TRANSITION IN MENTALITY DUE TO SCARCITY – EVIDENCE FROM THE REPUBLIC OF CROATIA

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ABSTRACT

This paper aims to identify changes in consumption, with emphasis on shifts in decision-making process and income allocation due to scarcity. In order to determine the changes in consumption is necessary to determine the change in the quantity of consumption, and changes in consumption patterns. This paper will first look at the economic situation in the Republic of Croatia. Path positioning on Swan's diagram will confirm a shift in the equilibrium over time. Study results will show the level of change in consumption caused by scarcity, and a change in consumption patterns. The implications of the results of this study should suggest that in addition of proper macroeconomic management to restore equilibrium and economic growth, a change in citizens' attitude is also required.

I. INTRODUCTION

The person spends his income for satisfying his present or future needs, or his family needs. After he satisfies his primary needs like needs for food, accommodation, transportation, he can start with satisfying other high ranks needs. While satisfying his needs, a person behaves differently when buying. According to the product he's buying, and according to the product's price, a person can behave routine or complex. In this buying decision make process a person has buying motives, buying habits, but also attitudes for some product or purchase. If there were no income limitation, a person should not make any decision about buying or spending his income. He would just spend without limits.

Since the income is limited, a person has to face with the choice problem and the problem of valuating the alternatives few times a day. But what if the income decreases or absent? A person has to face his own buying habits, and from some also give up. Habits are formed for in a long time, and they can't change in a minute. A person need time to adapt to a new situation, the crisis, or decreased income.

Scarcity, meaning income decrease, is not a problem faced only by individuals and their families, but also a variety of organizations, and also governments. Each income decreasing will have series of consequences like investments decrease, production decrease, employment decrease, savings decrease, and definitely decrease in consumption, looking from the macroeconomics aspect. Looking from the aspect of a person, in this paper it is assumed that if his income decreases, in the long term, he will reduce his consumption and he will also make decisions about the allocation of his own income in a different way.

This paper is trying to identify changes in consumption due to person's income decreases. It is assumed that the income decrease will lead not only to changes in consumption in quantity meaning, but also in the consumption patterns. The main reason why change in the consumption patterns is making is the assumption that a person will change buying habits.

To understand better the changes in consumption in the quantity and patterns meaning due to scarcity in the Republic of Croatia, it is necessary consider the economic situation of the country. The Republic of Croatia was also affected by the economic crisis what create areas for new researches, and it is assumed that, in the period during the crisis, there was an income decreases which led to make changes in consumption.

It was considering appropriate to position the economic situation in the Republic of Croatia to the Swan's diagram. With the Swan's diagram it is possible to display the internal and external balance, the balance on the markets of goods and money and the abroad balance. As a mainstay in determining changes in consumption patterns, it was taken a questionnaire filled by a number of Croatian citizens. This questionnaire will show the change in consumption in quantity meaning due to scarcity, but also changes in consumption patterns. This paper emphasizes the importance of attitudes, because it recognizes that the change in consumption patterns is supported by changing attitudes.

The aim of this paper was determine if there was a transition in mentality due to scarcity in the Republic of Croatia. First is to determine if there was a decrease of the income in the Republic of Croatia and which the impact of decreasing on consumption quantity was. Using the Swan's diagram it is possible to prove the shift in the economy balance compared with the previous period, which will indicate that the scarcity occurred in the Republic of Croatia. Also, using the questionnaire filled by a Croatian citizens is given a contribution to finding out how the decrease of the income affect to the change in buying habits, thus to change the consumption patterns.

II. CONSEPTUAL FRAMEWORK

According to the law of scarcity, Samuelson and Nordhaus (1992), explain that all the goods are scarce, what means that there are not enough resources to produce all those goods people want to spend. States, organizations and individuals are daily confronted with the problem of choosing between two or more options or alternatives. The individual is the one who choose one of the possible options or alternatives, depending on the evaluation of the product, but also depending on his income. As Samuelson and Nordhaus (1992) said, the demand for some product is determined by the cost of the product, personal income, population size, price and availability of goods that are in the direct connection with the demanded product, tastes and consumer's preferences. Just from that claim, it can be concluded that the income has an influence on the demand, what means that the decreasing of the income decrease the quantity of demand and shifts the demand curve to the left as it shown on the Figure 1.

FIGURE 1 – THE DEMAND CURVE
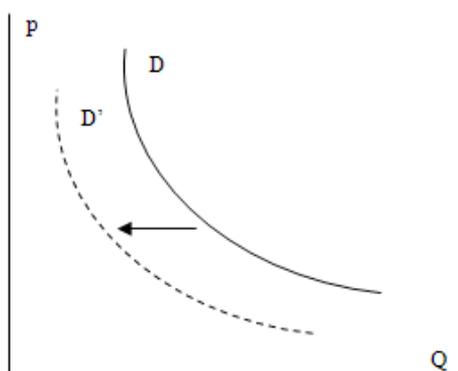
Source: Samuelson Paul and Nordhaus William, Ekonomija, (Translated Babić A … et. al.) Zagreb „Mate", 1992

        The relation between consumption and income it is better to show through the consumption function. Samuelson and Nordhaus (1992) explain this relation as a hypothesis that there is stable empirical relation between the two variables. On the Figure 2 the E point shows the point where the consumption is equal to available income. And in that point people do not either save neither borrow money. On the right side of that point, the consumption function lies under the equilibrium line and shows that peoples earns more income than they spends, and the rest they save. Opposite, they spend more than they earn, and they borrow money.

FIGURE 2 − CONSUMPTION FUNCTION
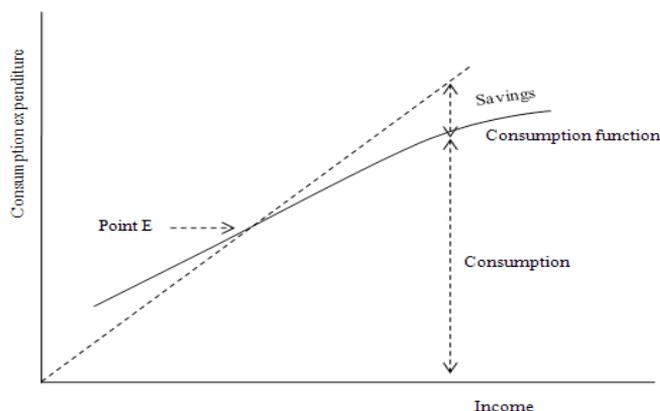
Source: Samuelson Paul and Nordhaus William, Ekonomija, (Translated Babić A ... et. al.) Zagreb „Mate", 1992

An individual buys products to satisfy certain needs at the present or at the future time. While decision making process, an individual behave differently, and that largely depends on the product he is buying. Sally Dibb and others (1995) explain types of consumer behavior. Routine behavior is a simple behavior which is typical by buying less value product. Consumers are buying such as product frequently, and the buying decision making process is very short. A complex behavior is typical for buying expensive product. Those product consumers are buying rarely, and they need more time to evaluate other alternative or to make a decision to buy. For very expensive product, the buying decision making process sometimes is lasting for years. The importance of motivation and attitudes, in the buying decision making process, prove a fact that they belong in the group of psychological factors that affect process.

Sally Dibb and others (1995) also explain the motive of consumption and attitude about the consumption. Through the most popular motivation theory (1954) Maslow explains that in each person there are five kinds of needs. Physiological needs include hunger, thirst, shelter, sex, while security needs includes protection from physical and emotional injuries. This two rang of needs are classified as a lower-order needs that are generally met outside with things or money. Higher-order needs, which are generally met within the person, represent the following ranges of needs. Social needs include affection, belonging, acceptance and friendship. Respect refers to internal factors such as self-respect, autonomy and achievement, as well as external factors such as the status or recognition or attention. The last rang need for self-actualization shows the desire of people to become what they are capable to becoming. That includes growth, achieving their potential and self-fulfillment. Only after the person meets the needs of the lower rang, he can access to meet the higher rang needs, provided that when one wishes is fulfilled, it present no longer a motivation.

According to Robbins and Judge (2010) the motivation is a set of process which is responsible for the intensity, direction and persistence in the efforts to achieve a goal. It is an inner strength that pushes a person to meet his needs. A motivation is very important in the buying decision making process because it determines what motivate an individual to make some purchase.

Robbins and Judge (2010) define attitudes as judgmental statements (positive or negative) in relation to things, peoples or events. They reflect what somebody thinks about something. Vargas and Yoon (2004) defined attitudes as psychological tendency to evaluate an object with some

degree of favor or disfavor. It is interesting to understand why people actually have attitudes about something. Vargas and Yoon (2004) think that attitudes help people to navigate their world. This paper accepts the claim that attitudes helps to direct a human behavior, and thus have influence on the buying decision making process[1].

Certainly, that with a limited income, a person has to decide how to spend rationally. He is forced to make a rational decision on the allocation of limited income. What will a person buy, and which alternative he will chose, depends also on the utility of the good. Utility is observed as a subjective satisfaction or pleasures explain Samuelson and Nordhaus (1992).

While considering the decision making influences, rationality has to be revised. Rationality theory provided powerful framework for macroeconomic and microeconomic choice models. The classical approach to the rationality refers to the maximization of the expected utility according to Kenrick and others (2010.) Such approach was used in many decision making models in behavioral economy. Nowdays, this concept is considered to be too narrow because individuals rarely tend to be rational. Kahneman (2003) considered many influences that make boundaries for individual's rationality. Camerer (1999) suggests the utility approach to the decision making equilibrium. Microeconomic theory revised many boundaries for human decision making like reasoning ability, costs of obtaining information and limits in computational ability, think Gigerenzer and Selten (2002). Ariely and Norton (2008) observed that preferences can change over time and he introduces the terms hedonistic utility and imputed utility which make an impact on the decision making and taking actions of the individuals. Amir and Levav (2007) showed that the construction of the preferences doesn't have to be the same thing as the choice construction. They showed that the preferences could be just learned solutions to the choice problem and that as soon as the decision making context changes, people will have to deal with the searching for the new solutions.

Manson and Akram (2010) suggest that the crisis affects the change in the consumption patterns, because consumers change their habits. Because of the economic crisis, people are concerned about their jobs and therefore reduce consumption expenditure.

Also Bombol (2011) and Janos-Kreslo (2009) shows that the customers will first reduce the consumption expenditure for closes and for durable goods purchases. They will reduce the consumption of all the services which can be connected with leisure or entertainment, and they will turn to buy cheaper foodstuffs.

According to Manson and Akram (2010), people start to buy smaller quantity of product of they start to buy larger packages of product in order to save. There is a change in the purchase of the more expensive brands at cheaper. People are more focused on the price of the product, than on the quality. The buying process also changes and it becomes more complex. Even when buying cheaper product, people behave complex and they more think in the buying process that before the crisis.

Katona (1974) thinks that people during the economic crises increase their savings, because they are more concerned about their job and income.

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[1] At the end of the 60s of the 20th century, the relation between attitudes and behavior has come into question. Robbins and Judge (2004) explain that, based on a large number of studies that have exanimate the relation between attitudes and behavior, there is a conclusion that attitudes are not related to behavior, or if they are but in a very weak correlation. Recent research has shown that attitudes can predict a person's behavior, but only if it takes into account mitigation variables. Those variables are attitudes importance, attitudes specificity and availability, the presence or absence of social pressures to the person and direct or indirect relation to the experience of people about the attitude.

Flatters and Willmott (2009) identified these new trends in consumption during economic crisis. The demand for simplicity is rising: "during recession consumers are used to limited offers and they tend to simplify their demand". After the crisis, they will continue to buy simple offerings with greatest value. Even the rich people are economizing, although they do not have to. They start to recycle, they learn their children to some simply and traditional value. The green consumerism is also decreasing during the economic crises, because people do not have enough money for buying ecological friendly product, because they are expensive. People less donates because they focus on their families' welfare, and that trend is slow to improve even after the crisis.

McKenzie and Schargrodsky (2005) think that, because of the economic crises, an individual may change the frequency of his purchase, the stores in which these purchase are made.

Manson and Akram (2010) think that people redefined the terms of necessities and luxuries during the crises.

Bombol (2011) has systemized the human behavior in different phases of the economic crises in Poland. He thinks that in the year 2008 people behave limited when purchasing pleasure goods. People control their consumption and generally reduced the consumption amount. In the year 2009 the more expensive products are replaced with cheaper, and they left expensive shopping for a later period after the crises. In the year 2010 people are getting used "to the crises, ostentatious savings and bigger consumer awareness".

Amalia and Ionut (2009) explain that the customers have different perceptions about bad situations, such as for example economic crisis. Therefore in such a situation they act and behave differently. Authors proposed customers segmentation taking into account the attitudes to the risk. Therefore, the customers are segmented into four groups: panicked customers, prudent customers, concerned and rational customers. The bigger impression on the crisis was observed by the first to customers group, and the lesser by the last one.

Apart the macroeconomic indicators of economic crisis such as decrease of GDP and economic activity, and apart the microeconomic indicators such as decrease consumption expenditure, Jasiulewicz (2011), indicate the social dimension of the economic crisis. The social dimension refers to the decreasing of employment, decreasing household income, fear of losing the job, difficulty in finding a new job, declining material status, inability to repay loans or other debts. All mentioned leads to a change in the individual lifestyle, and some affect on health and creating anxiety or even depression.

III. METHODOLOGY

To position the economic situation of the Republic of Croatia to Swan's diagram, it is first necessary to present the Swan's diagram components. The economic model IS-LM shows the balance on the market of goods and money market, according to Krueger (2009). The section of two curves shows the point at which both markets are in equilibrium. If the balance payment curve is added, an overview of internal and external balance is received, or Swan's diagram.

The data necessary for performing the IS and LM curve, to display the internal balance, and the BP curve to display the external balance, was collected from the International Financial Statistics, Croatian National Bank[2], Croatian Bureau of Statistics and Agency for protection of market

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[2] http://www.hnb.hr/publikac/bilten/arhiv/bilten-187/hbilt187.pdf

competition. In the process of collecting the necessary data expressed in national currency Kuna, and their inclusion in the tabular view, it was not found a unique data source. Because of that it was necessary to combine data collected from the sources mentioned above. There is a problem of data shortage for some periods, and because of that, the displayed period for determine and observe the economic changes in the Republic of Croatia is reduced to the period of the first quarter of the year 2005 till the fourth quarter of the year 2011.

Based on the GDP and the following elements, according to Babić (1998) the IS curve is being performed as it is showed on Figure 3. The interest rate is the base rate calculated by on the average interest rate on Finance Ministry treasury bills with a maturity of 364 days. The investments are gross fixed capital formation, and as a saving element are considered time, savings and foreign currency deposits.

In the year 2008 the investment function (a) was not declined, as usual. The investments were rising according to the rise of the interest rate. The second figure shows the balance between investments and savings, but in Croatian there is no balance between these two categories. Going counterclockwise on the clock, the savings function (c) is performed, and then the IS curve (d), which shows the dependence of GDP and interest rate. In the year 2011, compared with 2008, there was a decline in investment due to higher interest rates, which proves the decreasing investment function (a). Through the saving function (c), which has moved up in year 2011, the IS curve (d) is performed. The IS curve is also moved down in compare to the one in year 2008.

FIGURE 3 - IS CURVE
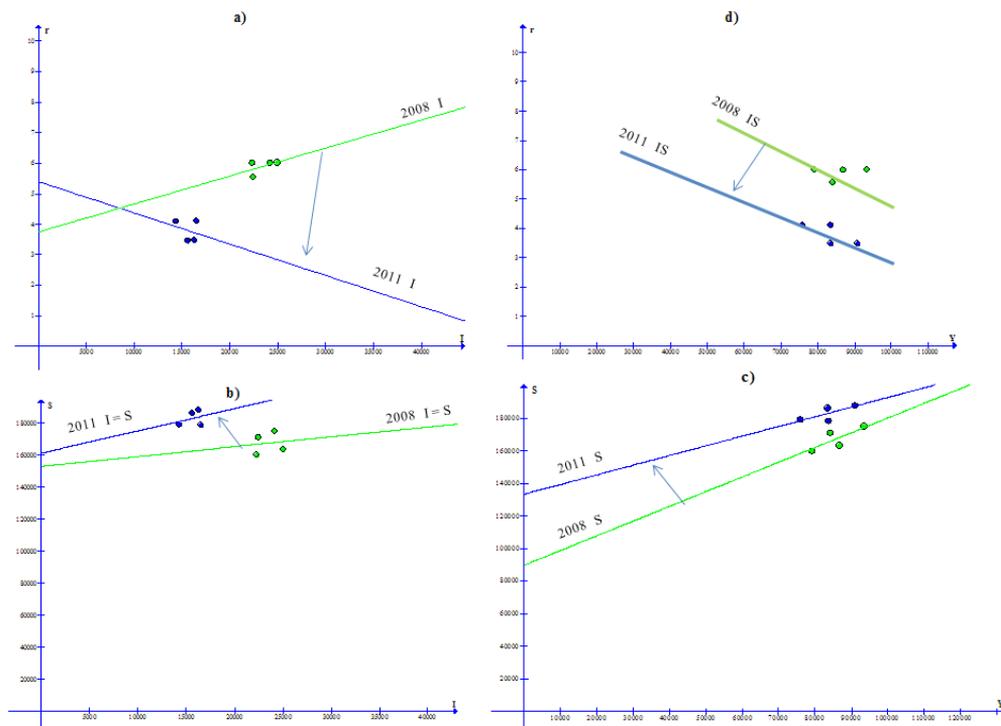
Source: Scheme by authors according to data from Table 2

For performing the LM curve showed on Figure 4, according to Gärtner (2006), but the above mentioned GDP and interest rate, there were used data of speculative and transaction money. As the sum of speculative and transaction demand makes demand for money, which is in equilibrium equal to money supply, as transaction money is used M1, and as speculative money is used the difference between broad money and M1. M1 includes currencies outside banks, other financial institutions and other sectors deposits in the Croatian National Bank and deposit money in banks. The decreasing function of speculative money demand (a) in the year 2008 shows that the speculative money demand decreases if the interest rate increases. Going counterclockwise on the clock, the money supply function (b) is being performed. After that, the function of transaction money demand (c) and then the LM curve (d) which shows the value pair of interest rate and GDP at a given money supply and interest rate.

In the year 2011 the function of speculative money demand (a) has a bigger slope what means that a higher interest rate has a bigger influence to decreasing the speculative money demand. The money supply function (b) has increased, and while the speculative money has been decreased, the transaction money also increased. Because of that, the function of transaction money demand (c) has a larger growing slope. Through the transaction money supply function, the LM curve (d) has been performed. It is a growing function that has a greater elasticity then the one in year 2008.

FIGURE 4 - LM CURVE
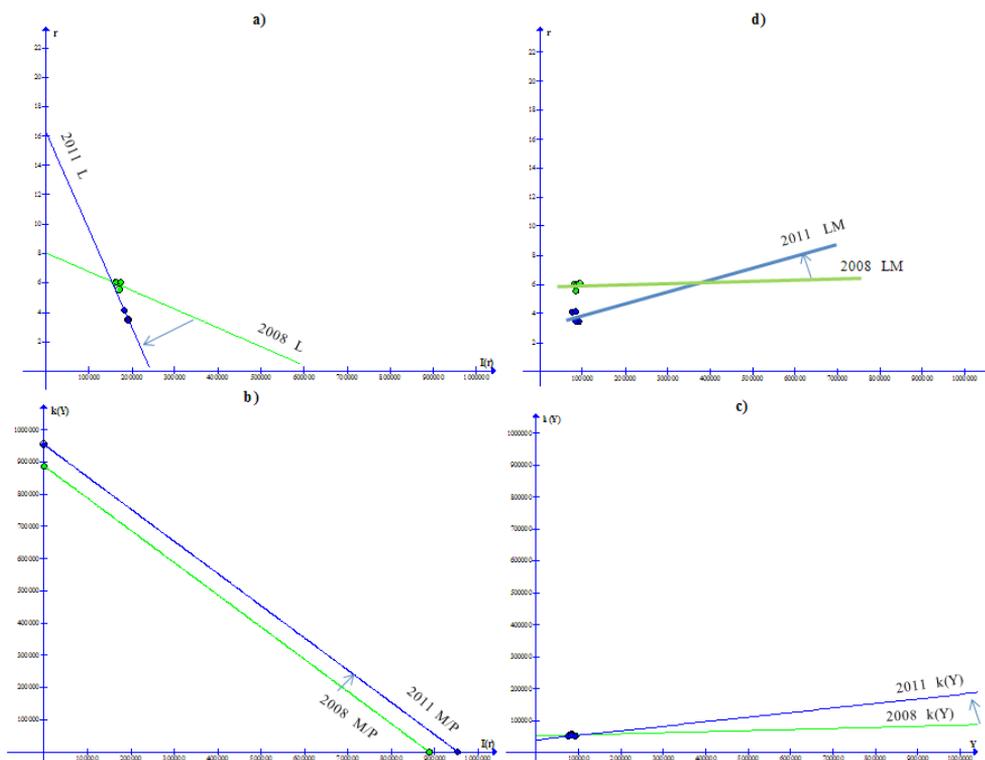
Source: Scheme by authors according to data from Table 2

For performing the BP curve as showed on Figure 5, according to Babić (1998), but the above mentioned GDP and interest rate, there were used data of capital and current account. In the year 2008 the increase of interest rate has a positive impact on current account, which shows an increasing function of capital account (a). The decreasing function of current account (b) is being performed. With capital account each country finances the balance of current account. The equilibrium conditions for the BP curve are the balance between the capital and current account, but that is not the case in the Republic of Croatia. The BP curve (d) shows the combination of interest rate and GDP which is achieved the external balance, has a positive coefficient direction. Any combination of points under the equilibrium BP = 0 curve shows deficit. Opposite of that, shows surplus. The case in which the country is more orientated to import, the BP curve is more horizontally. In the case of Republic of Croatia in the year 2008, the BP curve is declining direction, which shows the discord between propensity to import capital movements and sensitivity to changes in interest rates. The function of capital account (a) in the year 2011 has declining direction, and through the function of current account (b), which is not in balance even in that year, the BP curve (d) has been performed. The BP curve has increasing direction, and in compare to the equilibrium BP = 0 curve, shows the deficit.

FIGURE 5 - BP CURVE
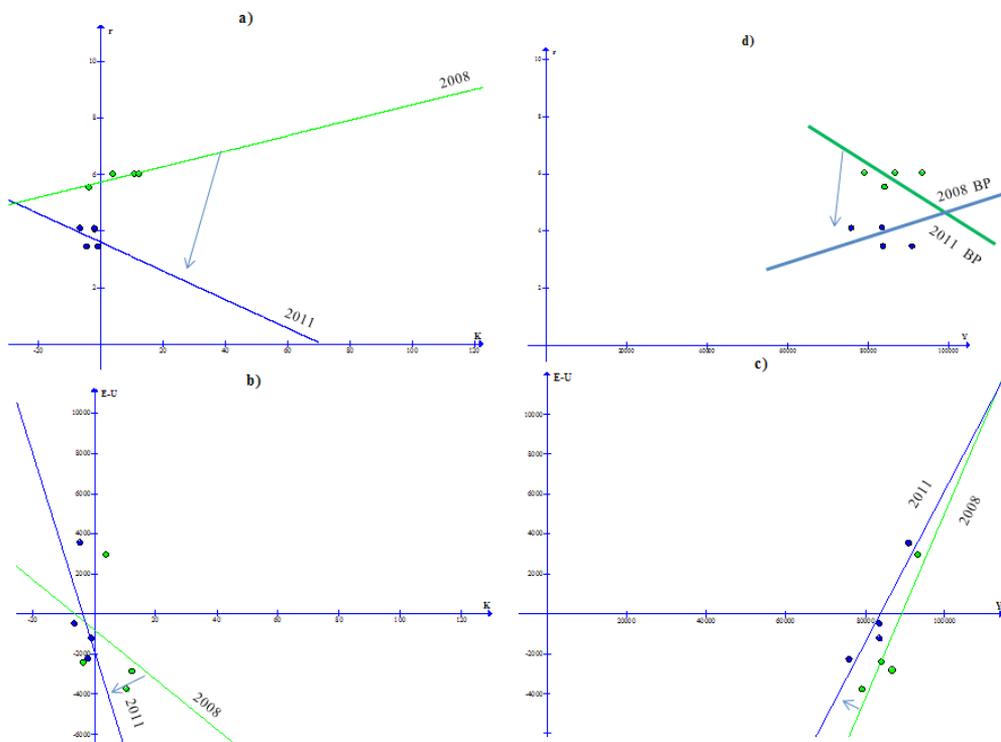
Source: Scheme by authors according to data from Table 2

IV. RESULTS

The IS, LM and BP curve are performed for two years which we compare. And those years are 2008 and 2011. On the basic of the obtained, the Swan's diagram is performed as showed on the Figure 6. And on it the economic situation of the Republic of Croatia in the years 2008 and 2011 is positioned. The position of the economic situation of Republic of Croatia in the year 2011 shows and confirms presumptions that there was a shift in the balance in compare to the observed period.

FIGURE 6 – SWAN'S DIAGRAM
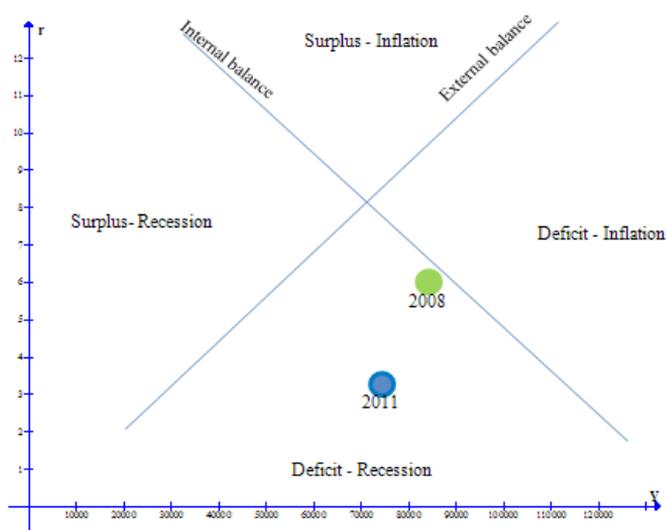
Source: Scheme by authors according to data from Table 2

Both years shows that the economic situation in Republic of Croatia is situated in bad position. Deficit is in the international trade and recession on the internal market. The recession in the Republic of Croatia is characterized by consumption decreasing which tends to decrease the production, which has a direct impact on GDP. Shortly after the production decreasing, the investments fall down. About investments and their trends there was a discussion above, by performing the IS curve. After investments decreasing, there is a decreasing of labor demand, thereby increasing unemployment. For example, in the period from the year 2008 till 2011 the unemployment increased for even 13%[3]. Company profits are also decreasing, which is reflected in the revenues of the Governments. The demand for credit is reduced, and that usually leads to the decline in interest rates. If we consider the relationships with foreign countries, the fact that exports of goods make only 46.5 % of import[4], says a lot of the poor foreign trade relations.

As this paper are based to confirming the decreasing in consumption due to decreasing in income, graphical on the Figure 7 it will be presented the change in consumption in quantity meaning. The observed period in consumption trend or expenditure for individual consumption and GDP trend is wider, from the first quarter of the year 2001 till the fourth quarter of the year

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[3] National Bureaou of Statistics – www.dzs.hr
[4] National Bureaou of Statistics – www.dzs.hr

2011, because there were sufficient data for collecting. In that period it is possible to note an increasing trend of consumption and GDP also, till the end of the year 2008. For example, the trend of consumption shows us the increasing of even 67% from the beginning of the observed period till the end of the year 2008. But after that, there is a decreasing of both indicators. According to the year 2008 the consumption decreases till 5% per year in the year 2009 and 2010, while 3 % in the year 2011.

FIGURE 7 – TRENDS OF CONSUMPTION AND GDP
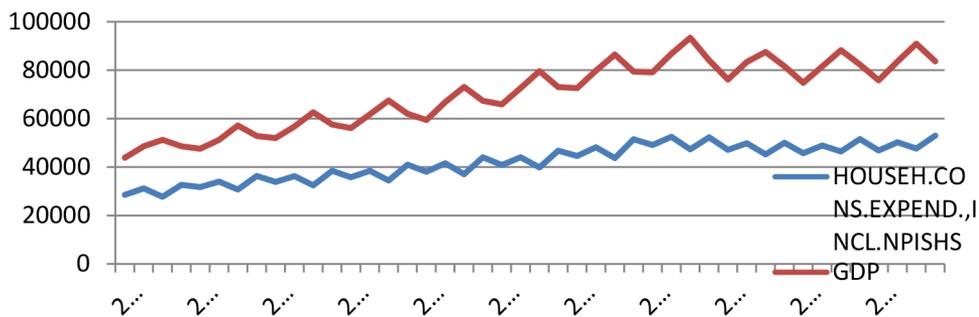
Source: Authors' calculation from table 2

The change of buying habits, or the consumption patterns change, will be explained analyzing the questionnaire filled by sample of 200 Croatian citizens.

The questionnaire was placed on the website and was available to citizen for nearly a month and it was consisted of 10 questions. Analysis of the questionnaire results confirmed the assumption that scarcity, not only decreased the consumption in quantity meaning, but also makes changes in buying habits and thus the consumption structure.

On the question when did they start to notice the consequences of the crisis, a 26% of them answered in the year 2010, as it is shown in Table 3. The 17% notice the consequences earlier in the year 2009, and very interesting is the fact that even 14% of the respondents haven't noticed the consequences till the year 2011. More than 60% of respondent affirm that they have partially stopped to buy brands, 18% partially stopped, and 19% haven't stopped to buy famous brands as it is shown in Table 4. The 65% of the respondents have partially turned to buy retailer's brands, 17% of the respondents have full turned to buy retailer's brand, and the same percentage have not at all, as it is shown in the Table 5. It is presumed that a big number of respondents dropped out of impulsive buying since 60% of respondent started to make a shopping list, as it is shown in Table 6. More than 65% follows the retailer's promotions activities, as shown in Table 7. In that way, with making list and following the retailer's promotions activity, they are planning and controlling the consumption. 20% of the respondents partially make a shopping list, and the same percentage don't. Even 50% of respondent give much attention to the product quality-price relation than before the crisis, while 33% of them have the same view at the relation product quality – price, as it is shown in Table 8. Citizens did reduce the monthly amount for consumption, as shows in Table 9: even 54% of respondent, while them only 31% has left the amount for consumption at the same level. It is interesting to notice that 14% of the respondent did even increase their consumption expenditure.

At the question what have they renounced to during the crisis, the respondent was very agreed, as it is shown in Table 10. And the answers were almost the same as it is mentioned above[5]. Even 73% of respondent have decreased the expenditure for evening out in restaurants or bars, 68% of them for buying new closes, 63% of them for going for a holiday. The percentage of around 50 of the respondent have reduced the expenditure for personal care services, going to theatre, cinema or museum, renovating the apartment or house, and baying a new car or maintaining the existing one. Citizens have not renounced neither paying households costs (like electricity, water or gas), neither food, neither paying medicine services, but they renounced buying closes, but they renounce everything that can serve to satisfy some high ranks needs, because it is more important to satisfy the primary ones. Table 11 shows the relation between household expenditure according to the total monthly earnings amount. In more than a half respondent, the amount of household expenditure for food makes more than 25% of the total monthly earnings. By a quarter of respondent the same variable makes even 50% of total monthly earnings. The amount for paying the households cost makes 25% in more than a half of respondent, and even 50% in a quarter of respondent. It is very easy to conclude that the primary needs such as food or accommodation takes the amount of 25 till 50% of the total monthly earnings of some citizens, which is really an unfavorable situation. More than 10% of the total monthly amount of the most respondent makes the expenditure for telecommunication services.

Table 11 shows the change in a consumption patterns in confront to the period before the crisis. Much more money have respondent spent before the crisis for buying closes, evening out in restaurants or bars, going to holiday or trips. They have more spent for celebrating birthdays or weddings, going into the theatre, cinema or visiting museums. It is confirmed that there was a change in the consumption patterns, and the most change occurred in decreasing the expenditure for purchase those things or product for which citizens of the Republic of Croatia things they have become luxury in that period of crises.

TABLE 1 – CHANGES IN CONSUMPTION PATTERNS

Which amount did you spend for following items before the "crisis"?								
Answer Options		Not at all	Lower	Equal	Higher	Much higher	Changes by increasing	Changes to reduce	Response Count
			(number of respondent)						
Grocery shopping	A	4	36	46	53	4	25%	40%	143
Overhead expenses (electricity, water, utilities)	B	6	56	56	22	2	39%	17%	142
Internet services, phone, mobile phone, television	C	4	41	42	52	3	29%	39%	142

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[5] Bombol (2011) and Janos-Kreslo (2009)

continued table

Payment savings	D	58	9	28	41	6	6%	33%	142
Shopping for clothes	E	3	15	28	80	16	11%	68%	142
Use of personal care (beauticians services, hairdressing, pedicure, manicure)	F	25	16	39	54	8	11%	44%	142
Use of medical services	G	43	15	54	24	3	11%	19%	139
Purchase cigarettes and other addictions	H	59	9	37	29	8	6%	26%	142
Use of Consultants services	I	107	4	20	10	0	3%	7%	141
Purchase fresh fruits and vegetables at the market	J	14	22	64	39	4	15%	30%	143
Evening outings and visits to cafes	K	16	12	32	67	15	8%	58%	142
Visits to theaters, cinemas, museums	L	32	14	37	52	8	10%	42%	143
Going on vacation and / or excursions	M	26	13	31	58	13	9%	50%	141
Celebrations (birthdays, weddings and other occasions)	N	12	14	46	62	7	10%	49%	141
Education	O	34	13	45	44	5	9%	35%	141
Renovation of the apartment / house or purchase household appliances	P	38	13	36	45	9	9%	38%	141
Payment the ration of housing loan	R	92	9	34	4	1	6%	4%	140
Payment the ration of unintended loan	S	74	19	40	6	1	14%	5%	140
Payment the ration of automobile loan	T	97	7	25	7	2	5%	7%	138
Other (please specify)									2
Answered question									145
Skipped question									49

Source: Authors' calculations according the data from questionnaire

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V. CONCLUSION

The aim of this paper was to determine the consequences in consumption due to scarcity. We combined deductive approach using the macroeconomic models and combined it with the individual level of personal finance. First, the scarcity had to be identified. We achieved that using the economic models as Swan and IS-LM curves. The positioning on the Swan's diagram is the proof that the shift in the economy balance compared to the previous period. Also, the shift in savings and consumption has been considered, which implied the change in the marginal propensity. The exacerbation of economic situation indicated that the scarcity occurred.

It is proved that the impact of the scarcity on the individual level is reflected in the decreasing or failure of income. Following the trends of consumption and GDP in the observed years it is concluded that there was an income and consumption decrease. Using the questionnaire, it is identified the changes in consumption, with an emphasis on the change of decision making on allocation of private income due to scarcity. The results of the questionnaire match economic theory. Moreover, the results showed that beside the change in the amount of consumption, there is a change in consumption patterns. We proved that there is a correlation between income decrease, the worsening of the economic situation and the amount and patterns of the consumption.

Also, questionnaire showed that the individuals started to feel the impact of the scarcity on the consumption in the year 2010, two years after financial crisis and a year after the crisis occurred in the real sector. It can indicate the big impact of the habits in the decision making.

The change in mentality occurred due to scarcity. Could a backwards relation be feasible? Would it be helpful to change the mentality in order to initiate the growth? The implications of these results point out that beside the right choice of the monetary and fiscal policies to achieve balance and economic growth, it is necessary to urge the change of habits trough the change of attitudes. For further research, we suggest the idea that the change in attitudes, respectively the change of the consumption habits might be necessary to stimulate the economy growth and recession egress.

IV. REFERENCES

Agency for protection of market competition, http://www.aztn.hr/drzavne-potpore/48/referentna-kamatna-stopa/

Amalia, Pandelica, and Pandelica Ionut. "Consumers' reaction and organizational response in crisis context." The Journal of The Faculty of Economics, 1(5): 779-782. Uni. of (2009).

Amir, On, and Jonathan Levav. "Choice construction versus preference construction: The instability of preferences learned in context." Available at SSRN 928984 (2007). http://papers.ssrn.com/sol3/papers.cfm?abstract_id=928984

Ariely, Dan, and Michael I. Norton. "How actions create–not just reveal–preferences." Trends in cognitive sciences 12.1 (2008): 13-16. http://dukespace.lib.duke.edu/dspace/handle/10161/6219

Babić, Mate, Makroekonomija, 10. Izdanje, Zagreb, „Mate", 2009

Bombol, M., "How to live in crisis? Polish consumers behavior"; Warsaw School of Economics, (2011)

Camerer, Colin. "Behavioral economics: Reunifying psychology and economics." Proceedings of the National Academy of Sciences 96.19 (1999): 10575-10577. http://www.pnas.org/content/96/19/10575.full.pdf+html

Croatian Bureau of Statistics www.dzs.hr

Croatian National Bank www.hnb.hr

Flatters, Paul and Willmott, Michael. "Understanding the post-recession consumer", Harvard Business Review, 7(8), 106-112. (2009)

Gärtner, Manfred, Macroeconomics – second edition – Macroeconomics publiched (2006)

George Katona, G. Psychology and Consumer Economics. Journal of Consumer Research, 1, (1974), 1-8.

Gigerenzer, Gerd, and Selten R., "Bounded Rationality", Cambridge: The MIT Press; 2002.

International Monetary Fund www.imf.org

Janoś-Kresło, M., "Polish consumer on the goods and services market in the Times of crisis". 'Polish consumer reaction to the economic crises; Warsaw School of Economics, (2009)

Jasiulewicz, Anna. "Economic Crisis Influence on the Polish Consumer Behavior." Overcoming the Crisis: 77. http://www.hippocampus.si/ISBN/978-961-6832-32-8/papers/jasiulewicz.pdf

Kahneman, Daniel, „Maps of Bounded Rationality: Psychology for Behavioral Economics", The American Economic Review, 93(5), pp. 1449-1475, (2003) http://www.princeton.edu/~kahneman/docs/Publications/Maps_bounded_rationality_DK_2003.pdf

Kenrick, Douglas T., and others, "Deep Rationality: The Evolutionary Economics of Decision Making", Soc Cogn. Author manuscript; available in PMC 2010 August 3. Published in final edited form as: Soc Cogn. 2009 October 1; 27(5): 764–785. doi: 10.1521/soco.2009.27.5.764 http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2914349/

Krueger, Dirk, Makroekonomika (Intermediate Macroeconomics), translated and adapted: Ivo Bićanić, Jasena Kukavčić, Goran Nikšić, Vjerana Spajić, Zagreb, (2009)

Mansoor, Durra, and Akram, Jalal, "The Global Business Crisis and Consumer Behavior: Kingdom of Bahrain as a Case Study." International Journal of Business and Management 6.1 (2010): p104.

Maslow, Abraham, Motivation and Personality, New York: Harper & Row, (1954)

McKenzie, David, and Ernesto Schargrodsky. "Buying less, but shopping more: Changes in consumption patterns during a crisis." Bureau for Research and Economic Analysis of Development (BREAD) Working Paper 92 (2005).

National Bank of Croatia, http://www.hnb.hr/publikac/bilten/arhiv/bilten-187/hbilt187.pdf

National Bureau of Statistic of the Republic of Croatia – Statistical Yearbook of the Republic of Croatia, Zagreb, (2012) www.dzs.hr

Robbins, Stephen P., and Judge, Timothy A., Organizacijsko ponašanje, Zagreb, "Mate", (2010)

Sally Dibb, and others, Marketing, (translated: Ljubica Anđelić…et.al.) Zagreb, "Mate", (1995)

Marinko Skare, Katarina Kostelić, Katarina Justić Jozičić

Samuelson, Paul, and Nordhaus, William, Ekonomija, (translated Babić A … et. al.) Zagreb „Mate", (1992)

Vargas P. T., and Yoon S., „Advertising Psychology", University of Illinois at Urbana – Champaign, Urbana, Illinois, USA, Encyclopedia of Applied Psychology, Academic Press (2004)

TABLE 2 – USED DATA FOR PERFORMING IS, LM AND BP CURVE

Period	Interest rate	Gross fixed capital formation	Time, savings and foreign currency deposits	Gross domestic product (GDP)	M1	Broad money	Speculative money	Capital account	Current account
2001Q1	n.a.	8348,77	59657,5	43851,8	n.a.	n.a.	n.a.	n.a.	n.a.
2001Q2	n.a.	10313,3	60130,7	48574	n.a.	n.a.	n.a.	n.a.	n.a.
2001Q3	n.a.	9259,96	67541,5	51251,9	n.a.	n.a.	n.a.	n.a.	n.a.
2001Q4	n.a.	9567,92	82263,4	48610,9	23703,5	106071	82367,5	n.a.	n.a.
2002Q1	6,37	9973,72	81766,5	47553,1	24375,1	106245	81869,9	n.a.	n.a.
2002Q2	6,37	11639,3	78242,7	51218,7	28254,4	106593	78338,6	n.a.	n.a.
2002Q3	6,37	11717,6	84260,4	57163,9	28913,6	113275	84361,4	n.a.	n.a.
2002Q4	6,37	11364	85174,1	52860,3	30869,8	116142	85272,2	n.a.	n.a.
2003Q1	5,76	12482,4	89216,3	51979,4	29512,2	118791	89278,8	n.a.	n.a.
2003Q2	5,76	15144,6	87054,4	56763,7	32828,3	120022	87193,7	n.a.	n.a.
2003Q3	5,76	15376,1	94176	62618,8	32589,4	126911	94321,6	n.a.	n.a.
2003Q4	5,76	14318	94852,6	57569,6	33888,7	128893	95004,3	n.a.	n.a.
2004Q1	6,06	13968,7	94827,5	56132,4	31622,9	126627	95004,1	n.a.	n.a.
2004Q2	6,06	16755	96073,1	61767,9	34265,4	130528	96262,6	n.a.	n.a.
2004Q3	6,06	15925,3	105104	67487,4	34492,3	139814	105321,7	n.a.	n.a.
2004Q4	6,06	14623	106115	62040,1	34562,1	140908	106345,9	n.a.	n.a.
2005Q1	5,44	14324,4	104214	59418,1	34547,4	138965	104417,6	3,37	-1875,39
2005Q2	5,44	17495,4	106805	66820,2	36735	143741	107006	2,91	-1465,96
2005Q3	5,44	17229,8	115924	73083,7	36708,3	152848	116139,7	4,71	2702,13
2005Q4	5,44	16856,1	116729	67329,5	38817,1	155777	116959,9	52,43	-1820,75
2006Q1	5,44	17361,3	115911	65873,8	38186,4	154726	116539,6	-195,44	-2337,83

continued table

2006Q2	5,44	19736,3	121766	72593,8	42226,5	164448	122221,5	4,06	-1630,83
2006Q3	5,44	19633,6	133788	79583,1	44047	178265	134218	8,73	2660,47
2006Q4	5,44	19051,7	134980	72993,2	48521	183901	135380	25,3	-1924,57
2007Q1	5,52	19793,6	139372	72623,5	46753,3	186556	139802,7	10,15	-2633,91
2007Q2	5,52	21562,5	143942	79826,9	51560,7	196135	144574,3	12,46	-1784,85
2007Q3	5,52	21462,5	149009	86434,9	49909	199479	149570	17,88	2877,74
2007Q4	5,52	20695,1	158973	79422,5	57878,3	217550	159671,7	-2,16	-2786,87
2008Q1	6,01	22322,2	159960	79150,4	52807,2	213444	160636,8	10,74	-3772
2008Q2	6,01	25026,7	163223	86803,5	54400,5	218122	163721,5	12,33	-2850,36
2008Q3	6,01	24149,3	174877	93390,6	53677,3	229041	175363,7	3,91	2954,27
2008Q4	5,55	22431,7	171134	84067,7	55222,3	227028	171805,7	-3,65	-2412,3
2009Q1	7,63	19187,7	173532	76118	46636,5	220801	174164,5	-4,09	-2324,83
2009Q2	7,63	21462,4	172502	83409,2	47698,9	220844	173145,1	7,12	-1139,1
2009Q3	7,63	20831,2	n.a.	87524,4	45559,4	226701	181141,6	9,24	2602,57
2009Q4	7,63	18885,7	n.a.	81620,9	47181,7	225702	178520,3	48,85	-2187,57
2010Q1	7,33	15198,8	n.a.	74829	47726,2	224703	176976,8	17,42	-1846,62
2010Q2	3,79	17840,9	n.a.	81528,2	49715,7	227467	177751,3	15,17	-109,47
2010Q3	3,79	17739,4	n.a.	88264,9	51734,5	235487	183752,5	16,44	2402,54
2010Q4	3,79	16475,2	n.a.	82358,1	49151,7	235362	186210,3	-3,23	-1366,49
2011Q1	4,1	14321,6	179032,8	75813,1	49093,2	231696	182602,8	-2,17	-2253,23
2011Q2	4,1	16563,3	178551,9	83584,4	52756,8	234954	182197,2	-6,47	-506,78
2011Q3	3,47	16289,1	187998,8	90905	51154,7	243750	192595,3	-4,7	3547,87
2011Q4	3,47	15572,1	186093	83653	52850,9	243466	190615,1	-1,03	-1233,56
2012Q1	4,74	13975,2	186320,3	75716	47389,5	237897	190507,5	-13,51	-2113,18
2012Q2	4,74	15773,2	186517,5	83391,6	51467,6	241824	190356,4	-5,53	-462,79
2012Q3	4,74	15620,9	192056,2	90866,7	52348,3	249312	196963,7	-8,26	3254,24
2012Q4	3,58	15060	194165,9	83031	53443,8	n.a.	n.a.	n.a.	n.a.

Source: International Financial Statistics, Croatian National Bank, Croatian Bureau of Statistics and Agency for protection of market competition

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TABLE 3 – QUESTION 1

When did you, personally, start noticing the consequences of the economic "crisis" in Croatia?

Answer Options	Response Percent	Response Count
Before the 2007 year	8,76%	17
During the 2007 year	5,67%	11
During the 2008 year	11,34%	22
During the 2009 year	17,01%	33
During the 2010 year	26,29%	51
During the 2011 year	13,92%	27
During the 2012 year	9,79%	19
Personally, I do not feel the effects of the economic crisis	7,22%	14
	answered question	194
	skipped question	0

Source: Authors' calculations according the data from questionnaire

TABLE 4 – QUESTION 2

Have you, in relation to the period before the recession, have stopped buying well-known brands?

Answer Options	Response Percent	Response Count
Yes, completely	18,0%	35
No	19,1%	37
Partially	62,9%	122
	answered question	194
	skipped question	0

Source: Authors' calculations according the data from questionnaire

TABLE 5 – QUESTION 3

Have you started to buy products brands, retailers?

Answer Options	Response Percent	Response Count
Yes, completely	17,1%	33
No	17,6%	34
Partially	65,3%	126
	answered question	193
	skipped question	1

Source: Authors' calculations according the data from questionnaire

TABLE 6 − QUESTION 4

Are you composing a shopping list?

Answer Options	Response Percent	Response Count
Yes	60,1%	116
No	20,2%	39
Partially	19,7%	38
	answered question	193
	skipped question	1

Source: Authors' calculations according the data from questionnaire

TABLE 7 − QUESTION 5

How much do you follow the action and promotional measures of the retailers?

Answer Options	Response Percent	Response Count
Fully follow	20,1%	39
Basically follow	44,3%	86
Neither follow nor don't follow	24,2%	47
Basically don't follow	7,7%	15
Fully don't follow	3,6%	7
	answered question	194
	skipped question	0

Source: Authors' calculations according the data from questionnaire

TABLE 8 − QUESTION 6

How much care do you take about the relation between the price and quality of the product, compared to the previous period?

Answer Options	Response Percent	Response Count
Much more	28,0%	54
More	32,1%	62
Equally	32,6%	63
Less	4,7%	9
Don't care	2,6%	5
	answered question	193
	skipped question	1

Source: Authors' calculations according the data from questionnaire

TABLE 9 – QUESTION 7

A monthly sum of money you intended for purchase, have you:

Answer Options	Response Percent	Response Count
Increased	14,4%	28
Reduced	54,1%	105
Maintained at the same level	31,4%	61
answered question		194
skipped question		0

Source: Authors' calculations according the data from questionnaire

TABLE 10 – QUESTION 8

You reduced the sum of money intended for (mark everything what is exact):

Answer Options	Response Percent	Response Count
Grocery shopping	23,2%	45
Paying utility bills (electricity, water, utilities, …)	13,9%	27
Paying Internet service, telephone, mobile phone, television, …	44,3%	86
Savings paying	42,8%	83
Buying clothes	68,0%	132
Use of personal care services (beauticians services, hairdressing, pedicure, manicure, …)	52,1%	101
Use of medical services	19,1%	37
Use of Consultants services	45,4%	88
Buy fresh fruits and vegetables at the market	22,2%	43
For evening outings and visits to cafes	73,2%	142
For visits to theaters, cinemas, museums	57,2%	111
Going on vacation and / or excursions	63,4%	123
For celebrations (birthdays, weddings and other occasions)	43,8%	85
Buying an apartment	41,8%	81
Renovation of the apartment / house or purchase household appliances	54,1%	105
Purchase or maintenance the means of transport	45,4%	88
Education (including the purchase of books)	32,0%	62
I didn't reduced	5,7%	11
answered question		194
skipped question		0

Source: Authors' calculations according the data from questionnaire

TABLE 11 – QUESTION 9

The following items, sort by the current part of the household budget:

Answer Options	Do not use	Less than 10% of monthly income	More than 10% of monthly income	More than 25% of monthly income	More than 50% of monthly income	More than 75% of monthly income	Impor-tance	Response Count
Grocery shopping	22	18	55	118	53	4	0,68	157
Paying utility bills (electricity, water, utilities, …)	23	18	55	120	54	2	0,69	158
Paying Internet service, telephone, mobile phone, television, …)	19	133	84	27	7	2	0,27	159
Savings paying	159	68	29	7	0	4	0,09	154
Buying clothes	30	168	38	20	7	0	0,24	153
Use of per-sonal care services (beauticians ser-vices, hairdressing, pedicure, mani-cure, …)	99	127	22	12	4	2	0,16	155
Use of medical services	127	114	23	3	0	0	0,10	155
Use of Consul-tants services	240	9	8	4	0	0	0,02	152
Buy fresh fruits and vegetables at the market	52	138	47	20	6	0	0,23	152
For evening out-ings and visits to cafes	92	125	35	5	9	0	0,20	154
For visits to the-aters, cinemas, museums	130	114	11	0	0	2	0,09	150
Going on vacation and / or excur-sions	130	94	23	17	2	0	0,13	154
For celebrations (birthdays, wed-dings and other occasions)	69	163	21	9	4	0	0,18	154

continued table

Education (including the purchase of books)	106	101	39	6	10	2	0,20	153
Renovation of the apartment / house or purchase household appliances	142	95	11	13	4	0	0,13	153
Payment the ration of housing loan	207	11	9	21	10	2	0,14	151
Payment the ration of unintended loan	174	21	32	27	10	0	0,18	153
Payment the ration of automobile loan	221	12	11	16	2	0	0,06	152
Other (please specify)								2
						answered question		160
						skipped question		34

Source: Authors' calculations according the data from questionnaire