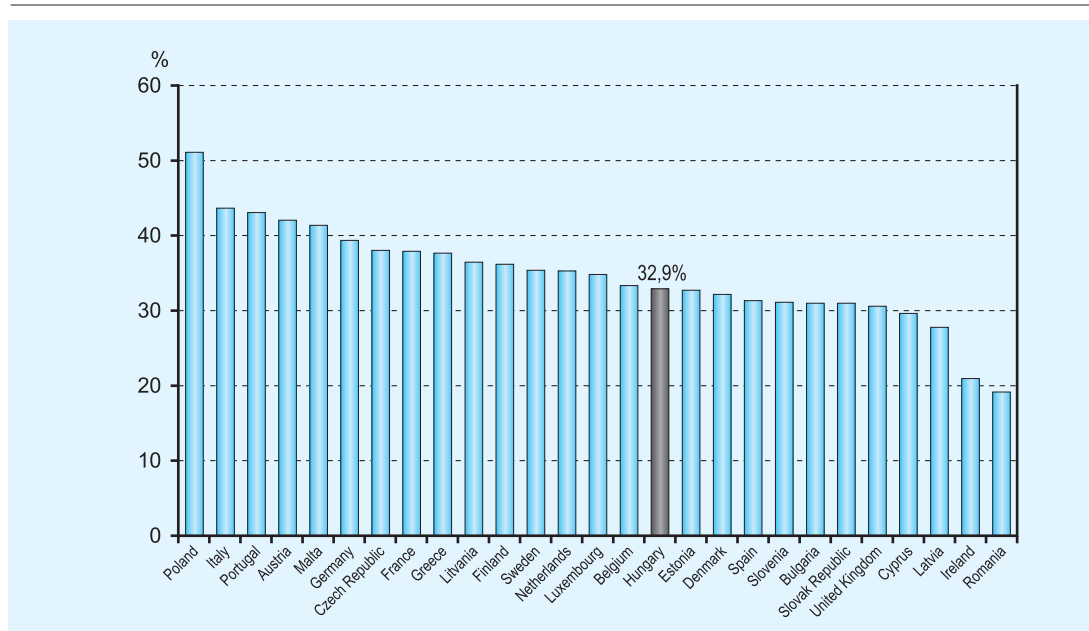
THE AVERAGE PER CAPITA ANNUAL INCOME OF HOUSEHOLDS ACCORDING TO INCOME SOURCES (2000–2009)



Source: authors' own calculation and editing based on HCSO data

Chart 3

**SOCIAL EXPENDITURES RELATED TO OLD-AGE
(2008)**



Source: authors' own calculation and editing based on Eurostat data

pension supplements, which at the same time also indicates an ageing society. In 2008 in EU 27 Member States, social expenditures related to old-age represented 39 per cent of total expenditures (see Chart 3).

According to topic-related literature, the more dependent a society is on the social supply system, the lower the level of financial literacy. Chart 2 also shows that the rate of social incomes continuously increased during the period under review. This allows us to assume that the rate of financial literacy has continuously decreased. The reality, however, is that – not taking the various social benefits into account – society has to care for an increasing number of pensioners and as a result is forced to reallocate more and more income for this purpose. This might be an indication of the lack of the population's financial literacy; however, we must add that the generation currently going into retirement previously only had limited opportunities to prepare for self-provision.

Taking the above into account, we can say that assessing the level of financial literacy through income composition is only possible in the long-term and only if we are aware of the policies on various social supply systems and their effects; for instance, a different approach is required in the case of a fundamentally individualist and a fundamentally collectivist social system.

The income of the household sector, and more precisely the rate of social transfers, is in effect withdrawn income. The lower the income of the sector, the less it will be able to save, and the development of savings is also an indicator of financial literacy.

Savings

The primary assessment aspect in the case of savings – in contrast with income development – is the development of indicator value, fol-

lowed by the examination of savings composition. With respect to financial literacy, a number of motives play a role in the case of savings such as self-provision, security, long-term thinking, risk management and profitability.

Savings cannot be separated either from income or from consumption; the rate of savings is jointly influenced by the two. The fact of the matter is that Hungarian society is ageing, thereby enhancing the importance of self-provision. It is, however, a condition of (old-age) self-provision that a part of generated income should not be spent by people while active – they should instead generate savings.

Chart 4 clearly shows that as of 1998, the per capita consumption index exceeds the per capita real income index. This allows us to conclude that the rate of savings also dropped at a macro-economic level; Chart 5 illustrates this tendency well (naturally the volume of savings increased). Székely's (2010) research also shows that a significant portion of the Hungarian

population has no savings at all;⁴ therefore, we can state that the distribution of savings in Hungary is uneven.

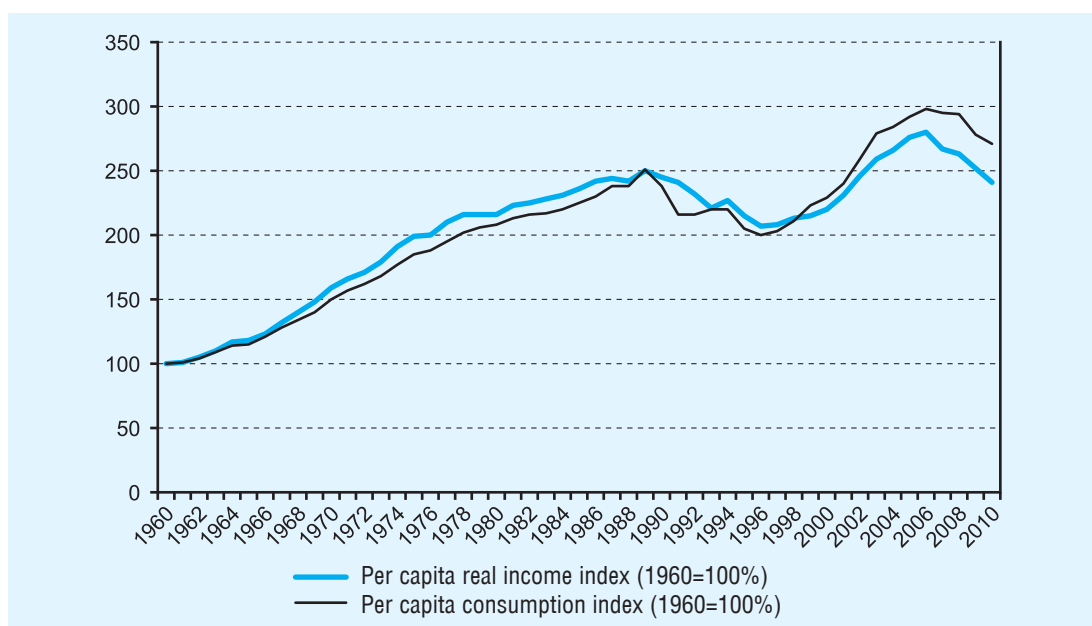
In light of the above, we can conclude that the rate of savings in itself is an unsuitable indicator of measuring financial literacy, as it does not take into account those who only have minimal or no savings. The greater the rate of income differentiation within society, the greater the distortion; it practically rates the financial literacy of those doing a good job of managing low incomes as zero.

If we disregard the above mentioned deficiency, we can rate the financial literacy of savers depending on what form of investment they keep their money in (the more complex the financial product and the longer term their investments, the higher we can rate their financial literacy).

According to the report of the European Commission (2007), in 2005 in Hungary 46 per cent of the financial wealth of households was

Chart 4

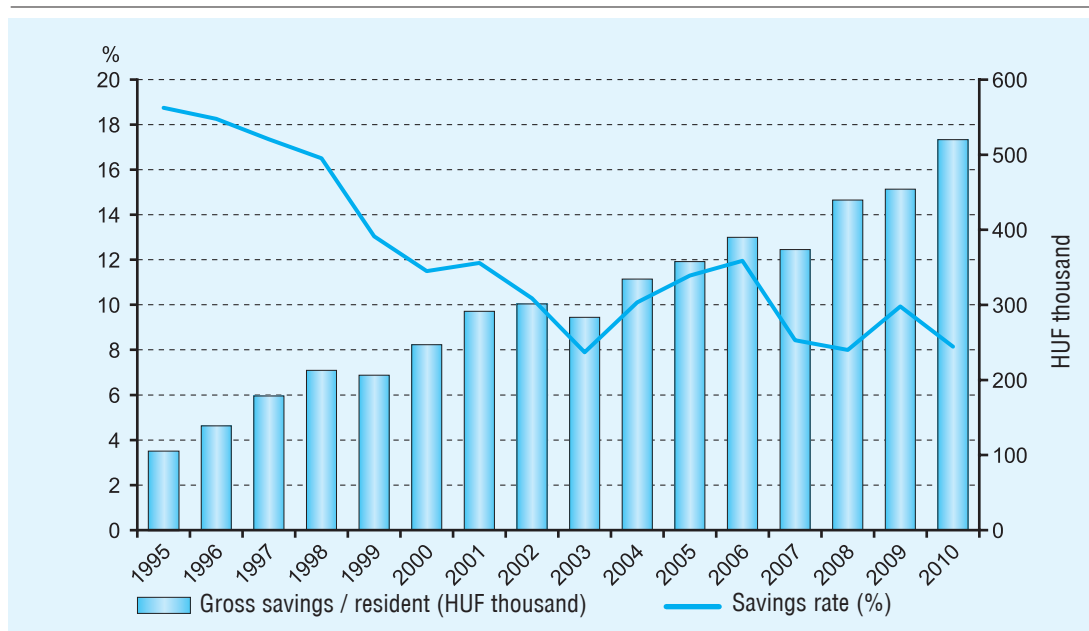
THE DEVELOPMENT OF PER CAPITA CONSUMPTION AND REAL INCOME (1960–2010)



Source: Authors' own editing based on HCSO data

Chart 5

THE SAVINGS RATE AND SAVINGS VOLUME OF HUNGARIAN HOUSEHOLDS (1995–2010)



Source: authors' own editing based on Eurostat data

fixed deposits – we can consider this the simplest investment opportunity. In the other V4 countries, this ratio was above 50 per cent (see Chart 6).

The development of the financial wealth of Hungarian households is shown in Chart 7, which groups the various financial products according to liquidity (liquidity decreases from bottom to top). In spite of the increase in the ratio of long-term investments after the democratic transformation (even with the reclassification of pension fund assets), the population continues to favour forms of investment which are less complex and can be liquidated relatively quickly. The chart clearly shows that between 2008 and the second half of 2010, the ratio of other deposits dropped,⁵ while in 2011 it started rising, along with current account deposits. This latter effect is the result of caution due to the crisis (Guerrieri, 2010). Since as a result of the crisis more and more people approach finances in a conscious way (Székely,

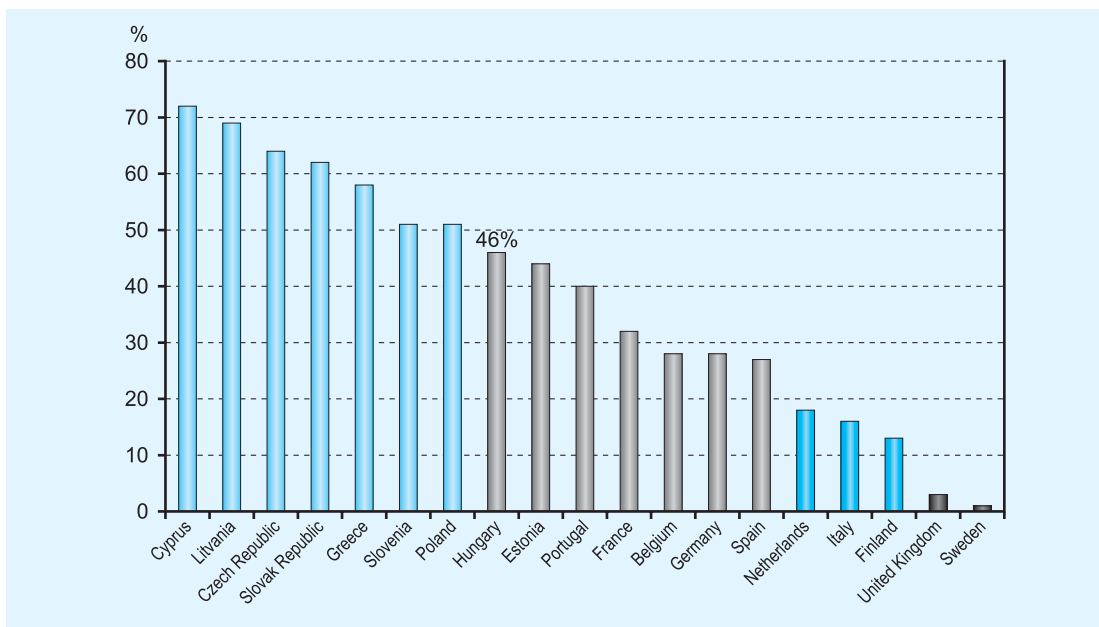
2010), the crisis is having a positive effect on the development of financial literacy.

The high ratio of bank deposits and cash indicate a low level of financial literacy, as it reflects a short-term approach and the profitability of these instruments also falls short of that offered in other, more complex financial arrangements. In contrast, we must emphasise that there is an increasing ratio of more complex and longer-term forms of investments, such as business shares, which can be linked to the relegation of the short-term investment approach, planning and higher profitability which are the characteristics of higher financial literacy.

In light of all this, we can state that the analysis of savings composition carries significantly more information than simply examining the rate of savings. We can safely say that Hungary's level of financial literacy (at least that of savers) has changed in a positive direction since the democratic transformation. This

Chart 6

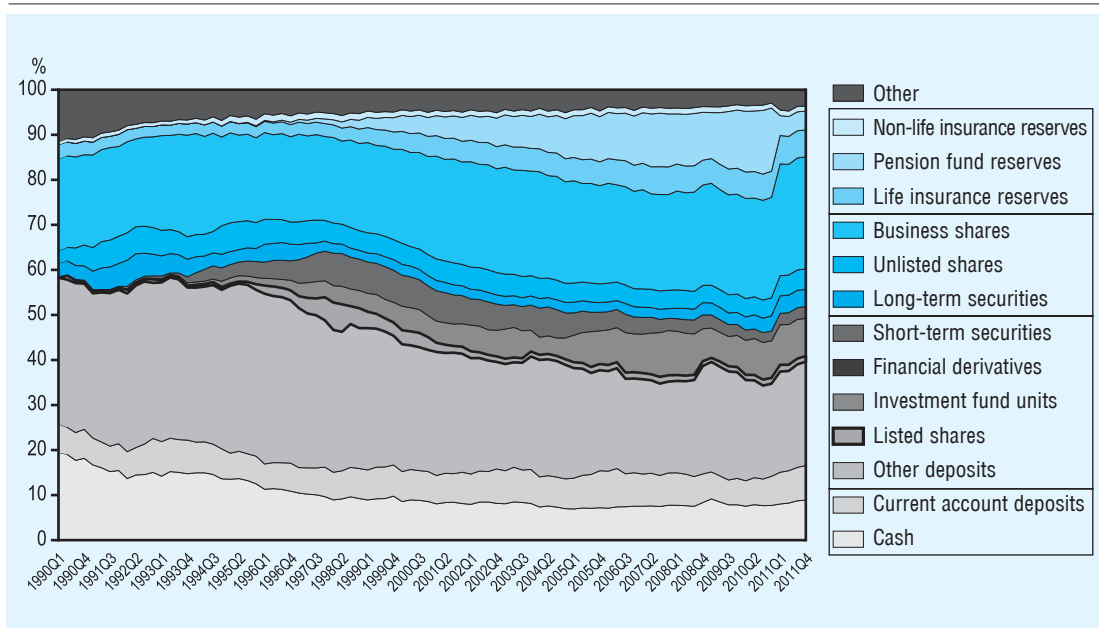
THE RATIO OF FIXED DEPOSITS IN THE FINANCIAL WEALTH OF HOUSEHOLDS



Source: authors' own editing based on European Commission data, 2007

Chart 7

THE FINANCIAL WEALTH OF HOUSEHOLDS (1990–2011)



Source: authors' own editing based on MNB data

means that such analysis of savings is an acceptable method of assessing financial literacy; however, when evaluating results, we must always take into account that this particular method does not cover the financial literacy of those who have no savings.

External funds

The third of the indicators identified in the literature is in relation to lending. When assessing financial literacy through external funds, we can take the motives of risk assessment and planning into account.

As we have previously mentioned in connection with Chart 4, the growth rate of real wages in Hungary lags behind the change that occurred in consumption. This, along with the drop in the savings rate of households (Chart

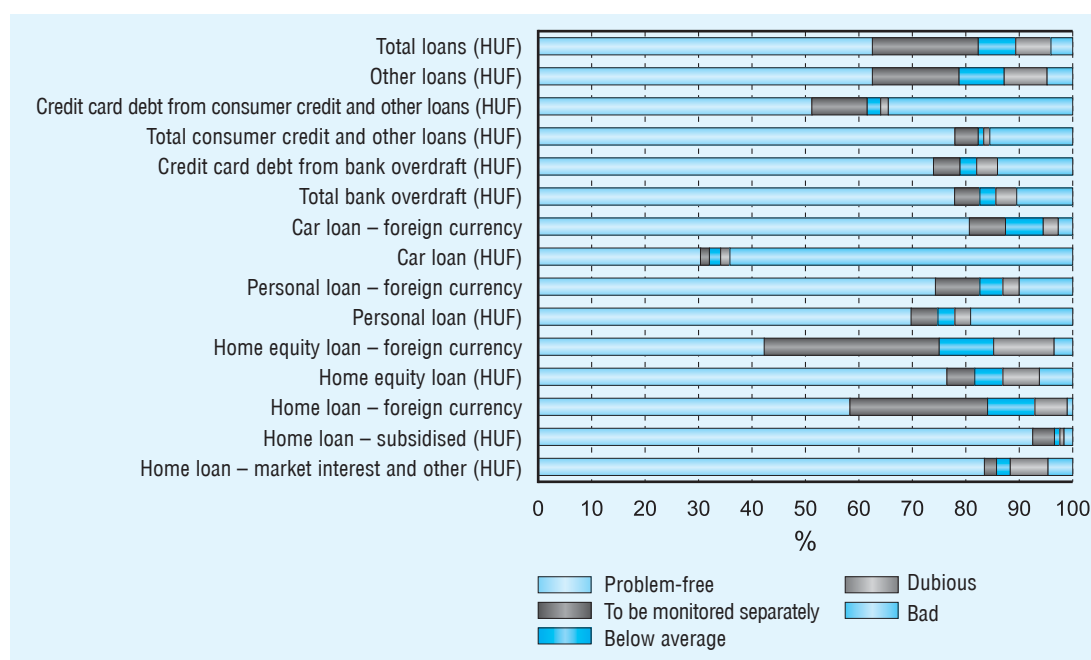
5), jointly led to an increase in the ratio of retail loans. The amount of the loan itself – similarly to the amount of savings – does not tell us much, and accordingly is not conducive to measuring financial literacy.

We have summarised the population’s utilisation of external funds according to late payments (*see Chart 8*).

Based on Chart 8, we can state that in the case of loan types where no special planning skills were required (typically loans that have no special requirements), the probability of repayment is lower. Approaching the matter from a risk perspective, we can see that the greatest challenge at the moment is the development of the HUF exchange rate. We can also observe that in the case of foreign currency-denominated loans, the rate of below average performance and performance to be monitored separately is higher than in the case of similar

Chart 8

RETAIL LOANS ACCORDING TO LATE PAYMENTS (DECEMBER 2011)



Note: gross debt

Source: Authors' own editing based on MNB data

category HUF loans, which in turn indicates that exchange rate risk was not taken into account.

Based on the above, we can conclude that lending – as a measure of financial literacy – is a suitable indicator. Furthermore, we can say that on the basis of lending, Hungary’s financial literacy cannot be considered good, primarily due to the lack of appropriate risk assessment. It has certainly developed and continues to do so as a result of the financial crisis and the fluctuation of the HUF exchange rate; therefore, in the future people will place greater emphasis on avoiding such risks.

Cash demand of the economy

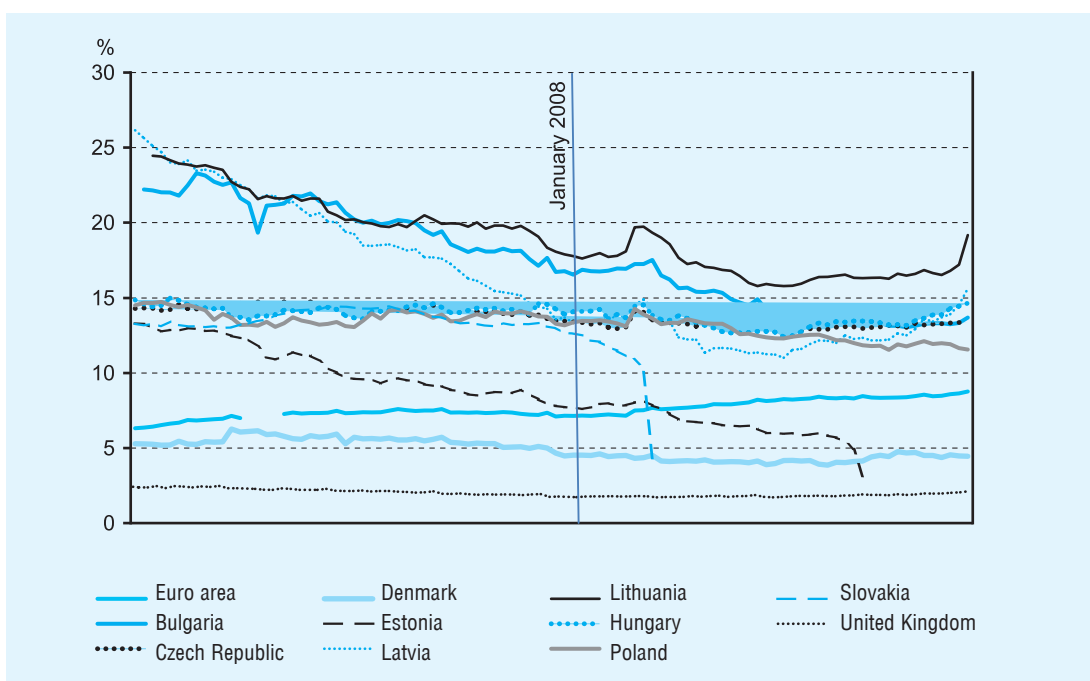
The indicator measures the level of development of financial literacy through the applica-

tion of cashless solutions. The less cash is required in a given economy, the more developed the financial literacy of the country in question is. The indicator maps the confidence placed in the financial system.

Chart 9 illustrates that cash demand of the economy in countries with a higher level of financial literacy is lower; this value is around 2 per cent in the United Kingdom, while in 2011 in Hungary it was close to 15 per cent. The amount of cash in circulation in Hungary is high, not just compared to the euro area average, but also compared to Central and Eastern European countries with similar levels of development as Hungary. *Odorán and Sisak (2008)* took several factors into account in examining the quantity of cash in circulation which reflects the demand of economic players. They determined that besides the transaction and precautionary motive, economic growth and

Chart 9

CASH DEMAND OF THE ECONOMY AS A RATIO OF THE M3 MONETARY AGGREGATE (2004–2011)



Source: authors' own editing based on Eurostat data

price increases also indirectly increase the rate of cash payments. Furthermore, the opportunity cost of cash holding also influences the increase or decrease of cash quantity through inflation expectations. Other decisive factors: cash demand of the shadow economy, arising from the fact that cash is hard to track, thereby aiding transactions within the black economy and hiding income; the external demand for a stable reserve currency (which in Hungary's case does not have to be taken into account); and the proliferation of non-cash payment instruments. The high cash demand of the Hungarian economy can also be explained by the fact that the number of ATMs and POSs per person is low compared to West European countries, and in fact to the region itself. Odorán and Sisak (2008) have verified that in countries where the number of POS transactions per bank card is lower, there is a high rate of cash withdrawals within transactions performed through bank card terminals. It is also a unique Hungarian feature that one fifth of all cash withdrawals are made in bank branches and post offices, indicating a lower level of ATM activity. Therefore, the more people are aware of, use and trust various non-cash payment instruments, the more independent they can become of cash.

In summary, we can say that the unjustifiably high cash demand is a sign of low financial literacy, which on the one hand facilitates the functioning of black economy, and on the other continues to increase cash-creation costs instead of promoting cashless alternatives. At the same time, this lower level of the use of cashless methods is not just a result of the financial literacy of the population, but also of the presence or lack of infrastructure. Based on the above, we can conclude that the indicator in itself only refers to the level of development of financial literacy, and obscures its components (infrastructure, other factors influencing cash demand, etc.).

The general indicators of financial literacy – Criticism

In order to appropriately evaluate the macro-economic financial literacy indicators presented above (beyond the above), we consider it important to formulate some general criticism on all indicators used to assess financial literacy.

We would like to draw attention to three important issues regarding the indicators presented in the paper.

Firstly, that during the examination of financial literacy, researchers used indicators closely linked to each other, which are not always suitable to determine cause-effect correlations – in many cases we are left with a 'chicken or the egg' dilemma.

The other important issue – and at the same time the weak point of all financial literacy research – is that when assessing financial literacy, it ignores the special aspects arising from current life situations. It is our view that the fact that someone is a student and has no income (and as such probably no long-term investments financed by himself/herself either) does not necessarily mean that his/her financial literacy is lower than a single individual earning income whose willingness to save and support himself/herself is significantly below the average level of others in similar life situations. This is why in the case of individuals with different life situations, we consider it important that researchers apply appropriate weighting between the various indicators – something that is not present in relevant literature.

The third, and last, criticism is in part connected to the first two. The indicators used for financial literacy research show that those with higher incomes have higher financial literacy – regardless of whether we are comparing individuals or nations. Namely, if the individuals' income level allows for their consumption habits to break away from the goods required for living, there is a higher probability of gen-

erating savings. At a macro-economic level, the above means that the financial literacy of countries with greater per capita GDP will most probably be higher than that of less developed countries; however, income distribution within society (GINI-index) does not necessarily support this. It is probable in fact that those living on lower incomes are more dependent on planning their finances than their wealthier peers. At this point, we refer to the criticism we have formulated, according to which the answers given to the various research questions should be assessed in different manners in the case of different social groups.

CONCLUSIONS

The majority of the results of financial literacy studies can easily be linked to each other as most of the indicators used therein are connected, but in themselves are not conducive to drawing direct conclusions.

During the analysis of disposable income, it became clear that this income is highly impacted by social system (individualist, collectivist) as well as social policy; therefore, the indicator is only conducive to making valid conclusions if we are aware of these.

The rate of savings as an indicator of financial literacy does not provide sufficient information, and therefore the examination of savings composition is also important. However, we must not forget that this type of analysis does not address the financial literacy of those without savings.

The examination of household loans proved to be an appropriate measuring tool with respect to the planning and risk analysis ability of households. The level of confidence in the financial system can be tracked through the cash demand of the economy.

A number of criticisms can be raised in connection with the indicators applied in financial literacy research, the most important deficiency according to these being that the perception of the level of financial literacy is overly linked to income size.

Overall, we can state that the financial literacy of individuals impacts macro-economic processes both indirectly and directly, thereby also affecting monetary and budget policy as well as the functioning of financial markets, i.e. the financial system as a whole. The fact that financial markets develop at a faster rate than financial literacy emphasises the paramount importance of the development of financial literacy.

NOTES

¹ Defining and Measuring Financial Literacy (Hung et al. 2009); Financial Literacy Explicated: The Case for a Clearer Definition in an Increasingly Complex Economy (Remund, 2010); Survey of Financial Literacy Schemes in the EU27 (Habschick, 2007)

² After the turn of the millennium, the average number of people in Hungarian households was around 2.6 (Kerülő 2009. Demográfia (Demography). Nyíregyháza: Krúdy Könyvkiadó és Nyomda).

³ 1981 was the first post-war year of peace in Hungary when more people died than were born (Kerülő,

2009). The number of births first fell below 100 000 in 1998 and has not surpassed this level since then. In 2010, natural decrease was 40 100 persons, 6 128 more than the preceding year [KSH (HCSO), 2010, Népmozgalom (Vital Events). Statisztikai Tükör (Statistical Reflections), 5(17)].

⁴ Of the 1 000 persons surveyed, 54 per cent said they had no savings at all, and another 11 per cent was unclear as to whether or not they had savings.

⁵ This includes, amongst others, fixed deposits.

LITERATURE

- BEAL, D. J. – DELPACHITRA, S. B. (2003): Financial Literacy among Australian University Students. *Economic Papers*. 22(1), pp. 65–78
- CLEEK, M. G. P., T. A. (1985): Perceived Causes of Divorce: An Analysis of Interrelationships. *Journal of Marriage and the Family*. 47(1), pp. 179–183
- GUERRIERI, V. L., G. (2010): Credit Crises, Precautionary Savings, and the Liquidity Trap, Vol. 2012. <http://economics.mit.edu/files/6261>, MIT
- HABSCHICK, M. S.– BRITTA; E., J. (2007): Survey of Financial Literacy Schemes in the EU27: EversJung
- HUNG, A. A. – PARKER, A. M. – YOONG, J. (2009): Defining and Measuring Financial Literacy
- JELLY, H. (1958): A Measurement and Interpretation of Money Management Understandings of Twelfth-Grade Students. Unpublished doctoral dissertation, University of Cincinnati, Cincinnati
- KERÜLŐ, J. (2009): *Demográfia (Demography)*. Nyíregyháza: Krúdy Könyvkiadó és Nyomda
- KINNUNEN, U. P., L. (1998): Linking Economic Stress to Marital Quality among Finnish Marital Couples. *Journal of Family Issues*. 19(6), pp. 705–724
- KLAPPER, L.– LUSARDI, A. – PANOS, G. A. (2012): Financial Literacy and the Financial Crisis. *Policy Research Working Paper*. Washington, The World Bank
- KOPÁTSY, S. (2011): *Új Közgazdaságtan – A minőség társadalma (New Economics – Society of Quality)* (1st ed.). Budapest, Akadémiai Kiadó
- LUSARDI, A. – MITCHELL, O. S. (2007): Baby Boomer Retirement Security: The Roles Of Planning, Financial Literacy and Housing Wealth. *Journal of Monetary Economics*. 54, pp. 205–224
- MARCOLIN, S. – ABRAHAM, A. (2006): Financial Literacy Research: Current Literature and Future Opportunities, Proceedings of the 3rd International Conference on Contemporary Business Conference Proceedings. Leura, NSW
- ODORÁN, R. – SISAK, B. (2008): A magyar gazdaság készpénzigénye – továbbra is olajozottan működhet a rejtett gazdaság? (Cash Demand of the Hungarian Economy – Is the Shadow Economy Still Running Smoothly?) *MNB szemle (MNB Bulletin)*, December 2008. pp. 19–25
- PETŐNÉ, C. I. (2011): Emberi tőke-elemzés a mai magyar felsőoktatásban (Human Capital Analysis in Today's Hungarian Higher Education). Vol. 2012
- REMUND, D. L. (2010): Financial Literacy Explicated: The Case for a Clearer Definition in an Increasingly Complex Economy, *Journal of Consumer Affairs*, 44(2), pp. 276–295
- SAPIR, A. (2005): Globalization and the Reform of European Social Models. *JCMS*. 44(2), pp. 369–390
- SOLT, K. (2001): Makroökonómia (Macro-economics). Tatabánya, TRI-MESTER
- SZÉKELY, L. (2010): A holnap pénze – Pénzügyi kultúra az információs társadalomban (Tomorrow's Money – Financial Literacy in the Information Society). Budapest, Excenter
- WOLCOTT, I. H. J. (1999): Towards Understanding the Reasons for Divorce. *Working paper – Australian Institute of Family Services*. 20
- YEUNG, W. J. H., S. L. (1998): Family Adaptations to Income and Job Loss in the U.S. *Journal of Family and Economic Issues*, 19(3), pp. 255–283

CBF (2004a): Australians and Financial Literacy. In: C. B. Foundation (Ed.). Sydney

CBF (2004b): Improving Financial Literacy in Australia: Benefits for the Individual and the Nation, Research Report. Sydney, Commonwealth Bank Foundation

European Commission (2007): Annual Report. Brussels, European Union

IBRD, OECD, DFID & CGAP (2009): The Case for Financial Literacy in Developing Countries – Promoting Access to Finance by Empowering Consumers

KSH (HCSO) (2010): Népmozgalom (Vital Events). Statisztikai Tükör (Statistical Reflections), 5(17)

MNB (2008): Együttműködési megállapodás a pénzügyi kultúra fejlesztéséről (MNB és PSZÁF) (Cooperation Agreement on the Development of Financial Literacy (MNB and HFSA)), Vol. 2012. Budapest, National Bank of Hungary, Hungarian Financial Supervisory Authority

RMR (2003): ANZ Survey of Adult Financial Literacy in Australia: Final Report. Melbourne, Australia: Ray Morgan Research