

# Behavior of Czech Consumers during Crisis

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**Abstract**—This paper presents partial results of primary research on consumer purchasing behavior in times of crisis. It starts with brief theoretical debate on purchasing behavior and short secondary research related to the issues, which is used for the comparison of results. For purpose of collecting data, questionnaire survey was given to 355 respondents in Moravian-Silesian region. Hypotheses deal with the relationship of the financial situation of the respondents and their purchasing behavior. The research analysis disclosed that consumers change their behavior during crisis and MS region has some specifics compared to other regions.

**Keywords**—Crisis, financial situation, consumer behavior, postponement of purchases, consumer credit.

## I. INTRODUCTION

CONSUMER purchases are influenced by many factors. These effects are known and must be taken into account. It is not an easy task, but it should be a priority for companies to understand the consumer behavior. Transformation of retail in the Czech Republic after 1989, amongst others, has manifested in growth of width and depth of assortment and its quality. Czech consumers after the year 1989 are in a different position than they were in the centrally planned economy. They have a 'free choice'. Their behavior is also changing due to the influence of globalization trends. Yet even in the period of market economy they are struggling with certain restrictions. It may be the economic (financial) situation, even though the Czech economy has not been affected by the recent crisis as much as other countries.

The main aim of this article is to present partial results of primary research conducted through a questionnaire survey focused on the behavior of Czech consumers in times of crisis with regard to their financial situation. Partial aims are a brief outline of the theoretical issues examined and comparisons with other studies to compare the results based on available statistical data and information. According to data availability, the results were compared with some existing studies.

## II. THEORETICAL FOUNDATIONS

A number of disciplines focus on consumer behavior. It is not only marketing but also psychology, sociology, and other disciplines. As is usual in the theory of marketing, there are a number of definitions concerning consumer behavior and

purchasing behavior. One of the most known is the definition 'consumer behavior is a study of how individuals, groups or organizations select, buy, use and dispose of goods, services, ideas or experiences to satisfy their needs and desires [1], [2].' Other definition is 'Consumer behavior is behavior of people - the final consumers, that relates to the acquisition, use and discarding of consumer products [3].'

A number of authors deal with consumer behavior. In addition to the most famous representative of Marketing - Kotler [4] there are others such as Kanuk and Schiffman [5], who mainly specialize in purchasing behavior, Peter and Olson [6] or Assael [7]. All of the mentioned authors also deal with the factors influencing consumer decisions.

Consumer behavior cannot be understood in isolation without regard to the general behavior and without constraints on micro and macro environment [8]. Most models of consumer behavior are also based on this complex approach that includes a range of factors influencing the consumer behavior. Kotler and Keller ranked among the main factors influencing consumer behavior cultural factors, social factors, personal factors and psychological processes [9], [10]. The most significant influence on consumer behavior has cultural factors. Social factors are associated with family, aspiration and reference groups, social status and roles. Personal (demographic) factors are age, stage of life, employment, economic and financial situation, lifestyle personality and self-image. Consumer behavior is also influenced by motivations, perceptions, beliefs and attitudes.

Also, the economic situation, which is part of the personal factors, affects choice of products and services. Consumers have sufficient income, savings or loan option [9]. If the economy is in a recession, consumers change their purchasing behavior. Marketers need to change supply in response to lower demand. But man is not just an economic creature, and he not always behaves rationally, quite the contrary [8].

Marketers need to know the theory and reality of the purchasing behavior of customers. The aim of marketing is to meet and satisfy customer needs better than the competition. Marketers must thoroughly understand how customers think, feel, act and offer a clear customer value [10]. Great example of this mentality is a food market in Central Europe that is evolving to meet the new demand of customers [11].

## III. METHODS AND SAMPLE

### A. Method

Purchasing behavior is the center of attention of various research institutions, research schools and the companies themselves. Department of Marketing at the School of Business Administration in Karvina deals with this issue for over 10 years in the fields of research as well as teaching.

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Primary research on consumer behavior in a crisis took place in the summer semester of 2013 through a questionnaire survey. Academic staff and students participated. The starting points of the research were studies concerning the behavior of retail firms in times of crisis [12]. It was therefore desirable to extend the research on the area of consumers.

### B. Sample

The answers of 355 respondents were gathered, the majority of the Moravian-Silesian Region. Sampling method chosen was a random choice. The sample is dominated by women (65.51%). The most important group represented are employees (71.27%), aged 41-50 years (31.83%), mainly secondary school graduates (56.06%). The income level of the household mostly ranged between 20 to 30 thousand CZK.

The structure of the questionnaire should be broader in scope than the focus of this article. The relevant answers were therefore selected on the following main areas:

- Current financial situation of respondents.
- Expected financial situation of respondents.
- Change in purchasing behavior during the crisis.
- Postponement of purchases of goods or services.
- Purchase of consumer goods on credit.

Descriptive statistics was used for evaluation of the research. Individual questions were evaluated using absolute and relative frequencies in MS Excel and ISBM SPSS and collated into tables. If possible, the respondents' answers are compared with official statistics or other studies realized. Key research questions were identified and three hypotheses were statistically evaluated.

The main research questions:

- What is the relationship between purchasing behavior and the current financial situation of the household?
- What is the relationship between purchasing on consumer credit and financial situation?
- What is the relationship between the current purchasing behavior and financial situation in the next year?

### C. Hypotheses

Hypotheses were formulated based on these research questions.

- $H_{01}$ : The change of purchasing behavior during the crisis is independent on the current financial situation of the household.
- $H_{02}$ : The use of consumer credit is independent on the current financial situation of the household.
- $H_{03}$ : The change of purchasing behavior during the crisis is independent on the financial situation expected in the next year.

Alternative hypotheses

- $H_{11}$ : The change of purchasing behavior during the crisis depends on the current financial situation of the household.
- $H_{12}$ : The use of consumer credit depends on the current financial situation of the household.
- $H_{13}$ : The change of purchasing behavior during the crisis depends on the financial situation expected in the next

year.

To evaluate the dependence of one factor on the other, we used the Chi-square test, (1), which is based on the difference between the empirical (observed) and theoretical (expected) frequencies [13].

Four steps of calculation:

Calculation of two-dimensional probability ( $P_{ij} = P_i P_j$ )

Calculation of theoretical rates ( $E = nP_{ij}$ )

Calculation of deflections ( $O-E$ )

Calculation of  $(O-E)^2/E$

$$\text{Chi - square} = \sum \frac{(O-E)^2}{E} \quad (1)$$

## IV. RESULTS

### A. Evaluation of the Questions

Q1: 'What is your current financial situation?' Respondents' answers are very interesting (see Table I). Despite the crisis period, most of them stated that their income will cover all expenses (48.45%) and 41.97% even argue that they can additionally save some money, which is a favorable situation. Only 9.58 % of respondents admit that they are forced to go into debt.

TABLE I  
CURRENT FINANCIAL SITUATION OF RESPONDENTS

Financial situation	Absolute frequency	Relative frequency
Incomes cover all expenses	172	48.45
Incomes cover all expenses and we can save some money	149	41.97
Incomes are low, we need to indebt ourselves	34	9.58
Total	355	100

The question is whether the respondents' answers are true. Our experience with previous studies shows the sensitivity of the topic. It is not easy for respondent to admit dept. We believe that there is a certain lack of precision, although statistics show that although household debt grows their willingness to run into debt decreases. Overall nearly 65% of household debts are 'good' debts – mortgages. Almost 20% debts are consumer credits. But in comparison with other EU countries these figures are very low [14].

Q2: 'How do you see your future situation next year?' Their future financial situation is seen by respondents as shown in Table II. Most of them (57.46%) believe that their financial situation will be the same next year (meaning 2014) as at the time of the research. For the improvement in the financial situation hoped almost 25% of respondents. The optimism was not shared by respondents who believed that the situation will be worse. The unambiguous predictions in the economy and perhaps the political situation in the country contribute to this.

TABLE II  
EXPECTED FINANCIAL SITUATION NEXT YEAR

Future	Absolute frequency	Relative frequency
Will be better	86	24.23
Will be the same as now	204	57.46
Will be worse	65	18.31
Total	355	100

If we look at the official statistics, we find that according to the research by Czech Statistical Office in June 2013, the consumer confidence indicator has increased. The survey taken among consumers in June also showed that for the next 12 months, the fear of deterioration of the overall economic situation has increased, but concerns about their own financial situation hardly changed [15]. Structure of the responses of our respondents therefore more or less corresponds with the results of the CSO survey.

Q3: 'Does your purchasing behavior change during a crisis?' Most respondents can manage with their incomes with regard to the income level of households and by changing their purchasing behavior (68.45%). Table III shows the absolute and relative frequencies of responses mentioned.

TABLE III  
PURCHASING BEHAVIOR DURING CRISIS

Purchasing behavior	Absolute frequency	Relative frequency
I do not change my purchasing behavior	112	31.55
I do change my purchasing behavior	243	68.45
Total	355	100

Whole 243 households from our sample have changed their purchasing behavior, therefore, the question focusing on the nature of the changes followed. Consumers face a long-term crisis, therefore they are changing their approaches to consumption and purchasing behavior. It is not unusual to find some of the purchases are not made at all. Cetelem Barometer 2013 [16], which is a European consumer markets study that informs that digital technology plays a key role in the development of alternative consumer behavior. Internet enables direct communication between consumers: 26% of Europeans (27% of Czechs) believe that the opinions found on social networks will have much greater impact on their purchasing decisions than advice of vendors (11% of Europeans, Czechs 4%) [16].

Q4: 'If you postpone the purchase of necessary goods and services, which goods and services are concerned?' The relative frequency is calculated from the sum of all postponed purchases (see Table IV). If we want to assess the share of postponed purchases within the total amount of postponed purchases, then the highest share have cultural events (24.12%). The second position belongs to vacation (23.18%) and in the third place are luxury goods (18%).

TABLE IV  
CHARACTERISTIC OF POSTPONED PURCHASES

Financial situation	Absolute frequency	Relative frequency
Luxury goods	134	18.00
Food supplements	67	9.03
Medicaments	17	2.30
Housing	35	4.72
Culture	179	24.12
Sports	123	16.58
Education	15	2.02
Vacation	172	23.18
Total	742	100

The respondents were trying to save the least on education (2.02%), which is certainly a positive phenomenon, and also on medicaments (2.30%), which are essential commodities for life. The third position belongs to housing (4.72%), for which we have already found that consumers perceive it as a 'good debt'.

Our results do not correspond completely with other surveys, e.g. the Cetelem Barometer 2013 [16] shows that the crisis has not affected consumer preferences. The current crisis is changing the way consumers make their purchases, but their desire to buy certain goods does not change over the years. According to the aforementioned investigation, e.g. households do not want to postpone purchases in the category of leisure and travel [8]. In our research, about 23.18% admit postponement of vacation in times of crisis. These are varying results.

Q5: 'Do you use consumer credit for the purchases of goods and services?' 80.28% of respondents said that they do not purchase on consumer credit (see Table V). Respondents who limit purchases on credit constitute about 19%, respondents who have increased purchases on credit not even 1%.

TABLE V  
PURCHASES WITH CONSUMER CREDIT

Consumer credit	Absolute frequency	Relative frequency
We do not use it	285	80.28
We try to limit using it	67	18.87
We use it more	3	0.85
Total	355	100

Consumers can increase their income level by consumer credit. Whether they opt for a loan or not, may be associated not only with the economic situation of the consumer, but also with his conviction and attitude how to deal with it. Family and belonging to a certain group also play their roles. This means that there are effects of not only personal factors, but also psychological and social.

The answers to the last question suggest some degree of caution by respondents. According to official statistics, the debts of Czech households are formed from two-thirds of mortgage loans (the 'good loans'). The rest consists of consumer credit, hire purchase, overdrafts, credit cards and leasing. But the crisis has reduced the ability of households to repay loans. Therefore, the number of defaults on mortgages increases [17].

### B. Summary

The results of primary research showed that even in times of crisis, almost half of respondents are in a situation in which their income accurately covers expenses, and about 10% of the respondents need to indebt themselves. About 42% of households are in favorable financial situation. Optimism about future developments is not great. Most respondents expect next year to be in the same situation as in the time of the survey (57.46). Hopes of improved situation have 24.23% of the respondents. Almost a fifth of respondents is pessimistic and believes that their financial situation is going to be even worse. The above-mentioned results correspond with the results of the CSO survey.

For other questions, the results of our research differ from other researches. Most respondents are changing their purchasing behavior (68.45%) and postponed some purchases. Most often are postponed cultural events (24.12%), vacation (23.18%), which does not correspond to Cetelem Barometer 2013. Why is this so? This is due to the fact that most of the respondents are from the Moravian-Silesian Region, which was struck harder by the crisis than other regions (unemployment rate is highest from all the regions). Thus the differences may be caused by the localization of the research. It turns out that this issue is much more complex than it appeared at first sight and that it will require more research on purchasing behavior to be conducted.

Even in times of crisis, most of our respondents do not use consumer credit. If they decide to go into debt, it's usually for housing.

While analyzing the research questions and verifying statistical hypotheses, we focused on how the current financial situation relates to consumer decisions when purchasing goods and taking consumer credit. We also focused on the dependence of change in purchasing behavior with the expected financial situation in the next year.

### C. Verification of Statistical Hypotheses

$H_{01}$ : The change of purchasing behavior during the crisis is independent on the current financial situation of the household.

The results of the Chi-square test are: test criterion F 26.20 and critical value 6. It can be said that at the significance level of 5 % we reject the null hypothesis and accept the alternative hypothesis. We confirm that the change in purchasing behavior during the crisis depends on the current financial situation of the household. We accept the alternative hypothesis.

$H_{02}$ : The use of consumer credit is independent on the current financial situation of the household.

The results of the Chi-square test are: test criterion F 33.19 and the critical value of 9.5. It can be said that at the significance level of 5 % we reject the null hypothesis and accept the alternative hypothesis. We confirm that the use of consumer credit depends on the current financial situation of the household.

$H_{03}$ : The change of purchasing behavior during the crisis is independent on the financial situation expected in the next

year.

The results of the Chi-square test are: test criterion F 29.89 and the critical value of 6. It can be said that at the significance level of 5 % we reject the null hypothesis and accept the alternative hypothesis. We confirm that change of purchasing behavior during the crisis is dependent on the financial situation expected in the next year.

### V. CONCLUSION

We can conclude that the issue of consumer behavior is in terms of research very complex. Each period of development of the economy has its own specifics. The period of crisis brings challenging decisions for both consumers and businesses, which have to respond to development of the economy. Consumers are changing their purchasing behavior, especially with regard to their economic situation. Not only Czech, but European consumers are also very adaptable, as surveyed by Cetelem Barometer 2013. This study also refers to purchases of used goods, which we have not yet addressed, but we expect that we will have to deal with this issue in our further research.

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