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Jacek Binda

D.Sc. in Economics, Professor, Rector,
University of Finance and Law, Bielsko-
Biala, Poland;
ORCID: [0000-0002-2016-9933](https://orcid.org/0000-0002-2016-9933)

Yevhen Krykavskyy

D.Sc. in Economics, Professor,
Head of the Department of Marketing
and Logistics, Lviv Polytechnic National
University, Lviv, Ukraine;
ORCID: [0000-0002-1847-586X](https://orcid.org/0000-0002-1847-586X)

Iлона Petryk

D.Sc. in Economics, Lecturer of the
Program "Creative Business",
Utrecht University, Utrecht,
Netherlands;
e-mail: ilonapetryk19@gmail.com
ORCID: [0000-0002-2171-8180](https://orcid.org/0000-0002-2171-8180)
(Corresponding author)

Nataliia Shynkarenko

Ph.D. in Economics,
Associate Professor of Marketing
Department, Dnipro University of
Technology, Dnipro, Ukraine;
ORCID: [0000-0001-7519-336X](https://orcid.org/0000-0001-7519-336X)

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THE INFLUENCE OF EMERGENCIES ON CHANGING THE BEHAVIOR OF HOUSEHOLDS REGARDING THE FORMATION OF STOCKS

ABSTRACT

The global economy underwent significant changes in 2020 when the Covid-19 pandemic spread across the world at a very rapid pace. The global pandemic has affected the behavior of the economies of the states as a whole, as well as the behavior of the business sector and individual households.

The purpose of the article is to present and investigate problems related to the influence of emergency situations (pandemics) on changing the behavior of households regarding the formation and maintenance of stocks of consumer goods. The study is based on a theoretical analysis of the scientific literature on food stocks during an emergency such as the Covid-19 pandemic, statistical analysis, and surveys.

A study of household food stockpiling behavior during the pandemic revealed signs of contradiction. The direction of the typical (standard) behavior of households in crisis situations was assessed, and promising anticipatory actions of state authorities were introduced in terms of creating insurance reserves in order to reduce the risk of running out of commodity reserves by individuals, enterprises, and the state. The transformation of the consumer behavior of all representatives of society in connection with the maintenance of stocks of consumer goods on the eve of emergency situations has been proven.

The main conclusions are: the emergence and long-term existence of states of emergency (pandemics) significantly affect the behavior of households and form changes that have a residual character when returning to normal situations; there is a dependence between rational and irrational behavior of households in the conditions of a pandemic; the behavior of state bodies, enterprises, and households regarding the motivation for the formation of stocks and their content is different; household stockpiling behavior during a pandemic is the result of a compromise between rational and behavioral economics.

Keywords: stocks, emergencies, household behaviors, consumer goods, pandemics

JEL Classification: H1, D04, D15, D23, E21

INTRODUCTION

Problems of creating stocks are characteristic at the level of enterprises, the entire national economy and households. These problems are solved by finding a compromise between finance and marketing in the case of business, then at the level of the country's economy, apart from economic, political and security aspects are prioritized, and in the case of households, behavioral ones. aspects are added. A real-world example is behavioral change in a household pandemic, in which behavior that deviates from traditional rational behavior can be explored. And there are many good tools for optimizing the inventory system in the enterprise, in supply chains, and in networks, including structural analysis, order size, inventory management models, and more.

At the macro level impact on the economy, stocks are less explored markets with the exception of strategic commodities, such as oil, gas, precious metals, etc., that natural global market of monopoly and/or oligopoly nature (e.g. OPEC). Major players in the world oil market have a certain arsenal of tools to influence the supply side in order to improve prices or increase their share, etc., and this is due to the relevant policy of

stocks (commercial stocks, their substitution to reduce/increase production. The policy of stocks of strategic goods (raw materials) is a consequence of general economic problems, the state of the world economy, rather than an active factor influencing (the cause) of this state. In other words, if the need for labor is considered an extremely important tool for GDP growth, and the status of migration policy in the EU, the stock policy does not have a clear position of the state.

At the same time, the problem of creating and maintaining inventories at the "retail" level, the level of final consumption of consumer products, and even more so in crisis situations, is poorly researched. Households pay less attention to product stocks at a higher level of development of the country's economy, because there is a wide range of products, affordability of prices, and places of purchase. Classical approaches to the stock function, such as extracting cyclical, insurance, seasonal, promotional, speculative, and stabilizing, services inherent in economic entities that are not very useful for valuation and the reasons for their function performed by households of warehouse products. It can be argued that there are significant specific reasons for the accumulation of inventories in households, which are not very structured and formalized, the ranking of which may be influenced by macro-environmental, regional, demographic, and crisis factors. Some of the consequences of stockpiling in households can be interpreted as causes of stockpiling for both businesses and the economy as a whole. By connecting the reasons for storage, it is possible to create additional groups of goods that are needed in all social units. Last example of such a positive: BSH announced a sales increase of 5.3% in 2020, despite the collapse of the global economy due to the growing demand for household appliances [15].

Another aspect of assessing the role of inventories concerns the relationship between producers and consumers, in particular the lack of synchronization of seller and buyer actions. We are talking about behavioral economics, when, for example, the producer forms his actions on a rational basis and the consumer - on an irrational one. In particular, it is better to sell more to a producer at a low price, and the consumer does not perceive such motivation, because he thinks in terms of conscious life. Another aspect of behavioral economics is when both the seller and the buyer think equally irrationally, their behavior is as follows: the manufacturer keeps its products in stock in anticipation of price increases, and the consumer, realizing the likelihood of price increases, increases their own stocks.

There is a need for a cause-and-effect analysis of household behavior when creating food stocks in crisis situations, determining trends in their formation, and developing recommendations for adapting behavior in crisis situations.

LITERATURE REVIEW

Since the beginning of the pandemic, scientists have been monitoring its impact on people's lives and changes in the country's economy. Examination of changes in demand for goods and services during a pandemic becomes important for scientists [12].

At the beginning of the pandemic, consumer panic was observed, which is typical behavior of consumers in an unknown situation. On a global scale, consumer panics differed in the timing of the panic level. Keane, M., Neal, T. proposed a model of dependence of the possibility of transmission of the virus and the level of consumer panic [7].

COVID-19 reduced the financial efficiency of financial institutions, but increased the social efficiency of MFIs [7], thus changing consumer perception. The pandemic has an impact on the labor market, i.e. the lack or reduction of the number of jobs [3], which in turn affects the solvency of the population and the propensity to create savings and inventories.

The pandemic caused people to worry about their financial situation and this led to the activation of state aid to the population [8] in the form of creating stocks of national importance and control over the production and movement of goods.

The use of innovations in the production of food products in a crisis period, with the provision of food security and green infrastructure, can ensure households in sustainable access to food [14]. Another important problem that requires an innovative approach is the accumulation of food waste, which is associated with household changes in the way food is stored [18].

The pandemic had its impact on supply chains both locally and globally [6]. Thanks to the rapid response and appropriate policy measures to overcome the economic crisis, supply chains have been adapted in such a way as to reduce the impact of the crisis [16]. A new concept of expanding the supply chain, taking into account changes in consumer behavior, is being actively developed to help ensure the sustainability of the global economy [19].

Sieroń A. argues that stocks in macroeconomics can play a stabilizing role in the market cycle, leveling it. On the one hand, goods that are produced but not sold increase GDP as an investment in inventory. However, once they are sold, they become a negative investment and reduce GDP accordingly. On the other hand, the functional structure of shares (cyclical,

insurance, speculative) cannot be ignored, which means that a certain share of shares may cause GDP fluctuations (in the stabilization or destabilization mode) [17].

Changes in people's lives during the pandemic have affected the behavior of households regarding the creation of food stocks. Over time, thoughtless impulsive decisions were changed to conscious ones, which gives certainty of an objective assessment of the transformation of behavior.

AIMS AND OBJECTIVES

The purpose of the article is to identify trends and assess the influence of emergency situations (pandemics) on changing the behavior of households regarding the formation and maintenance of stocks of consumer goods. The purpose of the article is to identify trends and assess the influence of emergency situations (pandemics) on changing the behavior of households regarding the formation and maintenance of stocks of consumer goods. To achieve the goal of the article, the authors conducted an analysis of the literature on the study of the problem of forming product stocks, put forward a number of hypotheses, and, with the help of a number of other studies (using an online survey), evaluated the behavior of Ukrainian households. The main research hypothesis – the emergence and long-term existence of states of emergency (pandemics) significantly affect the behavior of households and form changes that have a residual character when returning to normal situations.

Additional hypotheses include:

- there is a dependence between rational and irrational behavior of households in the conditions of a pandemic;
- the behavior of state bodies, enterprises, and households regarding the motivation for the formation of stocks and their content is different;
- household stockpiling behavior during a pandemic is the result of a compromise between rational and behavioral economics.

In order to achieve the goals of the study, the following stages are provided:

- on the basis of a critical analysis of the latest research and publications on modern trends in the behavior of households, enterprises, and the public sector, determine the reasons for the formation of stocks in the conditions of the pandemic;
- analysis of the results of an online survey on the trends of stockpiling by Ukrainians. The study was conducted in January-March 2021; the age and type of activity of the respondents were adopted as classification features. The standard error of the sampling results is 5%, and the coefficient of variation is 31%. In fact, 148 respondents were interviewed [9];
- testing of hypotheses and formation of conclusions and contradictory records.

RESULTS

Stocks of firms.

At the macro level, the impact of stocks on the country's economy is less studied except for markets for strategic goods such as oil, gas, precious metals, etc., in naturally global markets of monopolistic and/or oligopolistic nature. Prevention of storage shortages is the main purpose of the amendment to the law on mandatory stocks of crude oil and fuel, which entered into force on 07/19/2019 [1]. According to the Law, the Agency for Material Reserves will have the right to find so-called agent stocks in storage tanks that do not meet the standards - that is, do not allow to release of all intervention stocks quickly enough. According to the authors of the amendment, the surge in legal fuel trade leads to an increase in demand for storage tanks. Therefore, the law allows the use of approximately 1.5 million cubic meters of underground storage capacity, which does not meet the norms of stock availability - 150 days for crude oil and 90 days for fuel. The law extends the transition period. The 90-day availability requirement will apply from 2024. In the case of oil, the 150-day requirement will apply from 2024 to 2028, and from the beginning of 2029, oil stocks must have a 90-day availability period. This is especially true during a pandemic.

In particular, the main players in the world oil market have a certain arsenal of tools to influence the supply side in order to improve prices or increase their share, etc., and this is due to the relevant policy of stocks (commercial stocks, their substitution to reduce/increase production). In any case, the policy of stocks of strategic goods (raw materials) is more a

consequence of general economic problems and the state of the world economy than an active factor influencing (the cause) of this state. In other words, if the need for labor is considered an important tool for ensuring GDP growth, as evidenced by the state status of migration policy in the EU, the stock policy does not have a clear position for the state.

The behavior of economic entities in the field of inventory management is determined by rationality factors (reducing risk costs, increasing the level of customer service, etc.). Such behavior of economic entities remained in a pandemic. Moreover, such a policy has become even more aggressive than usual, as evidenced by numerous anti-downside measures by businesses, especially small and medium-sized ones around the world. This is an additional argument that the behavior of business in general and the maintenance of stocks in particular, is mostly rational.

State stocks.

Not only do ordinary citizens buy food in grocery stores to stockpile their pantries, but some governments during the pandemic are trying, in various ways, to protect the country's food.

Although food supplies are sufficient, logistical barriers make it difficult to purchase products where they are needed. The coronavirus pandemic and the risk of a labor market crisis are leading to trade panic. Many governments have taken extreme measures, including curfews and bans on rallies. It can also affect food policy, so some countries are increasing their strategic reserves.

Disruption of the supply chain of certain goods can have serious consequences worldwide. For example, China, the largest producer and consumer of rice, has promised to buy its domestic crop as never before - although the government already has huge stocks of rice and wheat, enough for a year of consumption. Kazakhstan has stopped exporting goods such as buckwheat and onions, and now wheat and flour. This important step could affect global companies that produce, for example, bread. For example, Russia is the world's largest exporter of wheat and a key supplier to North Africa. Vietnam is the third largest rice exporter, delivering large quantities of rice to the Philippines. In this case, frantic shopping combined with protectionist policies can lead to higher food prices. The higher the price, the more panic. Jordan has accumulated record stocks of wheat, while Egypt, the world's largest buyer of grain, has decided to increase its own harvest by more than 50% in international markets. Taiwan has stated that it will expand strategic food stocks [10].

Prices for some items have already begun to rise due to a surge in purchases. Wheat futures in Chicago - a global figure - rose more than 6% in March. Wholesale beef sales in the United States have peaked since 2015, and egg prices are higher. At the same time, the US dollar is rising sharply compared to many emerging currencies. As a result, countries with weak currencies lose the most [20].

Buying in advance shows that countries are beginning to protect themselves from the potential negative effects of a pandemic, such as supply disruptions and the destruction of world trade. Coronavirus has already disrupted national supply chains to meet demand, and empty shelves have forced consumers to change their buying and stocking habits.

Analysts at Bank of America Corp. said that Covid-19 forced consumers to move from the latest inventory management to what is called "just in case" [13]. As a result, consumers accumulate more to counter future supply disruptions.

Many countries have increased food purchases for fear of disrupting the supply chain pandemic. The creation of strategic reserves in many countries is caused by the availability of large amounts of foreign capital, the growth of domestic supplies, and the need to control local prices, or the usual factor - a poor harvest.

Household stocks.

There is no single pattern of behavior and no single type of response to a pandemic. In the initial phase of its outbreak, there was an increase in purchases of food and hygiene products. According to a survey conducted at the Faculty of Psychology of the University of Warsaw in March by a nationally representative sample, as many as 56 % of Poles said they bought various goods in stock, most of them (66 %) buying pasta, 55 % flour, and 53 % toilet paper. COVID-19 study: European food behaviors, 2021.

However, it turns out that these often-unnecessary ways of buying depended primarily on the feeling of lack of control and the feeling of the danger of infection with COVID. People who were most afraid of the new virus and felt out of control made the largest number of purchases in terms of product variety and the amount of money spent on them. These people explained their behavior by the need to prepare for an outbreak of a real epidemic when it was impossible to leave the house.

The pandemic has also affected the way shopping is done. For example, women were more willing to buy, but at the same time tried to do so less often, while men increased the frequency of online purchases. Young people have also increased the frequency of online shopping, but at the same time bought much more goods for pleasure.

Therefore, the study showed that the first phase of the crisis was the most "psychological" - economic choice was accompanied by strong emotions. Also, in the case of payment behavior, the fear of coronavirus is what motivates people to change their habits. Changing payment habits, especially those related to non-cash payments. At the initial stage of the pandemic, 75 % of Poles with cards said they paid more by card than in cash (52% of them, of course, more often). This is clearly more than before the outbreak of the pandemic. Importantly, as many as 40 % of cardholders claimed to have changed their payment habits for fear of coronavirus. The use of contactless payments has also increased. As many as 32 % of cardholders said they pay more often this way these days. Such behavior is also a direct result of fear of contamination.

Many people in Poland, such as those who lost their jobs or were temporarily unable to do their job (for example, a hairdresser), faced a situation where they had to live on savings or, in the absence of savings, serious financial problems. Savings depend much more on how people perceive their finances (how satisfied they are with them) than on how much money they have objectively. Moreover, the availability of savings depends less on earnings, but on such individual characteristics as honesty, self-control, internal locus of control, future prospects.

Historical experience shows that economic crises can also have positive consequences for society. In light of COVID-19, many have time to think about life, relationships, and consumption, such as do we really need so many things, do we need new clothes all the time, do we have enough food and hygiene.

During the pandemic, the Poles changed their approach to financial security. According to a survey conducted by the Prudential Family Index in September 2020 [2], before the second wave of the pandemic, most Poles feared losing their finances rather than their health.

The survey shows that Poles often encountered high prices in stores (51%). More than 1/3 of respondents were forced to limit their expenses. Another, rather large group experienced a decrease in salary or income. In addition, a large proportion of Poles had to take time off due to health problems, and Poles were also forced to access their savings.

During the pandemic, Poles feared deterioration in their financial situation, and unfortunately, the fears came true - as can be seen from the results of the study described above. So, do we have a financial cushion for unexpected situations? The Prudential Family Index survey shows that almost half (44%) of Poles say that they are always ready for unforeseen situations and have financial security (44% YES, 33% DO NOT KNOW, 23% NO). The question: is the existing financial cushion enough and will the accumulated funds allow you to survive a difficult period? The vast majority of Poles (65%) have savings of up to 6 monthly salaries. Are we sure, we can feel completely financially secure? Experts agree and suggest that optimally each of us should have savings of more than six months. It follows that only about 23% of Poles (less than one in four) have a financial cushion according to expert recommendations.

To sum up: the results of the Prudential Family Index study show that Poles in a pandemic are more concerned about finances than their health. Unfortunately, the worries of many compatriots have become a reality and their financial situation has deteriorated. Most of the experience with COVID-19 concerns financial aspects, such as high store prices, reduced costs, or the need to use the accumulated savings. The poll shows that a significant number of Poles are not financially prepared for unforeseen situations.

In the event of an emergency, many countries have a stockpile plan. For example, Austria, as part of radiation protection, recommends that the population prepare stocks for 14 days. They should consist of 4.5 kg of cereals, 4.5 kg of dairy products, 6 kg of fruits and vegetables, and 21 liters of water per person. In addition, it is recommended to prepare a briefcase with documents. In the Netherlands, residents are instructed to overcome floods caused by storms or terrorist attacks. It is recommended to stock up on drinking water, non-food items, cash, and medicines. Key among these recommendations is the purchase of a battery-powered radio station. Spain has no recommendations on stockpiling. The Ministry of the Interior of Finland advises making permanent supplies of drinking water, food, medicine, iodine tablets, and basic household items in case of emergencies. The Ministry emphasizes that the number of stocks should be adjusted according to eating habits and per capita consumption [5]. The German Office for Civil Protection and Disaster Relief notes that there is still no reason to panic and over-purchase. To prevent panic and be prepared for an emergency, you need to stock up on food for about 10 days. Emergency stock per person includes 20 liters of water, 3.5 kg of cereals, bread, potatoes, pasta, and rice, 2.5 kg of canned fruits and nuts, 4 kg of dried beans and vegetables in jars, 2.6 kg of milk and dairy products, 1.5 kg of meat, fish and eggs or powdered eggs, 0.4 kg of fat and oils. It is also good to stock up on foods that do not need to be heated or boiled: sugar, honey, chocolate, flour, broth, crackers, and salty sticks - in quantities that suit

your taste. In addition, you should always need medication, a convenient first aid kit, candles and matches or lighters, camping with a stove, spare batteries, and disinfectants [11].

Thus, in a pandemic, the behavior of public authorities is significantly transformed under the influence of security and political factors, which weakens the rationality of their behavior, as is observed in normal conditions. A contrasting example is the behavior of the world's leading countries (USA, EU, Canada, UK) on the formation of extremely large insurance reserves of vaccines in the context of temporary shortages of vaccines worldwide, the transformation of government behavior in relation to stockpiling will take place in the opposite direction with minimal residual effect.

The behavior of households with regard to stockpiling during the pandemic Covid-19.

In recent decades, household stockpiling behavior has undergone changes under the influence of a positive perception of human values, concern for the environment and humanity, and, unfortunately, has been weakened. The emergence of an unforeseen crisis situation, such as a pandemic, can have unexpected consequences in the formation of reserves. That is why it is so important to evaluate and identify changes based on the use of primary information. For this purpose, a study of the behavior of households regarding the formation of stocks during the Covid-19 pandemic was organized in Ukraine.

In order to ensure the reliability of the results, a survey was conducted with $n = 148$ residents [9].

The purpose of processing survey results is to summarize the information received from respondents during the survey. The results of the survey should ensure the transmission of the entire general population of consumers regarding the formation of stocks during the pandemic. We used the following methods to evaluate the survey results [9]:

- determining the mean value of the percentage of survey results, the root of the mean square error at a given confidence level ($P = 95\%$), and the confidence intervals of the survey results;
- the use of χ^2 -criteria to assess the consistency of respondents' answers, identifying the relationship (or lack thereof) between the nominal characteristics for both the sample and the general population;
- the use of ABC analysis to assess the distribution of respondents' answers;
- testing hypotheses and agreeing with respondents.

Below are the most important results of the survey [9].

Question 1. Do you keep stock of goods at home just in case?

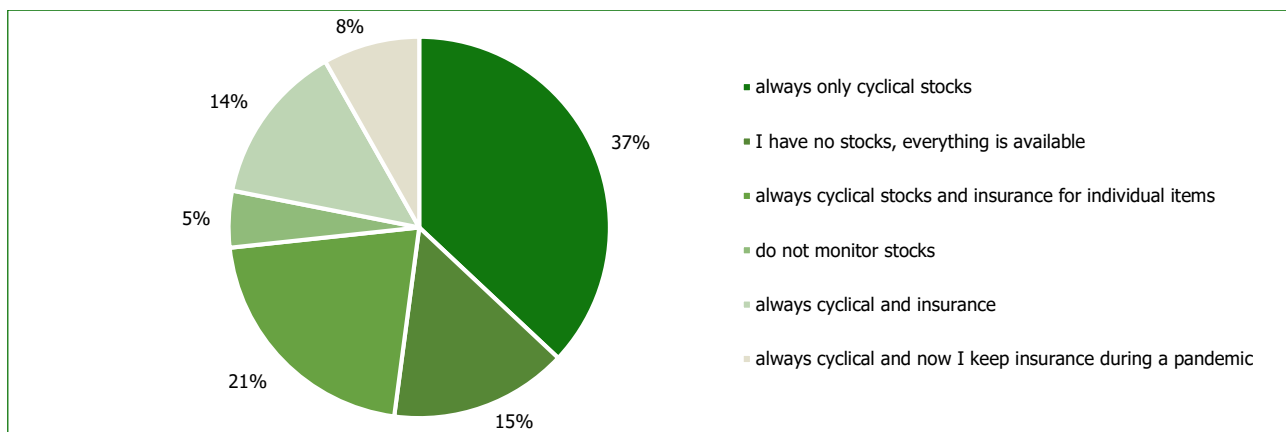


Figure 1. Question 1. Do you keep stocks of goods at home just in case? (Source: [9])

The determined mean value of the respondents who confirmed a specific type of response at a given confidence level ($P = 0.95$), the mean value of the assessment for the general population falls within a certain range. Using the formula "STANDOTE DEVIATION" in the Excel environment, for the results of the survey obtained, we calculate the standard deviation $\sigma = 10.01\%$. Then for $n = 148$ the root of the mean square error is $\sigma_x = 0.82\%$ [9].

Thus, the average number of consumers in the general population who always have only cyclical stocks (1 type of answer) can be determined as follows: $\bar{x} = x \pm t \cdot \sigma_x = 37 \pm 1,96 * 0,82$. It can be said that for the general population, the share of respondents (%) owning only cyclical shares is within the range. Similarly, confidence intervals are determined for the average value of consumers who support other answers to question 1 (Table 1) [9].

Table 1. Determining the confidence interval for the average value of respondents from the general population of consumers who supported a certain answer to question 1. (Source: based on [9])

	Types of respondents' answers						Together
	1	2	3	4	5	6	
Number of respondents, % (x)	37	15.1	21.2	4.8	13.7	8.2	100
The lower limit of the confidence interval	35.39	13.49	19.59	3.19	12.09	6.59	
The upper limit of the confidence interval	38.61	16.71	22.81	6.41	15.31	9.81	

To establish the relationship between nominal characteristics such as "stockholding" and respondent demographics, we use a χ^2 -criterion to determine the degree of consistency in respondents' responses to determine if there is a relationship (or absent) between these characteristics.

To determine whether there is a relationship between the features, a conjugate frequency matrix of the specified variables is constructed and the χ^2 -criterion is used. Note that if the χ^2 test indicates a relationship, then the relationship also exists for the general population. In order to apply the χ^2 -criterion, it is necessary to compare the frequency of observations of a given feature (f_{ci}) with the expected frequencies (f_{oi}), which are determined on the basis of the frequency of the survey respondents. To do this, build a table according to the survey data of the respondents, where f_{cs} - the results of the respondent survey (table 2) [9].

Table 2. Calculation χ^2 - criterion. Matrix of conjugate frequencies. (Source: based on [9])

Stock maintenance	Age of respondents						Together
	18-29	30-39	40-49	50-59	60-69	70 and >	
always only cyclical stocks	9	10	22	9	4	2	56
I have no stocks, everything is available	5	4	6	4			19
always cyclical stocks and insurance for individual items	4	6	14	7	1		32
no monitor stocks		3	5	1			9
always cyclical and insurance	4	8	4	2			18
always cyclical and now I keep insurance during a pandemic	4	3	3	3	1		14
Together	26	34	54	26	6	2	148
Total, %	16.9	23	37.8	16.9	4.1	1.3	100
Matrix of expected frequencies							
	18-29	30-39	40-49	50-59	60-69	70 and >	Total, %
always only cyclical stocks	9.84	12.86	20.43	9.84	2.27	0.76	56.00
I have no stocks, everything is available	3.34	4.36	6.93	3.34	0.77	0.26	19.00
always cyclical stocks and insurance for individual items	5.62	7.35	11.68	5.62	1.30	0.43	32.00
no monitor in stock	1.58	2.07	3.28	1.58	0.36	0.12	9.00
always cyclical and insurance	3.16	4.14	6.57	3.16	0.73	0.24	18.00
always cyclical and now I keep insurance during a pandemic	2.46	3.22	5.11	2.46	0.57	0.19	14.00
Together	26.00	34.00	54.00	26.00	6.00	2.00	148.00
Calculation of the criterion							
	18-29	30-39	40-49	50-59	60-69	70 and >	Together
always only cyclical stocks	0.07	0.64	0.12	0.07	1.32	2.04	4.26
I have no stocks, everything is available	0.83	0.03	0.13	0.13	0.77	0.26	2.14
always cyclical stocks and insurance for individual items	0.47	0.25	0.46	0.34	0.07	0.43	2.02
no monitor stocks	1.58	0.42	0.90	0.21	0.36	0.12	3.60
always cyclical and insurance	0.22	3.61	1.00	0.43	0.73	0.24	6.24
always cyclical and now I keep insurance during a pandemic	0.96	0.01	0.87	0.12	0.33	0.19	2.49
Together	4.13	4.96	3.48	1.30	3.58	3.29	20.74

The expected frequencies are determined by the formula [9]:

$$f_{oi} = \frac{\text{sum_of_column_k} \times \text{sum_f_string_m}}{\text{number_of_respondents}}, \quad (1)$$

where $k, m = 1.2$; and $= 1.4$.

The next step is to determine χ^2 by the formula

$$\chi^2 = \sum_{i=1}^4 \frac{(f_{ci} - f_{oi})^2}{f_{oi}} \quad (2)$$

Estimation of the calculated χ^2 with tabular value.

In the case of testing answers to 1 and 28 questions (each question has 6 types of answers), then $k = 6$ and $m = 6$, and the degree of freedom is defined as $K = (6-1) * (6-1) = 25$, his is the value tabular $\chi^2_{\text{table}} = 37.7$. Obtained $\chi^2 = \sum_{i=1}^{36} \frac{(f_{ci} - f_{oi})^2}{f_{oi}} = 20,74$. Then we can conclude that there is a condition $\chi^2_{\text{count}} \leq \chi^2_{\text{table}}$, that is, the variable "inventory maintenance" and the demographic variable are independent [9]. It can be concluded that a variable such as age does not affect the creation of inventories by consumers, which is reliable with the probability of $P = 95\%$ and for the general consumer population in Ukraine.

Question 2. Most often you keep stocks (turn over several options).

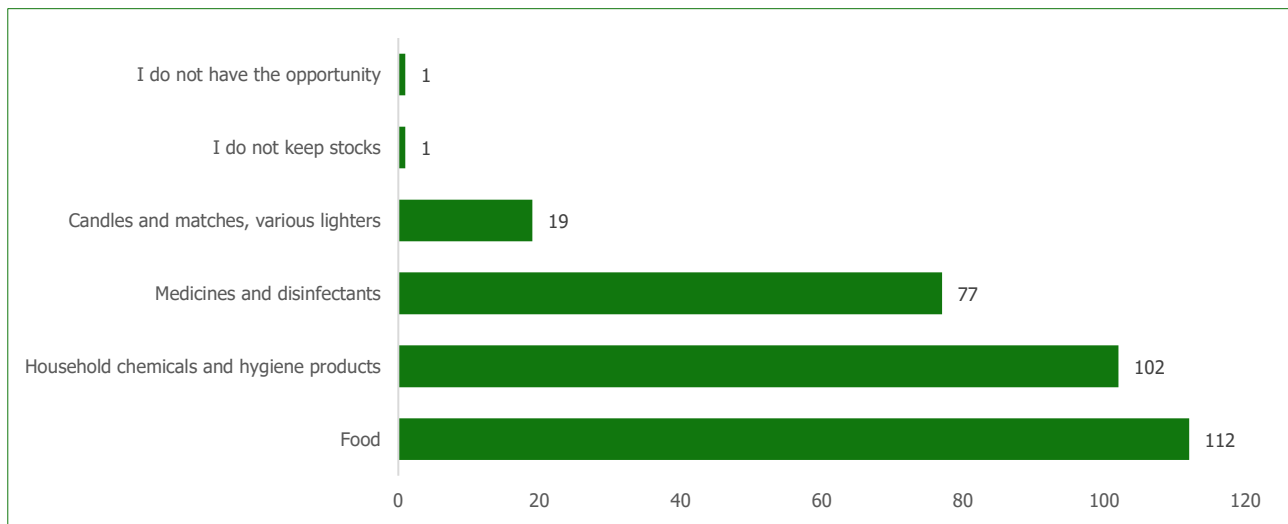


Figure 2. Question 2. Most often you keep stocks (turn over several options). (Source: [9])

To determine the importance of consumer storage in Ukraine, use the ABC analysis. The use of this method of analysis made it possible to identify the most common responses regarding the respondents' resources.

The distribution of the respondents revealed two groups - group B index $V > 0.7$ and group C - index $V < 0.7$. Group A is absent, there is a statement that products, household chemicals and hygiene products, drugs and disinfectants form group B, as evidenced by the calculated V_i index.

Question 3. What food do you think you need to have as a stockpile in case of emergencies [9]?

Analyzing respondents' answers to questions about the list of certain food products, a rating was determined based on the calculation of the weighted average value (weight rating - rating from 1 to 5) regarding their importance for respondents.

As evidenced by the assessment of responses, consumers have stocks of products with the longest shelf life.

Maintaining food supplies in the household became an important feature of their lives and will remain for the future as a residual effect. The behavior of households has become more rational from the point of view of creating insurance reserves. Demographic data do not affect the content of household behavior. Households are willing to share risks with businesses

and government institutions in order to have anti-crisis insurance reserves. There is a significant relationship between profession and attitude to housekeeping.

DISCUSSION

The following issues are proposed as discussion positions and directions for future research:

- how does the country's economy affect the change in the behavior of households regarding the storage of stocks?
- how healthy trends (conscious fashion, conscious life, minimalism) remain unchanged in the fear for life during the pandemic?
- to what extent will the transformation of households' acquisition behavior become irreversible?

CONCLUSIONS

In accordance with the purpose of this study and based on the methodology proposed by the authors, the following results were obtained:

- the main hypothesis has been confirmed: the emergence and long-term existence of states of emergency (pandemics) significantly affects the behavior of households and forms changes that have a residual character when returning to normal situations;
- the first additional hypothesis was confirmed: there is a dependence between rational and irrational behavior of households in the conditions of a pandemic;
- the second additional hypothesis was confirmed: the behavior of state bodies, enterprises, and households regarding the motivation for the formation of stocks and their content is different;
- the third additional hypothesis was confirmed: household stockpiling behavior during a pandemic is the result of a compromise between rational and behavioral economics.

Obtained research results may be used for the construction of crisis management systems and for modernization of the state strategic stock system, taking into account that some problems related to food stocks are ready to be taken up by households with some experience.

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Бінда Я., Крикавський Є., Петрик І., Шинкаренко Н.

УПЛИВ НАДЗВИЧАЙНИХ СИТУАЦІЙ НА ЗМІНУ ПОВЕДІНКИ ДОМОГОСПОДАРСТВ ЩОДО ФОРМУВАННЯ ЗАПАСІВ

Світова економіка зазнала значних змін у 2020 році, коли пандемія Covid-19 поширилася світом дуже швидкими темпами. Глобальна пандемія вплинула на поведінку економік держав у цілому, а також на поведінку бізнес-сектора та окремих домогосподарств.

Метою статті є представлення та дослідження проблем, пов'язаних із впливом надзвичайних ситуацій (пандемій) на зміну поведінки домогосподарств щодо формування та підтримки запасів споживчих товарів. Дослідження базується на теоретичному аналізі наукової літератури про запаси продовольства під час надзвичайних ситуацій, таких, як пандемія Covid-19, статистичному аналізі та опитуваннях.

Дослідження поведінки домогосподарств щодо накопичення продуктів харчування під час пандемії виявило ознаки суперечності. Оцінено напрямок типової (стандартної) поведінки домогосподарств у кризових ситуаціях та запропоновано перспективні випереджувальні дії органів державної влади щодо створення страхових резервів із метою зниження ризику вичерпання товарних резервів у населення, підприємств. Доведено трансформацію споживчої поведінки всіх представників суспільства у зв'язку з підтриманням запасів споживчих товарів напередодні надзвичайних ситуацій.

Основні висновки: виникнення та тривале існування надзвичайного стану (пандемії) суттєво впливає на поведінку домогосподарств і формує зміни, які мають залишковий характер при поверненні до нормальних ситуацій; існує залежність між раціональною та нераціональною поведінкою домогосподарств в умовах пандемії; різна поведінка державних органів, підприємств і домогосподарств щодо мотивації формування запасів та їхнього змісту; поведінка домогосподарств щодо накопичення запасів під час пандемії є результатом компромісу між раціональною та поведінковою економікою.

Ключові слова: запаси, надзвичайні ситуації, побутова поведінка, споживчі товари, пандемії

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