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Changes of Urban Food Purchase Habits during the First Wave of COVID-19: Hungarians Living in Romania and Hungary Compared

Ottilia GYÖRGY
Assistant Professor, Sapientia Hungarian University of Transylvania,
Cluj-Napoca, Romania
e-mail: gyorgyottilia@uni.sapientia.ro

Endre ORBÁN
Assistant Professor, National University of Public Service, Hungary
e-mail: orban.endre@uni-nke.hu

Abstract. The outbreak of the COVID-19 epidemic in 2020, the emerging economic uncertainty, a declining trust, digital solutions, and the home office have changed consumer behaviour, including food-buying habits. Given that the epidemic in Central and Eastern Europe has developed differently due to territorial differences, we have focused our study on the comparative analysis of two countries. The aim of our research was to examine the food purchase habits during the first wave of the pandemic together with consumer decisions and their motivations emerged due to the epidemic among the Hungarian urban population of two countries. In the present study, we conducted a survey among Hungarian urban consumers in Romania and among the urban population in Hungary at the beginning of the pandemic when lockdown was implemented. Over a two-month period, we collected more than 2,000 completed questionnaires.

Keywords: COVID-19 closure, food purchase of households, consumer behaviour of urban population

Introduction

In December 2019, a new viral pneumonia was reported from China, marking the start of a pandemic. The virus spread rapidly to the rest of the world, including Europe, where the number of people infected with COVID-19 increased, especially in northern Italy, in February. The first patient was identified in Romania on 26 February and in Hungary on 4 March.

As a result of the pandemic, measures were introduced worldwide, which severely restricted people's daily lives with a significant impact on the economy as a whole, on the labour market situation, and on people's social relations. The implemented measures aiming to reduce the spread of the virus were manifold. To reduce mobility, travel restrictions have been introduced and border controls have been reinstated between some countries. For health and safety reasons, state and municipal events were cancelled, distancing rules came into effect, cinemas and theatres were closed, food from restaurants was only available for takeaway, and sporting events, including the 2020 Tokyo Summer Olympics, were postponed. In hospitals, beds were released as a precautionary measure and visiting people in hospitals was prohibited. Potentially infected but asymptomatic people were required to stay at home in a so-called home quarantine for two weeks. Universities switched to online teaching and the vast majority of jobs to home office.

As a consequence of the news quoting a warlike language (Szabó–Béni 2021), the phenomenon of panic shopping appeared, which led to a short supply of some products such as hand sanitizers, face masks, some non-perishable foods, yeast, or even toilet paper. As a result of the outbreak of the pandemic, the emerging economic uncertainty, digital solutions and home office, consumer behaviour, including food-shopping habits, have changed. The aim of our research was to examine the food purchase habits during the first wave of the pandemic together with consumer decisions and their motivations emerged due to the epidemic among the Hungarian urban population of two countries. In the present study, we conducted a survey among Hungarian urban consumers in Romania and among the urban population in Hungary at the beginning of the pandemic when lockdown was implemented. Over a two-month period, we collected more than 2,000 completed questionnaires.

Literature Review

The COVID-19 pandemic has brought drastic changes to people's daily routines in many countries, including their food-shopping habits. Numerous studies have been published over the past year that have examined changes in shopping habits in different parts of the world. A number of studies have been conducted to assess the purchasing decisions and reactions to the closures during the quarantine period, and their possible and expected consequences for food-buying habits. Thanks to COVID-19, people have reorganized the way they work and live, and essentially the entire economy has changed.

The pandemic has reached all countries in the world, but the affected areas reacted in different manners. For example, neither rural nor urban residents nor the countries responded similarly.

The epidemic and its economic afterlife is reflected differently in each country and in the evolution of inequalities (Uzzoli et al. 2021). In Central and Eastern Europe, the first wave was characterized by regional differences both at the country level and at smaller territorial levels (Kovalcsik et al. 2021).

The virus did not spare the Eastern and Central European region although some studies suggested that it appeared much later and in a less severe form in these countries (Szirmai 2021). There were differences between cities in the Eastern and Central European region, but strong similarities could also be observed (Csepeli et al. 2020). In the light of this, we considered worthwhile to examine the territorial aspects in connection with shopping habits.

In these countries, the common historical past, the similar model of urbanization, and the delayed urban development may lead to many similarities in terms of responses to the pandemic (Szirmai 2021).

People's food-purchasing decisions are usually determined by their established habits that are influenced by the environment. If there is a change in the environment, it will have an impact on their decisions. When people are forced to react to changes in their environment, their established habits are sensitive to these changes, and they initiate a new decision-making process (Verplanken–Wood 2006). In this regard, quarantine was also an unusual, limited period of time, which probably affected food-buying habits. One may say that consumer habits were distorted due to panic, which led to market disturbances. Panic buying and collecting (food) supplies is a complex and harmful form of consumer behaviour fuelled by multiple motivational and other psychological processes (Dholakia 2020).

According to previous surveys carried out in the pre-epidemic period, consumers began to spend more and more on food in supermarkets after the 2008 global economic crisis (Cha et al. 2015). In addition, some studies have also anticipated that consumers are expected to spend even more as the epidemic develops, i.e. to raise their spending average on food but reduce spending in other areas in parallel. Numerous studies also confirm that demand for food products is constantly on the rise as a result of global events similar to the pandemic (Aday 2020).

Behavioural changes also had an impact on food waste. It can be assessed as a positive result that the closures due to the pandemic have led to behavioural shifts in food waste, i.e. consumers became more conscious in this regard and sought to use, store, and consume leftover food (Jribi et al. 2020).

By mapping the analyses of shopping habits, a research conducted last year confirmed a change in the frequency of visits to grocery stores and the amount of money spent on food during a single purchase (Cranfield 2020). Consumers have turned their attention to durable products, started cooking at home, bought takeaway food more frequently, and often ordered food due to social distancing rules and restaurant closures (Bakalis et al. 2020). Furthermore, a study in the

United States found that 70% of the consumers consumed more food during their stay at home (Aday 2020).

Another study was conducted in France during the first period of restrictions (Marty et al. 2021), which showed that the quarantine period is indeed correlating with changes in food choice motivations. The research has shown that the importance of comfort and price sensitivity has declined, while the importance of health, natural ingredients, and ethical reasons has increased. All this suggests that awareness and sustainable food choices have come to the fore in France.

A study by Alina Butu et alia relies on the assumption that the state of emergency resulting from the total lockdown has led to significant changes in Romania, such as to a significant increase in demand for fresh produce (Butu et al. 2020). The impact of the pandemic has been analysed by several scholars in Hungary as well, which turned to be developing similarly to the situation in Romania in many respects. According to a research, the frequency of purchases has decreased due to the risks of the pandemic and the pattern of the weekly shopping dominates. Online food shopping has also come to the fore. Soós's paper also reveals that people started to cook more at home during this period (Soós 2020).

According to another study focusing on the United Kingdom (O'Connell et al. 2021), there was a large increase in demand for some durable product categories during the first wave of the pandemic. As per the explanation of the authors, this is mainly due to the fact that more consumers bought the very same products of these categories during the given period rather than due to the fact that the usual consumers started to purchase more products.

McKinsey & Company reported in a study (Arora et al. 2020) that motivation, mood, health, comfort, and natural ingredients had the greatest influencing power on shopping. These factors are common in the 45 countries examined in their survey. In addition, the study highlighted the growing popularity of e-commerce as a result of the epidemic.

However, a survey (Eger et al. 2021) also demonstrates that consumers focused on their most basic needs during the crisis, and an important message of this research is that any changes in shopping behaviour due to the COVID-19 pandemic is highly dependent on the level of fear. That is to say, the greater the fear, the greater the change in purchasing behaviour.

According to a survey on the impact of the pandemic in ten European countries (COVID-19 STUDY 2021), there are also general trends despite the differences between countries and age-groups. Results show that durable behavioural changes may be manifested by a different kind of shopping and by higher consumption than before the pandemic. In addition, the role of a more careful planning is growing, i.e. paying attention to what people buy. Furthermore, the study also highlights that there has been a significant increase in the number of major shopping trips in all the investigated countries after the outbreak of the pandemic.

As the epidemic in Central and Eastern Europe developed differently due to territorial differences, our study focused on the comparative analysis of two countries. We were curious about how purchasing decisions evolved in relation to the different city categories in the two examined countries.

The present study realizes a comparative research both geographically and temporally. On the one hand, the aim of our survey was to examine and compare the food-shopping habits of the Romanian and Hungarian urban populations during the first wave of COVID-19, when significant restrictions were implemented in both countries. In our study, we examine to what extent and how the motivation of the Hungarian urban population regarding food shopping has changed in the two countries during the first emergency period. On the other hand, for the sake of comparison, some questions in our questionnaire have also inquired about the pre-pandemic situation, which enabled us to compare those results with the answers reflecting the first wave of the pandemic.

Methodology

The period for completing the questionnaire was April–May 2020, and it was completed integrally online because of the COVID-19 lockdown. In Romania, during the first wave, which began in March 2020, the lockdown meant that only those were allowed to leave their homes for whom this was indispensable for work, who had an urgent medical examination, had to obtain products needed for their subsistence or medical treatment, needed to pursue an agricultural activity, had to visit their close relatives in need of care, and who satisfied their own or their pets' need for movement in the immediate vicinity of their place of residence. In parallel, an emergency situation was introduced in Hungary on 11 March 2020, as part of which lockdown was implemented from 28 March to 11 April, which was then extended to an indefinite period. Similar to the situation in Romania, all this meant that leaving the place of residence could only take place on the basis of a 'good reason' specified in a government decree. In addition, only people over 65 could enter the shops between 9 AM and 12 noon. The lockdown was eased during May, at first in the countryside, when the terraces of restaurants and cafes could be opened and weddings and funerals were allowed to be held. The emergency state was finally abolished on 18 June, following which the government introduced the so-called 'epidemiological preparedness'.

In the course of the quantitative research, we adopted an online questionnaire that was used for interviews among the Hungarian urban population in Romania on the one hand and among the urban population in Hungary on the other. As the latter group is significantly larger than the latter group in Romania, the final number of items in the Hungarian sample was also higher (RO – 901, HU –

1,274). The online survey belongs to the so-called open research method, as the questionnaire was accessible in the form of a link placed on social media sites and community groups. The limitation of this analysis is that the sample was not representative for the urban population of the two countries, involving more women and individuals with higher education.

In the first half of the questionnaire, we asked about different aspects of food-buying behaviour, i.e. frequency, choice of location, factors determining shopping, and then we inquired about local product preferences, online shopping habits, and the amount of income spent on food (*Figure 1*).

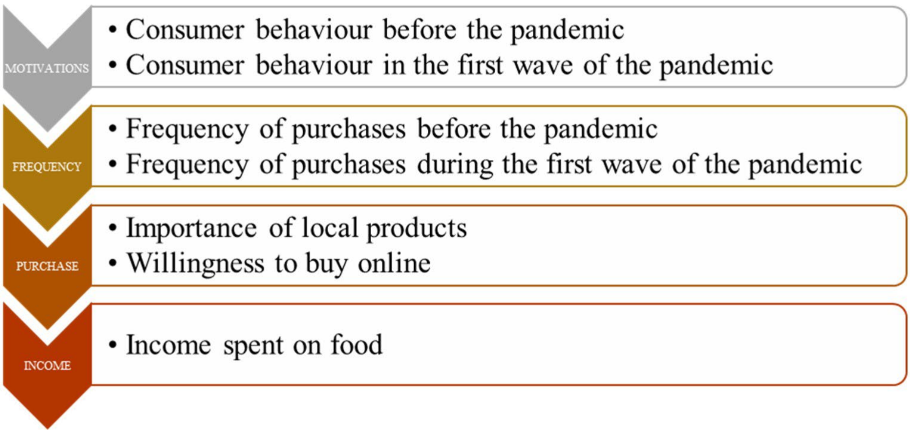

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Figure 1. *Structure of the questionnaire*

According to our hypothesis, although the two countries show significant differences in social and economic terms, there may be less significant differences between the social responses given to the pandemic in terms of purchasing decisions, incentives, locations, and frequency during the first wave (H1).

Furthermore, we assumed that the importance of cooking at home increased in both countries during the first wave of the pandemic simply because people spent more time at home and had more time for food preparation (H2).

In addition, according to another hypothesis, the amount of the purchased food increased as people tended to stockpile more food due to general fear (H3).

Finally, following from the third hypothesis, we assumed that people spent a higher percentage of their income on food than before the pandemic (H4).

As for the respondents, more than 80 percent of them were women in both countries (RO – 81%, HU – 83%). In the distribution by age-groups, the highest proportion of the respondents belonged to the group between 25 and 45 years old (RO – 60.7%, HU – 52.5%). This is due to the fact that this age-group is the most reachable online, but as an alternative explanation one may consider that the members of this age-group may spend the most time on the Internet.

It is interesting, however, that compared to similar online questionnaire surveys, the majority of participants in the present study have higher education, which is presumably explained by the increased leisure time of this social group during the lockdown. Among Hungarians living in Romania, 73.1% of respondents have a tertiary education (college, university, or doctoral degree) compared to the 55% of respondents from Hungary. In terms of their employment, more than 50 percent of the respondents have the status of employee in both countries (RO – 61.7%, HU – 55%) and 10 percent of them are entrepreneurs in both countries.

Based on their place of residence, 64% of respondents in both Romania and Hungary live in small and medium-sized towns. In comparison, the proportion of people living in the capital is relatively high in the case of Hungary, while in Romania those respondents are present to a greater extent who live in a metropolitan area smaller than the capital. This difference may be explained by the relatively lower number of Hungarians living in Bucharest, the capital of Romania (*Figure 2*).

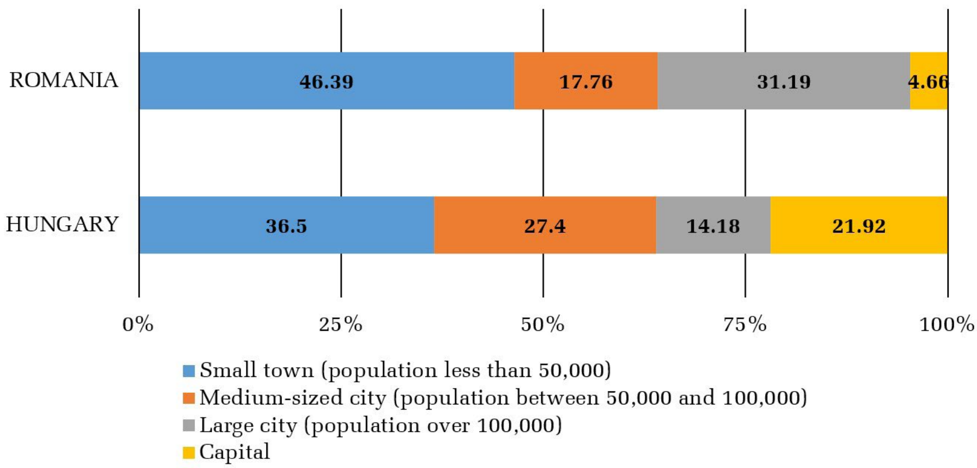

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Figure 2. *Distribution by place of residence*

To map the financial situation of households, we used an objective variable whereby we inquired about the size of the monthly net income of the households using a number of intervals (*Table 1*). The highest proportion of respondents in Romania (33.7 percent) has a net income of RON 3,000–5,000 (EUR 600–1,000). More than 50% of the respondents in Romania had a net income of less than RON 5,000, which is close to the statistics of the respondents in Hungary, where 47.80% of the respondents had a net income of less than HUF 350,000 (EUR 990 – it roughly corresponds to RON 5,000). For both countries, 5 percent of the respondents out of the total sample marked the 'I do not know' option for this question.

It is important to emphasize, however, that according to the table below, the sample available from the two countries is almost equally distributed in terms of the financial background of the respondents, which confirms the comparability of the responses from the two countries. Nevertheless, it is also worth pointing out that the number of the Hungarian respondents outweigh their Romanian counterparts in the top three financial categories of the table below, while the Romanian respondents dominate over those from Hungary in the lower three categories. This attribute can be explained by many factors: for example, by the over-representation of the respondents living in the capital city in the case of Hungary, where the wage level is *ab ovo* higher.

Table 1. *Distribution by the monthly net income of households*

HUNGARY (N = 1,122)	%	ROMANIA (N = 856)	%
Over HUF 750,000	10.50	Over RON 10,000	8.29
Between HUF 500,000 and 750,000	17.40	Between RON 7500 and 10,000	10.05
Between HUF 350,000 and 500,000	24.20	Between RON 5,000 and 7,500	22.43
Between HUF 200,000 and 350,000	26.40	Between RON 3,000 and 5,000	33.76
Between HUF 150,000 and 200,000	12.80	Between RON 2,000 and 3,000	16.00
Less than HUF 150,000	8.60	Less than RON 2,000	9.46

Source: own editing

Results

In the first half of our questionnaire, we asked about shopping habits, especially about the stores people chose, the factors influencing their choice, and about the frequency of shopping.

When asked how often consumers went shopping as a result of the epidemic (*Figure 3*), 50 percent of the respondents from Romania said it was once a week, which was in a huge contrast with the same question relating to the pre-pandemic period (12%). The situation is similar in the case of Hungary, as previously the majority of the respondents (58%) went shopping several times a week, while during the first wave the proportion of the once-a-week shoppers took the lead: their share increased from 15.55% to 46.5%. In fact, in both countries, the proportion of people who went shopping more than once per week was halved.

In addition, after the outbreak of the epidemic, the proportion of daily purchases fell from 22% to 4% in Romania and to 6.5% in Hungary.

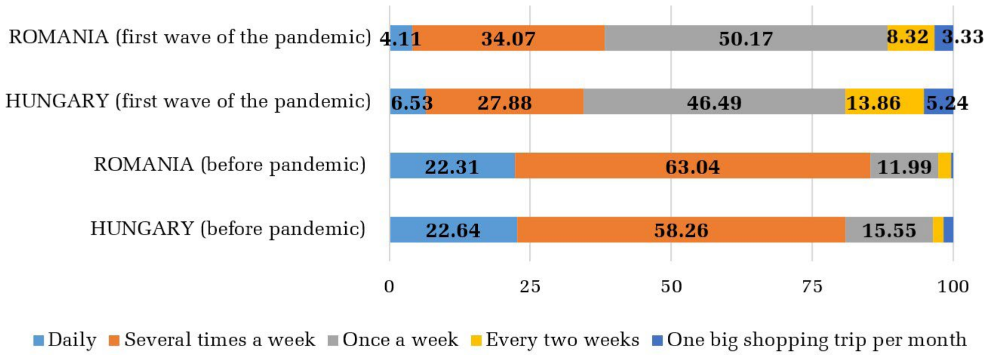

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Figure 3. *How often did people buy food before and during the first two months of the pandemic?*

As regards the factors that have been important in selecting a food retailer since the outbreak of the pandemic, we attempted to measure by indicating eight criteria (*Figure 4*). It turned out that the respondents thought very similarly in both countries, the most important aspect being 'quality', followed by 'selection', the quiet, non-crowded place of business ('no crowd'), and 'location' in the fourth place.

As shown in the figure, the overall ranking provided by the respondents is the same in both countries, and the preference for lack of crowd far outweighs price sensitivity ('price'), presumably due to the epidemic.

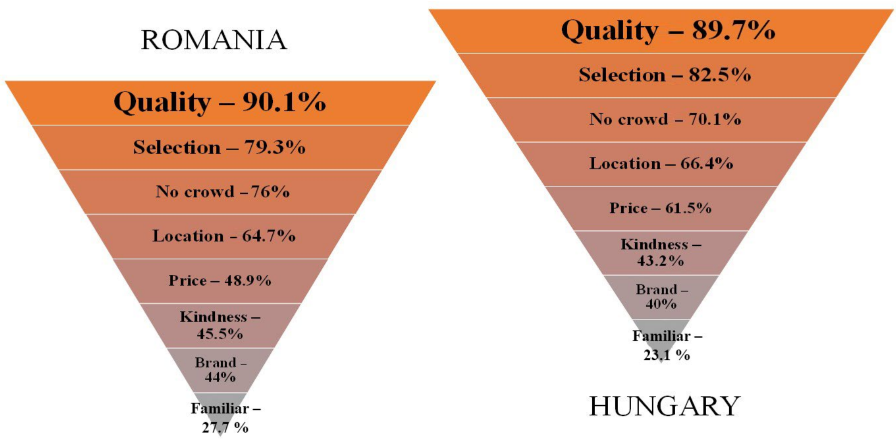

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Figure 4. *How important were the following criteria in your choice of grocery store in the first two months of the pandemic?*

Further objectives of the research were to assess whether the purchase of food increased due to the outbreak of the epidemic, with a special emphasis on the purchase of non-perishable foods, as well as the development of eating habits (home cooking) as a result of the home office. We were also interested in the fact if there was an increase in demand for ready-to-serve meals and in the tendencies concerning online shopping (*Figure 5*).

According to the data, it is clear that almost 50 percent of the respondents, both in Romania and in Hungary, were more likely to cook during this period. However, there was no increase in the amount of the food purchased in the case of more than half of the respondents. And, similarly, the majority of the respondents did not buy more non-perishable food, did not order more ready-to-serve meals, and did not buy online more often than before.

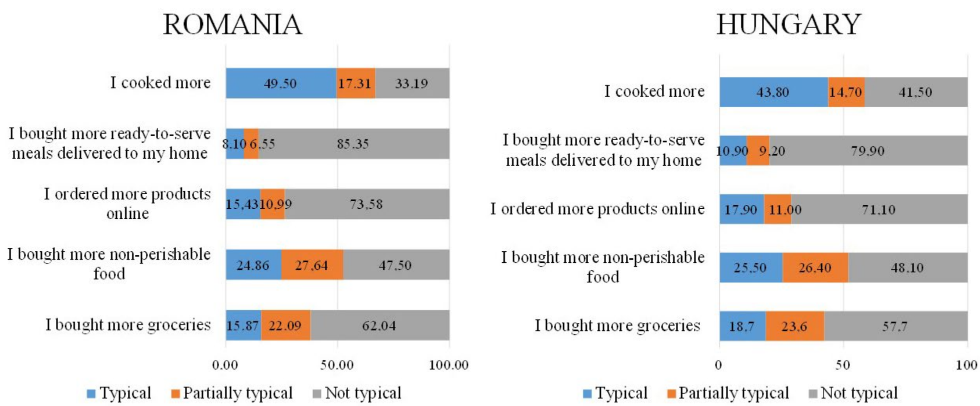

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Figure 5. *What characterized food purchase and cooking habits during the pandemic?*

We also inquired in the survey if consumers took into account where the product came from. In this regard, more than 50% of the respondents from Romania considered the place of origin of a product to be important, and this level was stable both before and after the epidemic (*Figure 6*). Nevertheless, this proportion was slightly lower among the respondents from Hungary.

Our next question was about the demand for the domestic/local product. There was a significant difference between the respondents in the two countries in this respect (*Figure 7*). 53.6 percent of the Hungarian urban population in Romania preferred the domestic/local product to the foreign/mixed products; moreover, this proportion increased compared to the pre-pandemic period. In the case of the respondents from Hungary, the proportion of those who preferred a domestic/local product was lower (46.6 percent), which is presumably related to the higher ratio of respondents living in the capital. The question also revealed that a large proportion of respondents buy a mix of domestic and foreign products, regardless of their place of origin (RO – 37%, HU – 37.6%).

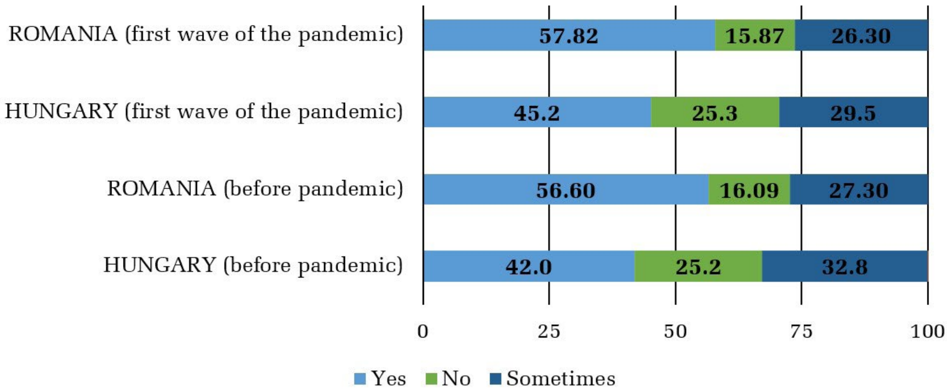

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Figure 6. *Did respondents take into account where the product came from at the time of purchase?*

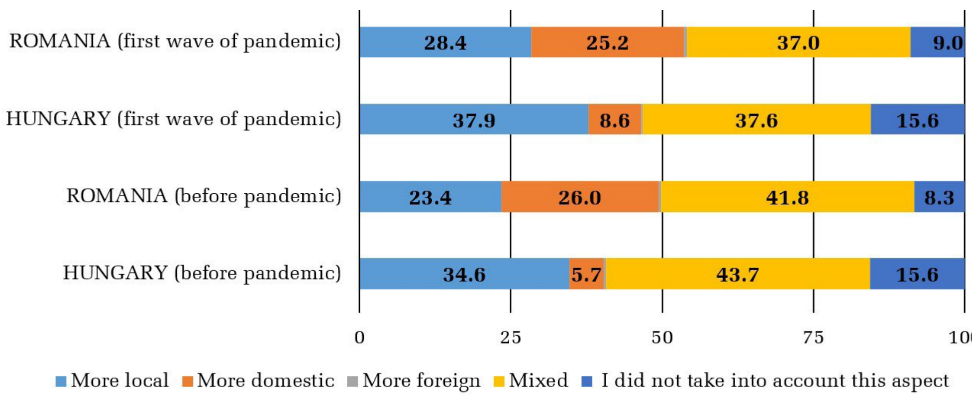

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Figure 7. *What food products did respondents buy based on their origin?*

Regarding the purchase of local products, we also asked about the place of purchase. More than 50 percent of the answers in both countries stated to have acquired the products in person from the producer (*Figure 8*). This was followed by the opportunity to buy the products directly at the house of the producer. Interestingly, the proportion of those who obtained local products via the Internet has become relatively high in Romania. This may be explained by the fact that there was a boom in the online selling opportunities during the first wave of the epidemic, as local producers viewed this option as the fastest sales channel.

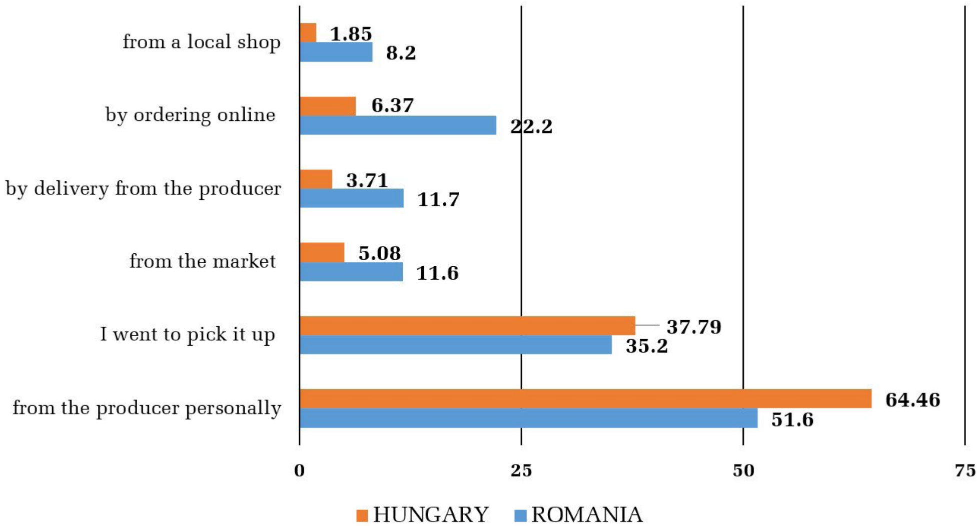

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Figure 8. *Where do respondents acquire local/organic/smallholder products from?*

One of the objectives of the research was to map out the underlying reasons for buying a local product, so we inquired about the individual incentives lying behind the preferences towards domestic products. To the question of whether the respondent preferred domestic or local products during the epidemic, the two countries showed again similarities in terms of ranking. Among the urban population of Hungarian nationality in Romania, most of the answers indicated the freshness attribute (70%), so the majority of the respondents believed that freshness was the most important factor when buying a local product. This factor is in the first place in Hungary as well, but fewer answers marked this characteristic (53%). The following most frequent answer was the importance of supporting domestic economy, which reached almost 50% among the respondents from Hungary (HU – 49.6%), i.e. half of the respondents considered domestic economy to be very important (*Table 2*). This factor came out second in Romania, too (RO – 68%), proving that the survival and the functioning of the local economy during the pandemic was considered an essential aspect. These two factors were followed by the aspects of "tastier" and "I trust the producer". The least important factors were the use of chemicals in Hungary and environmental aspects in Romania. This actually proves that sustainability considerations took the last place as part of the purchasing motivations after the outbreak of the pandemic.

Table 2. *Why did respondents prefer domestic or local products in the first two months of the pandemic?*

Factors	HU	RO	Factors
More fresh	**52.9**	**70.2**	More fresh
Supporting the domestic economy is important to me	**49.6**	**68.0**	Supporting the domestic economy is important to me
Tastier	**38.4**	**54.1**	Tastier
I trust the producer	**37.1**	**47.7**	I trust the producer
Less polluting to the environment	**30.1**	**38.2**	May contain fewer chemical residues
Better quality than foreign products	**26.8**	**38.2**	Better quality than foreign products
May contain fewer chemical residues	**17.7**	**32.8**	Less polluting to the environment

Source: own editing

Other questions in the questionnaire referred to the willingness of online shopping with a particular focus on the demand for ready-to-serve meals (*Figure 9*). An analysis of the data revealed that, contrary to our preliminary expectations, the proportion of online purchases fell during the pandemic. This is presumably due to the fact that people spent more time at home, which probably led to more cooking and resulted in less online orders of ready-to-serve meals during this period. As a consequence, the proportion of those who had 'never' ordered online ready-to-serve meals increased in both countries (RO – 47.6%, HU – 33.1%) after the outbreak of the epidemic, while the 'daily' answer was marked only by respondents from Hungary. In fact, their number appears to be independent from the crisis, which can presumably be explained by the higher number of respondents living in the capital.

Next, we attempted to measure the amount of money that was spent by the respondents on food during the first months of the pandemic (*Figure 10*). The figure below shows how much money was spent on food per month. The highest proportion of respondents in Romania (36 percent) bought food in the amount of RON 1,000–1,500 per month (EUR 200–300), which is at the same level in Hungary, as the same amount is represented in the highest percentage there, too. This amount is followed by food purchases of less than RON 1,000 (EUR 200) per month in both countries. The data of the two countries were very close in this case as well.

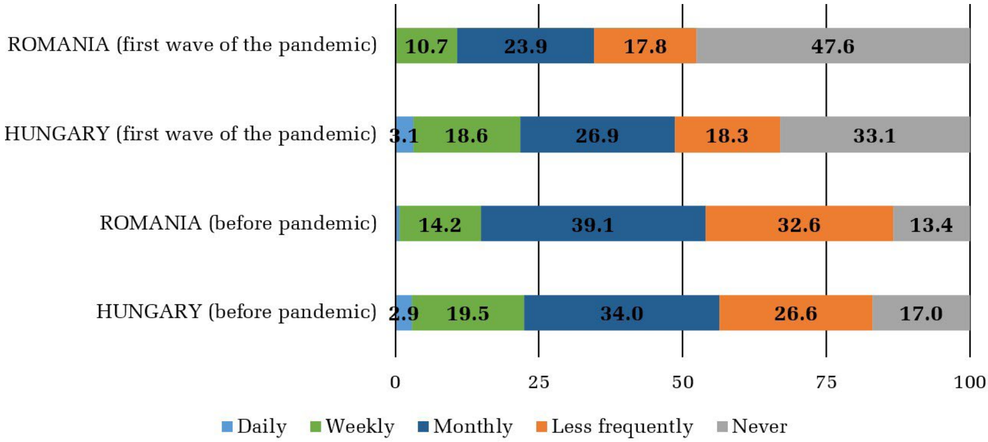

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Figure 9. *How often did respondents order ready-to-serve meals during the first wave of the pandemic?*

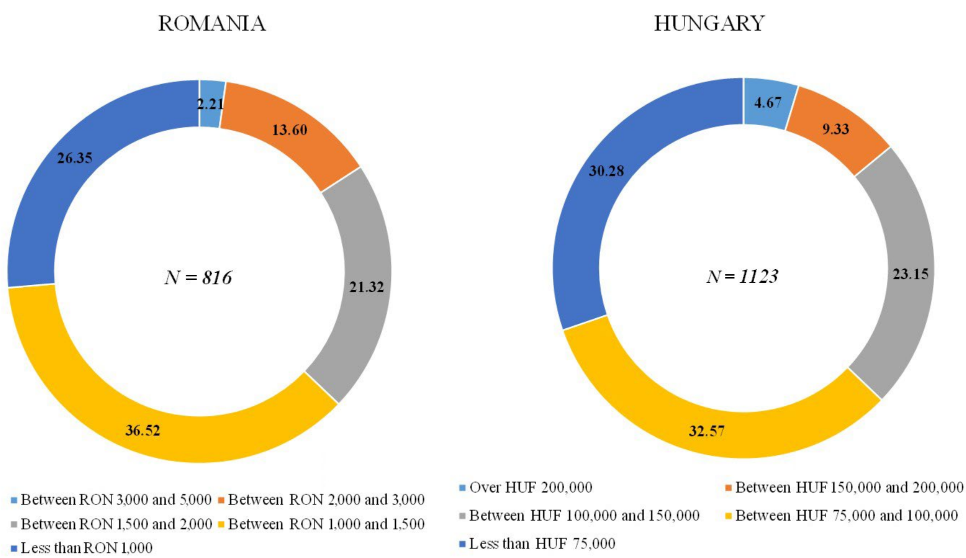

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Figure 10. *Approximately how much did respondents' households spend on food in the last month?*

Subsequently, we wondered what percentage of the total household income (*Figure 11*) was spent on food during these months. Again, the proportions are almost identical for the two countries, the rate of 30–50% being the highest in both countries (RO – 46.39%, HU – 46.20%). This is followed by less than 30 percent in both countries. Nevertheless, the value of 50–80% of the respondents from Romania is slightly higher, which suggests that – in line with *Table 1* – the number of those with lower income is higher among them.

At the same time, it is worth noting that there are only minor shifts in the proportions compared to the pre-pandemic period, i.e. households spent a similar share of their income on food during the first wave of closures. Nevertheless, the increase of the respondents choosing the '50%–80%' category in both countries and the emergence of the 'above 80%' category show that some households' incomes are likely to have fallen during the first wave of the pandemic. Such a result could be explained by the temporary loss of employment caused by the closures or the delayed social interventions of the governments.

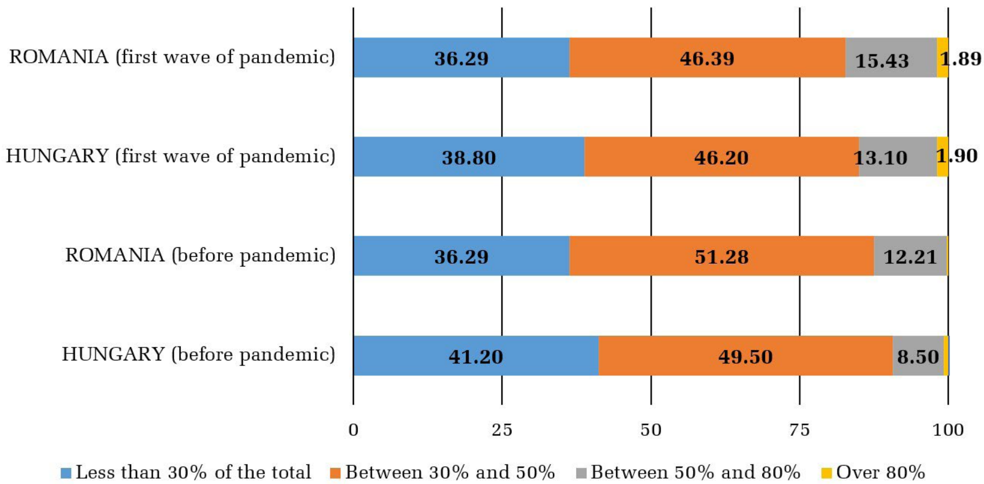

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Figure 11. *Approximately what percentage of total household incomes was spent on food?*

Summary

The aim of this study was to examine and compare the food-shopping habits of the Romanian and Hungarian urban populations during the first wave of COVID-19, taking into account the pre-pandemic situation as well.

We can conclude that our first assumption was mostly confirmed for all of our questions, as the survey proved that, indeed, the purchasing behaviour of respondents in both countries has changed due to the pandemic situation, and, more importantly, the sample from the two countries showed that consumers reacted in almost the same manner. According to the findings, similar tendencies emerged in both examined countries regarding the vast majority of the questions. That is to say, the appearance of the virus has changed consumer habits primarily in terms of the frequency of purchases, as the number of purchases per week decreased to one both in Hungary and Romania, which indicates the spread of a conscious, risk-averse consumer behaviour. Moreover, the consumers' order of preference has also changed in response to the pandemic; the factors that seem to influence shopping patterns are in line with the results of other research done in other parts of the world, as described in the literature review. For example, in terms of choosing a store, its location and the size of the crowd have become more decisive. Nevertheless, there was a slight difference between the respondents of the two countries regarding the question as to whether they preferred the domestic/local products or imported products, a higher percentage of the Hungarian urban population in Romania choosing domestic products compared to respondents from Hungary. Furthermore, online grocery shopping has increased among Romanian consumers more prominently.

Our second hypothesis was also confirmed both directly and indirectly, i.e. almost 50 percent of the respondents, both in Romania and Hungary, were more likely to cook during the examined period, and the analysis of the data showed that the proportion of online ready-meal orders decreased – the proportion of those who 'never' ordered online ready-to-serve meals increased in both countries –, which also suggested that people cooked more often.

In contrast, the third hypothesis was not fully confirmed, as the amount of food purchased did not increase: more than half of the respondents did not buy more durable food than before the pandemic. Accordingly, the same applies to the fourth hypothesis, as the vast majority of the respondents' households spent a similar share of their income on food during the first wave of closures compared to the pre-pandemic period. At the same time, the pandemic seems to have a more important impact in comparison with the pre-pandemic period: we found a slight increase in the number of respondents who chose the spending level of '50%–80%', and more people opted for the category of 'above 80%' in both countries, which indicated that some households' incomes were likely to have fallen during the first wave of the pandemic.

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