

## **HOW DO POLISH CHILDREN UNDERSTAND ECONOMIC CONCEPTS?**

**Sabina Kołodziej**

Economic Psychology Department

Kozminski University

ul. Jagiellonska 57/59

03-301 Warszawa

e-mail: skolodziej@alk.edu.pl

**Abstract:** Knowledge and understanding of basic economic concepts is crucial for the future orientation of a child in a world of economy and influences taken in this sphere behaviors. Nowadays, children earlier and earlier begin activity in the market, thus the role of economic knowledge increases. This paper presents the results of the research on the fundamental concepts of economic knowledge and understanding of market mechanisms by the children attending the first and sixth grades of primary school. In particular, it analyzes the process of gaining knowledge about money, banks and relation between the supply of a particular good and its price. The results show that children gradually gain economic knowledge, reaching the level enabling to understand the relations between particular actors of the market at the age of twelve.

**Keywords:** economic knowledge, economic socialization, money, banks, children, teenagers.

### **Introduction**

Nowadays children earlier and earlier become actors of economic world – already at the age of 4 part of them have their own money, 40% at the age of 4-18 years old regularly receive pocket money (Jasielska i Maksymiuk, 2010). This indicates the importance of economic socialization of the youngest. Research conducted in this field is focused mainly on issues associated with the concept of money – its value, prices in the context of saving and credit. Also issues of possession and property, as well as the work and unemployment are analyzed. Many studies emphasize close relationship of economic socialization with the cognitive development, hence there are frequent references to the theory of the Piaget cognitive development (Mandal, Stefańska-Klar, 1995; Roland-Levy, 2004) as the essential indicator of the ability to adopt economic concepts. Piaget describes cognitive development of the individual in four stages, enabling the child to understand the surrounding reality and be accommodated to it by creating the correct outlines of the action. Creating schemes takes place thanks to the processes of assimilation

that is supplementing the existing cognitive schemes for newly obtained information and for the accommodation, i.e. the modification of the existing outlines under the influence of collected information. As the child grows he/she undergoes the stage of sensomotoric intelligence (0-2 age), the stage of preoperative intelligence (2-6 age) the stage of specific operations (6-12 age) and the stage of formal operations (12-15 age) which collect information link, creating the consistent system of knowledge.

Additionally, psychologists analyzing economic socialization adduce the Bandura theory of social learning (Mandal, Stefańska-Klar, 1995; Roland-Levy, 2004). It puts the emphasis on the role of environment and the stimuli received from the environment, which trigger in child a specific behavior. Through the observation of behaviors effects the child generates outlines of behavior in social situations. Bandura, according to the basic statement of behaviorism, assumes that positive effects will act as the award, increasing the probability of repeating the given behavior in the future, whereas penalty – that is the negative effect –

will minimize the risk of another appearance of the given reaction.

Bandura emphasizes the great role of “social models”, that is the persons important for the child (e.g. parents, teachers, peers or heroes of fairy tales or films), whose impersonation does not require awarding or penalties, because observing and impersonating for the child is already an award.

In this article there will be described the results of the above mentioned children’s collecting economic knowledge concerning the following issues:

- money and its function;
- the role of banks in the market economy;
- the connection between the demand of the good and its price.

### **What do children know about money and its functions?**

One of the most often analyzed issues in the research on economic socialization of children is the process of acquiring by them the knowledge about money and its role in the economic and social life. In this research also the concept of price, profit, costs and ideas of the economical exchange is analyzed.

Kupisiewicz (2004a) focused on the process of growing children’s competence concerning the knowledge of money and abilities of making money calculations. The normal and disturbed course of intellectual development was tested in pre-school and early-school children, that is children from 5 to 10 years of age, living in cities as well as in villages. Only the results referring to the level of knowledge and economic abilities of children at the age from 5 till 9 with the normal course of intellectual development will be described. The author of the research project chose a set of methods and research techniques, which consisted of:

- the diagnostic tasks “I understand the meaning of money”,
- the project method – completing stories,
- a conversation with elements of the interview,
- observation,
- analysis of documents (Kupisiewicz 2004b).

These techniques require conducting individual interviews.

The results obtained by Kupisiewicz (2004a) enable to trace the process of children’s acquisition of competence associated with distinguishing and using money in pre-school

and primary school period. It should be noted that the author also analyzed the influence of different demographic and social variables (e.g. sex, age, education level of the child, place of residence as well as parents’ education and profession) on the level of the discussed competence.

According to the author almost half (43%) of the examined five-year-old children do not distinguish coins and banknotes from other similar objects which are not money. Children at this age confuse money with their fakes (even when banknotes are white from one side or coins are color). The ability of correctly recognizing money clearly increases in children of six- and seven, whereas eight- and nine-year-olds are able to perform this task correctly. It was stated that in this respect children who have their own money and the ones whose parents have professional employment were marked by higher competence. Distinguishing money being at present in circulation from the one which was used before and the ability of recognizing and naming denominations turned out to be the more difficult ability. In both cases only children of 8 and 9 years of age were able to deal with these tasks, whereas younger children made a lot of mistakes. Similarly as previously, more quickly these abilities are acquired by children having their own money, having professionally employed parents. Additionally, in the test of recognizing and naming denominations of coins and banknotes children living in the city achieved better results.

The above mentioned results of pre-school and primary school children gaining the basic knowledge about money may be supplemented with the findings conducted by Draniak (2001). The author carried out series of individual interviews with children of 6 and 8 years of age. On the basis of the question: “what is money?” as much as 50% of the examined six-year-olds were not able to give an answer, whereas two thirds of eight-year-olds pointed out in their statement the function of money as the medium of exchange (“something which we pay”). The consequence of these responses was an indication by the tested children of the shop as the place in which people use money. The older examined children – eight-year-olds – were able to name more places in which money is used (e.g. pharmacy, market, cinema, postage). It is worth noticing that the bank was listed in this context only by 25% of the eight-

year-olds, it was not mentioned by younger children. However, as the source of money the examined children pointed out the work and received remuneration (83.3% of answers were given by six-year-old children and 66.6% of answers were given by eight-year-old children). As the second essential source of money both six-year-old children (50%) and eight-year-olds (42%) named the bank or ATM.

Cychowska (2002) claims that financial situation of a child family has also an impact on understanding the process of getting and managing money. According to the results achieved by the author, a worse financial situation of children is connected with a worse understanding of the concept of money and with different, as compared to the children coming from families with a better financial situation, perception of ways of getting and spending money. For the children growing in good financial conditions the work and remuneration are the primary sources of money, whereas according to the children whose parents are dealing with financial problems, money is obtained from benefits. It is possible to notice similar differences with reference to spending money. Children having a better financial situation gave examples of purchasing objects improving the quality of life (e.g. house equipment, toys). However, for children experiencing a bad financial situation, spending money is associated with providing for the family existence (e.g. payments, food purchase). The author also notices that bad financial conditions of the family are connected with a more frequent perception of spending money on e.g. alcohol, cigarettes.

Kupisiewicz (2004a) also analyzed money value gradation ability of children at the age of 8 and 9. According to the results, for children banknotes value gradation is clearly simpler (and learnt earlier) than coins value gradation. A multitude of monetary units is a probable cause of this relation towards banknotes. About 80% of children of less than 5 years old have difficulty in recognizing and naming money. The examined children paid attention to the signs placed on the coin, made attempts to read them, but denominations were not significant for them. A year older children better dealt with this task. The task was completed by about 60% of the examined. However, although almost every examined eight- and nine-year-old was able to distinguish from the smallest to the largest value of coins from 1 gr to 5 PLN and

banknotes from 10 PLN to 100 PLN, it does not mean the mastering ability of using denominations. About 28% of children of 8 and 12% of children of 9 are not able to deduct the correctly quoted amount.

Similarly, correct gradation of the money value does not mean the understanding of money value in the monetary system. Children asked to choose the banknote and coin about the highest value among a few ones presented, had a great difficulty with the decision. Five-year-olds as well as the largest group of six-year-olds in this task were guided by the size and – in case of coins – with golden color. The majority of seven-year-old children and almost all 8- and 9-year-olds are already able to perform this task, but the choice of the most valuable coin was better performed than the choice of the most valuable banknote. The described competence was higher among children who had their own money and whose parents were professionally employed.

As a result of the conducted research the author distinguished three levels of developing the competence of understanding money and abilities to conduct money calculations in children at the age five – ten years old.

The first from the distinguished levels, called preoperative, is obtained by the majority of children between the 5th and 6th year of age. Children in this period think that the size of the money (a bigger banknote or coin is more valuable) is connected with its value, whereas in case of coins – color (golden color means that the coin is valuable) is the additional factor. Moreover, children of this age think that a banknote always has a considerable value as compared to the coin. Additionally, for children the quantity of coins is important, because a higher amount of coins has a considerably higher spending value than a banknote. Children also do not understand the idea of changing money and identify it with exchanging money to a similar one.

Transitional level is characteristic of the majority of children of seven. In this period children begin the first observations associating the value of money not with its appearance, but with the denomination. Also knowledge about the greater value of banknotes appears as compared to coins, but children are not still able to compare the value of a few coins and one banknote correctly. Moreover, the process of changing money starts to be understood – children on the one hand know that it is

possible to exchange one banknote for a few coins, but make it incorrectly, influenced by size and gilding of coins.

The further growth of knowledge about money and the ability to use it takes place in the eighth year of life, when a child is at the stage of concrete operations. At this stage children already know that the denomination shows the value of money, and banknotes have greater nominal values than coins. They are able to set the equivalent between the banknote and a few coins, as well as efficiently change coins and banknotes.

### Understanding banks function by children and young people

The second important area of the economic knowledge, which children acquire in pre-school and primary school, is the knowledge concerning principles of functioning and role of banks in economy.

The knowledge about the existence of the bank, i.e. institution associated with money, appears already in small children; however it does not mean understanding the principles of its functioning. Similarly as in case of money, the knowledge about banking is collected by children in stages, from noticing the bank as a source of money and place of its storage to understanding the mechanism of paid interest on placed deposits, next charging credit interest, all the way to accepting the fact that bank is a financial institution aimed at making a profit. According to Jahoda (1979, in: Bromboszcz, 1995) understanding that the source of profit for the given entity is a difference between the purchase price and sales, with reference to all kinds of transaction carried out on the market, is a crucial moment for

understanding functioning of the entire economic system.

One of the first research on understanding by children the activity of banks was conducted by Berti and Bombi (1988) through interviews with children, which led the authors to distinguishing six stages of knowledge acquisition about principles of this institution functioning which are observed in the process of economic socialization.

An attempt to estimate the level of knowledge about banks of Polish children and compare it with the results received by Berti and Bombi (1988) was taken at the beginning of economic transformation by Zysk (Gasparski, 1991). Two groups of children of the same age (6-17) took part in this research, one in Poland and second in Italy. Table 1 presents the comparison of the obtained results in the Polish and the Italian groups.

The results of the conducted analysis pointed out a lot of differences with reference to the knowledge about banks of Polish and Italian children at the age from six up to seventeen (Table 1). Similarities were noted only in case of the youngest age group (6 years), because the Italian as well as the Polish group had knowledge mostly on level 2 (bank as “super safe”). However, Italian children had more knowledge at this age compared to Polish children, of which 64% did not have any knowledge about banking. What is more, according to Zysk results, the difference between Polish and Italian children is increased with age, as in older groups the knowledge of Polish children did not go beyond level 2, while amongst Italian children a steady increase of the knowledge along with age was observed.

Table 1. Percentage comparison of Polish (PL) and Italian (IT) children knowledge about bank and its functions

Level of knowledge about bank	6 years		8 years		11 years		14 years	
	PL	IT	PL	IT	PL	IT	PL	IT
Level 0: Lack of the knowledge	64%	30%	44%	–	12%	–	15%	–
Level 1: Money Source	20%	40%	15%	20%	19%	–	15%	–
Level 2: Super-safe	16%	30%	31%	50%	69%	15%	56%	–
Level 3: Credit	–	–	–	30%	–	35%	–	30%
Level 4: Credit and Deposits	–	–	–	–	–	20%	–	30%
Level 5: Profit	–	–	–	–	–	30%	–	40%

Source: Zysk, T., Children's ideas of the bank functioning (typescript), Gasparski, 1991.

At least level 4 was achieved by the majority of fourteen-year-olds. However, it is worth emphasizing that the research was conducted at the beginning of political transformation, therefore the examined Polish children grow up and collect the knowledge about the surrounding world in a completely different reality as compared to the Italian children from Berti and Bombi research. That could considerably contribute to the observed differences.

From this point of view, important are the results of the research about bank knowledge of primary school pupils obtained by Bartosiewicz (2003) and Suchecka (2009). Both authors focused on two groups of children at a similar age: the younger group constituted of seven-, eight-year-old children, whereas the older group constituted of eleven- and twelve-year-old children. The results show that children from the younger group as the main function of bank perceive money storage (Bartosiewicz, 2003), but at the same time over 90% of children of the eighth and eleventh year of age know that it is possible to lend money from the

bank (Suchecka, 2009). Similarly, almost 90% of them are aware of the need to repay a taken loan. The analysis of the results obtained by Kupisiewicz (2004a) show that the knowledge about the necessity to repay debts appears at the age of six. However, it is not tantamount to the knowledge about charging loans and credit interest, because according to the considerable majority of children aged eight (91%), examined by Suchecka (2009), the amount paid off is equal for the previously lent amount, so children still do not have knowledge about the cost of money. The knowledge associated with noticing the bank as the institution dealing with money and receiving income from it appears in the responses of three years older children, that is twelve-year-olds. Over 80% of them claim that we give back more money to the bank than we lent. The process of gaining knowledge by children concerning the existence of money cost and associating with it the necessity to repay to the bank a larger amount than was previously lent, is presented on diagram 1.

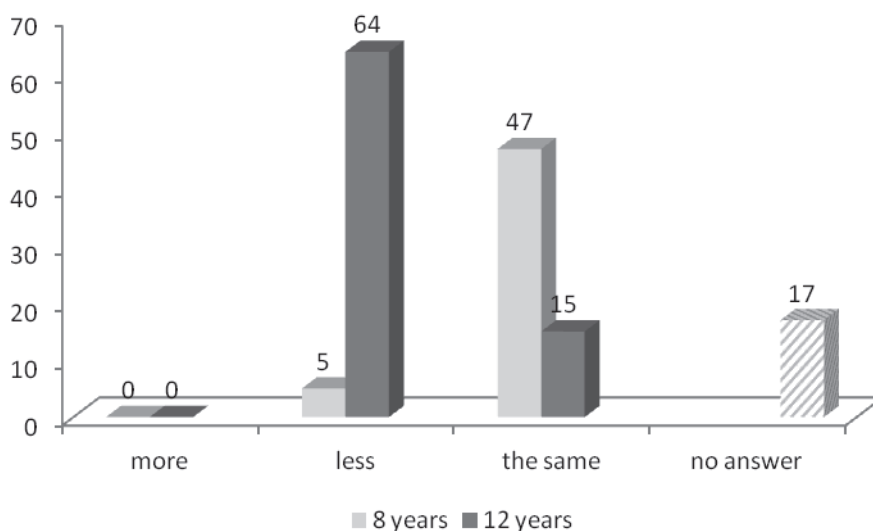


Figure 1. Distribution of answers to question about the amount of money, which must be returned to the bank when paying the loan off (Source: Suchecka, 2009).

Moreover, Bartosiewicz (2003) states a positive impact of the parents education level on the children's knowledge about the bank function. Parents, better educated and in consequence having a probably wider knowledge on economic topics, better and more willingly hand it over to their children.

To sum up, the conducted research in the few latest years indicate that – similarly as in case of the knowledge about money – children collect knowledge concerning banking progressively, from pre-school years till they fully understand the principles of bank functioning as the institution obtaining profit from granted loans in the age of eleven –

twelve. Therefore, the above results remain in contradiction with the data obtained by Zysk (Gasparski, 1991), where the knowledge about the bank of Polish children is not beyond the second level, children defining the bank as a place to store money. However, it should be emphasized that Zysk conducted his research in the special historical time, amongst children growing up in centrally planned economy, which did not give the possibility to observe the principles of such financial institutions as bank. Most probably, it was the cause of gaining the above results. What is more, the description of contemporary Polish children's knowledge about banks by other researchers (Bartosiewicz, 2003; Kupisiewicz, 2004a; Suchecka, 2009), points out that economic socialization regarding banks runs faster than in Italy at the end of nineteen-eighties (Berti and Bombi, 1988). Taking into consideration the fact that the level of economic knowledge increases as a result of civilization changes, it should not be the basis to claim about the high level of knowledge about bank of Polish children as compared to children from other countries. However, it is certainly possible to state that this process is carried out progressively all the way to fully understand the principles of bank institutions functioning.

### Understanding basic economic relations

As already emphasized, collecting economic knowledge by children takes place progressively and leads to understanding relations between individual entities on the market. One of such relations is a relationship between the price of a good and volume of its supply, which analyzed Suchecka (2009) in her work. For that purpose, the examined children at the age eight and twelve were presented story taken from the Laiser and Halamchi (2006) work, describing a situation of growing number of service providers (the analyzed story concerned the increase in a number of children offering washing windscreens on a crossroad). The respondents' task was to estimate the direction of possible changes in the service price, and next to explain the reason of the assumed change. The results achieved by Suchecka (2009) showed that this task caused great difficulty for the examined children. The division of the respondents into two age groups was presented on the following graph.

As can be seen from the graph, only eight (15.7% of the examined group) eight-year-olds chose the correct answer, thinking that in case of increase in the number of service providers the price would decrease. However, almost half of this age group thought that the price would rise. The clear difference of answers was seen in the group of the examined twelve-year-olds, where slightly over 60% were able to give the right answer.

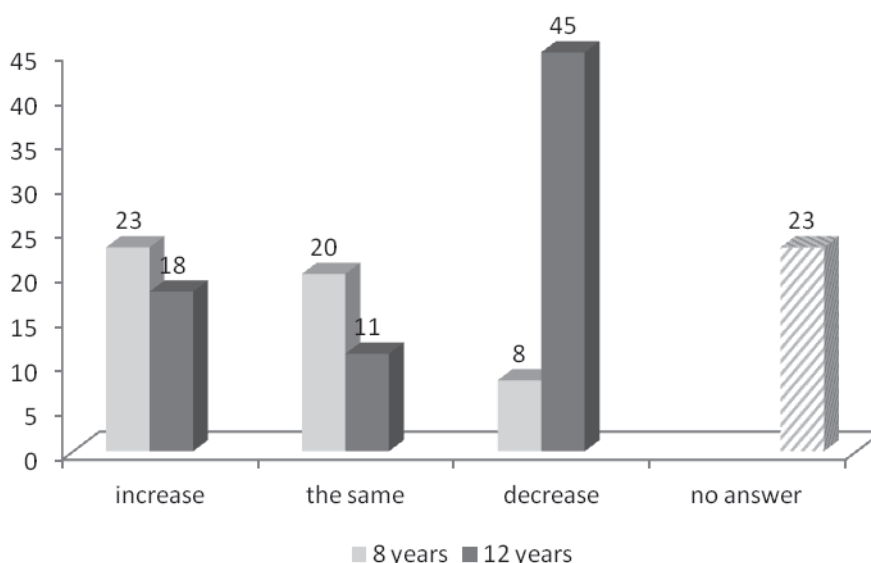


Figure 2. Distribution of answers to the question about the price change in case of supply increase (Source: Suchecka, 2009)

However, most probably the choice of the correct answer does not mean the full understanding of the studied issue. In addition to selecting one of three possible answers, the tested children justified the expected direction of price change. This task proved to be much more difficult than the previous one. Almost half (45.3%) of statements of the examined children prove lack of understanding of the relation between supply of a good and its price, and in the next 13.5% of cases reasons were not given at all. For example, the statement that “many children will provide washing service”, was used as the argument for both rise as well as decrease of the price. Moreover, many contradictory or difficult to understand responses appeared. Similarly as in case of the question about adjusting the possible price change, more examined twelve-year-olds gave the correct answers as compared to eight-year-old children.

### **Summary**

The presented results of the research show that nowadays children very quickly acquire the first experience with money. However, it is not tantamount with understanding this concept and acquisition of the ability to use money on the market. Five-year-old children and a large part of six-year-old children, though know about money existence and are able to indicate the main place, in which money is used (shop), do not understand this concept and are not able to distinguish money from similar objects, and in consequence cannot actually use money. In their opinion, paying for a good is a rite. They also combine value of money with its appearance (size, color) and amount. Accordance to the classification of economic thinking stages drawn up by Berti and Bombi (1988), these children are at the pre-economic stage, in which first experiences in a world of economics are gathered, however without understanding of the observed situations and behaviors. Kupisiewicz (2004a) names it the preoperative level.

The visible increase in the described competences is observed at seven-year-old children. The majority of them are able to distinguished money from similar things, as well as part of them is able to correctly point out and name a few denominations. Moreover, part of children at this age masters the ability of

using money in the situation of purchase – sale – and deduct the appropriate amount of money in a hypothetical purchase situation, as well as the due change. They start also to understand the process of changing money. The above characterization indicates that according to the division implemented by Berti and Bombi (1988) a certain part of the examined seven-year-olds is still at the intuitive stage, however part of them already enters the specific operations level. Similarly, according to Kupisiewicz (2004a), seven-year-old children are within the interim period preceding the level of specific operations.

The further increase in economic competences is observed at eight- and nine-year-old children. They are able to correctly recognize money and make their graduation. Acquisition of these abilities prepares the children to use money in the situation of purchase – sale, which the majority of the examined children at this age already experiences. The examined eight-year-old children define the concept of money, point out its function as the medium of exchange as well as indicate at least a few places in which money is used. However, though the majority of children at the age of eight quote work and remuneration as the source of money, still relatively large part of them regards bank as a source of money. Referring to the described above stages of economic thinking developed by Berti and Bombi (1988) as well as Kupisiewicz (2004a), the majority of the examined children at the age of eight and nine can be ascribed to the level of specific operations.

With reference to the knowledge concerning bank and its function the gradual increase was also observed. Respondents at the age of 12 compared to eight-year-olds more often granted the correct answer to the question about the need of returning the lent money to the bank. Also a positive effect of parents' education level on children's knowledge about functioning of the bank was stated. Moreover, the age of 12 turned out to be significant for the issue of understanding the relation between the given price to a service (of goods) and its supply.

The results of the described research clearly indicate that acquisition of economic knowledge by children is a process starting in pre-school, when a child acquires the first experiences referring to economy world. At

first, the knowledge is fragmentary, based on observations of everyday behavior of the closest people. Over the years the activity of children on the market of goods and services increases, what favors the acquisition of social – economic knowledge. The level of knowledge

which allows them to understand the relation between individual entities of the market and mechanisms ruling their behavior, is gained by children of about 12-13.

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