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FINANCIAL AND INSURANCE LITERACY IN POLAND

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Abstract

The aim of this paper is to present critical analysis of different concepts related to financial literacy. Discussion of usefulness of standard questions on financial literacy and presenting data on the first Polish research of standard questions on financial literacy compared with selected countries. And finally, presenting questionnaire for insurance literacy and findings from Polish research.

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1. Financial literacy – critical analysis

The increasing level of financialisation makes the knowledge and skills of financial services key elements differentiating individuals or households. The well-being of households depends on their availability to benefit from and offer of financial market. Lack of financial literacy could even dramatically worsen living conditions due to suboptimal choices and there are researches showing that level financial literacy is closely related to accuracy of financial decisions, i.e. Hilgert, Hogarth and Beverly (2003), Lusardi, Mitchell and Curto (2010), Behrman, Mitchell, Soo and Bravo (2010).

The term financial literacy was defined for the first in *Jump\$Start Survey of Financial Literacy Among High School Students* initiated in 1997 in the U.S., as ‘the ability to knowledge and skills to manage one’s financial resources effectively for lifetime financial security’.

The way households and individuals manage their financial resources was considered as important from 50’s and 60’s of the XX century. Two major approaches to this issue could be distinguished. The first proposed by Milton Friedman in 1953 assumes that experience, mostly self-experience is the most important factor in improvement of financial decisions through trial and error (Friedman 1953). And it was backed by empirical studies (Agarwal, Driscoll, Gabaix and Laibson 2011). The latter approach believes there is a need for financial education, that could prepare people to challenging choices and decisions, which scale and complexity is only growing. This second approach praised much more popularity among regulators and issues connected with lack of financial literacy were mainly managed through regulations on demand side of financial market. There are two main actions, financial education and provision of financial information, both should have increased effectiveness of well-informed decision making process.

It used to be that financial education is essential to the proper functioning of the financial market and could raise the effectiveness and efficiency and even prevent some of its pathologies, but after financial crisis there are much more doubts. Research on the financial know-how and expertise in the functioning of the financial market are becoming standard part of the analysis of the financial market and analysis of studies from different countries, both developed and developing proved the occurrence of the relationship between level of education and economic knowledge, not always, however, it was a strong relationship (Lusardi and Mitchell 2011).

It should be underlined that it is vital to take into consideration practical issues of functioning of financial market, financial awareness, that reflects realistic products, environment and conditions while using financial market.

Most of financial education programmes do not account for human motivations in decision-making process, as well as practices of suppliers and distributors and effectiveness of competition. Even if financial education would yield tangible results, it would be very expensive. Moreover, the results of empirical research does not confirm the assumptions of

most of the programs in the field of financial education. The fact of participation in financial education does not increase the financial knowledge and relevance of decisions in adulthood (Hathaway and Khatiwada 2008; Gale and Levine 2010; Mandell and Schmid Klein 2009; Willis 2011).

The other question is whether “the ability to knowledge and skills to manage one’s financial resources effectively for lifetime financial security” leads to right decision. The research reveals that generally yes, but there are relatively many examples that despite of high financial literacy the outcome could be quite poor.

There are different reasons for this. For example consequences of behavioural finance, lack of competition (range of choice is not linked to level of competition) and other market failures. That is why level of financial literacy is not an equivalent of economic outcome for individual. After financial crisis most of regulators have changed their attitude to demand-side regulations and consider them to be low effective. From that moment more supply-side regulations have been put into force, however importance of financial literacy cannot be ignored and should be a part of consumer protection.

2. Operationalization of the financial literacy

Operationalization of the term ‘financial literacy’ is very diverse and could imply (Hastings, Madrian and Skimmyhorn 2012: 5):

- knowledge of financial product,
- knowledge of financial concepts,
- having the mathematical skills or numeracy,
- being engaged in certain activities (such as financial planning).

Previously mentioned studies have shown that level financial literacy is linked to correctness of financial choices, and it is obvious that different operationalisations provide different outcomes and none of them alone assure complete coverage of what is expected within financial literacy. The operationalisation leads us to the main two main issues: how to measure financial literacy, what rises level of financial literacy.

In many cases we are able to set acceptable (right) financial decisions and distinguish them from not acceptable (wrong) financial decision. However it is very difficult evaluate the outcome, final effects of financial decisions in practice, as the scope and availability and conditions of financial products are very diverse and quite often there is no the best objective, single solution, and very often many optimal decision could be accepted. For example evaluation of particular investment depends on specific period, market situation, regulations and many other temporal elements. That is why it is difficult to assess clearly appropriateness of financial choices and this stream of researches of real decisions is not very common.

Much more frequently a questionnaire is used as a tool for assessment of financial literacy. However it should be underlined that it is far from real life situation and could result in lower

effort to cope with presented issues. Most common questionnaires check knowledge of financial concept.

In the study conducted in 2004 as a module of a broader study Health and Retirement Study, three principals were adopted:

- basic knowledge - to measure is to identify the core financial issues;
- relevance - the questions relate to issues encountered in everyday life in different phases of the life cycle;
- brevity - the volume of the questionnaire should minimize the risk of failure of the test.

These principles should allow to use a questionnaire in telephone interviews as they do not require complicated calculations. It was considered that the average consumer should understand the concept of saving and investment portfolio. As a result a set of questions was developed and used later in different countries, that have given the possibility of comparisons. Three basic questions (often called “Big Three”)¹ cover three issues: interest rate, inflation and risk diversification. These questions are as follow:

- [interest rate] Suppose you had \$ 100 a savings account and the interest rate was 2% per year. After 5 years, how much do you think you would have in the account if you left the money to grow: more than \$ 102, exactly \$ 102, less than \$ 102?
- [inflation] Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, would you be able to buy more than, exactly the same as, or less than today with the money in this account?
- [risk diversification] Do you think that the following statement is true or false?
“Buying a single company stock usually provides a safer return than a stock mutual fund.”

It should be mentioned that those concepts are different according to level of complexity and abstraction. For example the question on inflation combines concepts of interest rate and inflation. Question on risk diversification relates to the concept of pooling and should not be so problematic, but it is difficult because of using abstract objects such as stock and stock mutual fund. Probably if the question were asked in different way, for example ‘*is it safer to keep all eggs in one baskets instead of several baskets*’ the outcome would be different.

Although these questions are widely used they earned some critics. For example it was proved that order of questions influenced the results (Rooij, Lusardi and Alessie 2011). Furthermore they are link to general concepts and does not provide information about real

¹ Together with other two basic questions they form so called “Big Five”. These two additional question are as follow:

- [mortgages] A 15-year mortgage typically requires higher monthly payments than a 30-year mortgage but the total interest over the life of the loan will be less. True/False/Don’t know/Refused.
- [bond pricing] If interest rates rise, what will typically happen to bond prices? They will rise/They will fall/They will stay the same/There is no relationship/Don’t know/Refused.

skills and there is little prove financial literacy as such would decrease consumer detrimental on financial market. Mostly because real decisions are influenced by behavioural finance, offensive marketing and bad practices.

Quantitative studies prove that experience could significantly change level of financial literacy (i.e. Hilgert, Hogarth and Beverly 2003; Kawiński, Lewicki and Szumlicz 2011). Qualitative studies showed that children inherit patterns of managing household finance. relatives are also one of the most trusted source of information and advice (Kawiński, Szumlicz and Więckowska 2016). Concluding, several elements influencing level financial literacy could be pointed:

- experience,
- cognitive skills and level of education,
- social background,
- development of financial market.

However it should be mentioned that without knowledge of these concepts (interest rate, inflation and risk diversification) it would be impossible to make well informed decision. That is why the above questions provide knowledge on potential development of financial awareness.

3. Financial literacy – comparative analysis

There are few comparative studies of financial awareness. Most of them use these standard questions (Lusardi and Mitchell 2014). Not all questions are used in each study. Furthermore, the individual versions differ sometimes to eliminate the results of the suggested system response.

Table 1. Financial literacy in selected countries

National Longitudinal Survey of Youth (2007/2008) – U.S.			
Answer	Correct [%]	Incorrect [%]	Do not know [%]
Interest rate	79.3	14.7	5.9
Inflation	54.0	30.4	15.4
Risk diversification	46.7	15.8	37.4
Survey on Household Income and Wealth (2007 and 2009)* - Italy			
Answer	Correct [%]	Incorrect [%]	Do not know [%]
Interest rate	40.0/44.6**	31.8/52.0**	28.2/19.9**
Inflation	59.3/65.4**	10.0/11.0**	30.7/23.5**

Risk diversification	45.1/50.1**	26.4/28.5**	28.5/21.4**
Correct [%]			
Correct [%]	Incorrect [%]	Do not know [%]	Correct [%]
Interest rate	85.8/86.5**	5.2/5.2**	9.0/8.4**
Inflation	77.8/76.8**	8.5/9.0**	13.7/14.2**
Risk diversification	52.7/54.3**	13.5/12.2**	33.7/33.5**
Badanie wiedzy i umiejętności ekonomicznych i ubezpieczeniowych Polaków (2015) – Poland			
Answer	Correct [%]	Incorrect [%]	Do not know [%]
Interest rate	57.3/69.4/63.1****	33.3/24.2/28.9****	9.6/6.4/8.0****
Inflation	64.9/70.0/66.9****	28.6/23.9/26.4****	6.5/6.1/6.7****
Risk diversification	54.5/60.0/57.1****	23.1/22.2/22.7****	22.4/17.8/20.2****

Source: Lusardi, Mitchell and Curto (2010); Fornero and Monticone (2011); Alessie, Rooij and Lusardi (2011); Kawiński and Majewski (2015).

* Interest rate and inflation –2007, risk diversification – 2009.

** Age 25-65, female/male

*** Respondents who denied to answer the question are excluded

**** Female/male/all

The table above (table 1.) shows results of studies run in four different countries that used the same set of questions presented earlier. With high dose of probability most of the respondents experienced financial crisis, excluding Italian respondents in case of interest rate and inflation, but with different intensity. From this perspective period of research can be more or less meaningful for some concepts. For example relatively low inflation in last decades makes the moment of the researches less relevant. On the other hand for the concept of interest rate the moment of study is very important. As Dutch and Poles experienced the outcome of crisis for a longer period of time, their perception could be different. For above causes reasoning should be taken with special caution.

General overlook of the results reveals great difference between countries. The highest scores receive the Dutches, who ‘win’ in two categories out of three (interest rate – I, inflation – I, risk diversification – II). The next are Poles, with the highest score in category of risk diversification (interest rate – III, inflation – II, risk diversification – I), that occurred to be the most difficult one. The last but one are respondents from the US (interest rate – II, inflation – IV, risk diversification – III) and the last are Italian respondents (interest rate – IV,

inflation – III, risk diversification – IV). However it is difficult to find out how the financial crisis influenced the outcomes.

In three countries a division according the gender is available and it shows better outcome of man comparing to woman. Only in case of the concept of interest inflation the results are slightly better for Dutch women. This phenomenon requires further researches. In the literature different explanations are provides.² But most probably financial literacy should be checked differently for women.

It is appealing to analyse the ratio of incorrect answers and ‘don’t know’ replies as they some aspects shows self-consciousness. Known ignorance (that could be measured as a ratio of answers ‘don’t know’ divided by sum of incorrect answers and ‘don’t know’) is better than unknown ignorance (that could be measured as a ratio of incorrect answers know divided by sum of incorrect answers and ‘don’t know’). Almost all cases, expect risk diversification for the Netherlands revealed higher unknown ignorance among men. This overconfidence of men were reported in many behavioural studies on decision making in finance, especially investments (i.e. Barber and Odean 2001).

Table 2. Correct answers on three basic questions within financial literacy in Poland according to age (2015)

	18-24	25-34	35-44	45-59	60+
Interest rate	85.9%	74.5%	63.5%	49.9%	57.2%
Inflation	39.7%	64.9%	64.0%	72.7%	76.3%
Risk diversification	52.2%	65.8%	58.7%	59.5%	49.5%

Source: Kawiński and Majewski (2015).

Using age criterion (table 2) provides further insights into general data. Age related pattern is striking in case of two first concepts, namely interest rate and inflation. In case of inflation reasoning can be linked to experience of high inflation periods. That is why the oldest age group gives the highest share of correct answers. Whereas the youngest population, that probably has never experienced high inflation periods in their conscious life, shows little understanding of this concept. Interestingly in case of interest rate the situation is almost opposite. The youngest group answered very well and the worst ratio of correct answers was reached by next to the last age-group. In this case it is much harder to propose the reasoning. Maybe better knowledge of banking deposits and bank accounts helped the younger part of the population. But this pattern requires proves and further researches. Concerning presented outcomes it could be interesting to check perception of real interest rate, which takes into consideration inflation.

² For more discussion see: Lusardi and Mitchell (2014: 17–20).

Understanding of the concept of risk diversification occurred to be less varied. Considerably better outcome of the second youngest group (25-34) could be linked to higher interest in capital market, but again this explanation requires proves within qualitative studies and further researches.

Table 3. Correct answers on three basic questions within financial literacy in Poland according to level of education (2015)

	lower secondary, completed primary, incomplete primary, without school education and unknown	basic vocational	secondary and post-secondary	Higher
Interest rate	58.6%	56.2%	65.6%	70.3%
Inflation	62.6%	60.9%	66.4%	77.8%
Risk diversification	49.0%	52.0%	56.2%	70.4%

Source: Kawiński and Majewski (2015).

Generally outcomes of the table 3 are not surprising that level of education is a good indicator of financial literacy. Higher level of education mostly implies higher intellectual skills, that helps in understanding these abstract concepts. From this perspective the most problematic is concept of risk diversification. In this case there is the biggest difference among correct answers and the highest standard deviation. But interestingly the feature that differentiate respondents the most is age and not level of education. But age could work both sides depending on concepts. Sometimes it is a matter of experience (concept of inflation) and sometimes it is a matter of being up to date (concept of interest rate).

4. Insurance literacy – theoretical approach

It is astonishing that financial literacy were limited mostly to banking and investment related issues. There is almost nothing on insurance awareness and literacy, hence no standard questions that could check insurance literacy in this respect. Insurance mechanism is very different far from intuitive process, that is why it is considered to be the mostly misunderstood sector (Kunreuther, Pauly and McMorow 2013).

Within insurance there are two concepts that could be considered as central one. The first is the concept of pooling and the second is the concept of compensation (Thoyts 2010). The concept of pooling links to sharing the losses of individual among larger common pool

(community of risk). If the risk is insurable for individual this mechanism allows to change unknown loss into a known loss, that is premium. Compensation (indemnification) can limit costs to the factual amount of losses, keep premiums on acceptable level and assure fairness in relation between members of common pool.

Those two concepts could be represented in the following questions:

[pooling] Please, imagine that you bought insurance against accidents but nothing happened. What happened to the premium ?

- Whole premium is the profit of the insurer
- Contribution financed the other insured losses
- None of the above
- I do not know

[compensation] Imagine that the bike is insured against theft in the amount of 1000 zł (sum insured = 1000 zł) . The bike was stolen and should be compensated. How much compensation insurance company should pay if the value of the bike at the time of the theft is 800 zł?

- 1000 zł
- 800 zł
- None of the above
- I do not know

The first question is about knowledge of financial concept, here abstract concept of pooling of risk, and is similar to question on risk diversification from “Big Three”. Probably institutional framework makes it difficult for some of respondents. The latter question is probably even more difficult, as it is hard to expect broad knowledge of concept of indemnification. For sure it is not an intuitive idea but fundamental for insurance.

5. Insurance literacy – Polish results

The above mentioned questions that depict the concepts of pooling and compensation were studied on Polish respondents, the same group that answered questions on general financial literacy. It allows direct comparison and cross analysis.

The research proves the thesis that insurance are complex and very often misunderstood (table 4). The outcomes for concept of pooling were only slightly better than risk diversification and the concept compensation occurred to be the most difficult one. Surprisingly in the last case female gave more correct answer than males, however the difference is not substantial.

Table 4. Correct and incorrect answers on three basic questions within insurance literacy in Poland according to gender (2015)

	Female	Male	All
Pooling	58.9%/42.6%	65.1%/30.0%	61.8%/32.1%
Compensation	55.3%/34.1%	53.5%/45.0%	54.4%/43.7%

Source: Kawiński and Majewski (2015).

Within results of concept of pooling according to age (table 5) it is difficult to find a clear pattern and explanation, as better outcomes characterise two age groups in the middle. Experience does not help in understanding rules of pooling. Adversely, analysing correct answers on compensation according age it is clear that understanding increases with age and here experience helps catching this idea.

Table 5. Correct answers on three basic questions within insurance literacy in Poland according to age (2015)

	18-24	25-34	35-44	45-59	60+	All
Pooling	61.3%	65.4%	65.8%	59.6%	58.8%	61.8%
Compensation	43.3%	49.1%	51.4%	53.3%	65.8%	54.4%

Source: Kawiński and Majewski (2015).

Level of education differentiates the respondents less substantially than age (table 6) and not surprisingly in case of concept of pooling higher the understanding increase with level of education and higher education does not guarantee the best understanding of this concept. On the other hand grasping concept of compensation is negatively correlated with level of education. Probably further qualitative studies and quantitative researches are required.

Table 6. Correct answers on three basic questions within insurance literacy in Poland according to age (2015)

	Lower secondary, completed primary, incomplete primary, without school education and	Basic vocational	Secondary and post-secondary	Higher	All

	unknown				
Pooling	57.0%	59.3%	61.0%	69.6%	61.8%
Compensation	57.6%	58.0%	52.9%	50.3%	54.4%

Source: Kawiński and Majewski (2015).

Conclusions

Although the link between financial literacy and economic outcomes is proved by many studies, there is no clarity when it comes to way of transition. Even more question rises measures of financial literacy but for practical reasons mostly frequently used is a questionnaire on knowledge of financial concept.

The proceeded analysis reveals that there is a need of more clarity on basic terms link to financial literacy. Especially it is essential to decide on minimal standards of knowledge and skills that allows proper practical functioning on financial market. From this perspective mostly featured financial literacy does not sufficiently show practical aspects and it is more about potential outcome on financial decisions.

Standardised set of questions allows international comparison. International comparison discloses huge differences and clear trends at the same time. It suggests much more cautions in shifting solutions within behavioural finance among countries. Polish respondents answered relatively well, however further researches are required to reveal source of financial literacy.

The concept of insurance literacy was positively checked. However further qualitative studies are required to better understand the results and set of basic indicators of financial literacy should be widen by insurance aspects. Results proved complex character of insurance products.

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