

Impact of teleworking on shopping habits during the COVID-19 pandemic in Hungary

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Abstract. The COVID-19 pandemic resulted in a sudden and unprepared switch to teleworking and home office in many workplaces and job functions. The use of teleworking in Hungary was significantly below the European average until the emergence of the coronavirus, which forced many people into this situation. Curfew restrictions have led to a complete lack of separation between work and private life for some workers, with several advantages and disadvantages. This paper aims to analyse the impact of the COVID-19 pandemic on changes in trade patterns, as confirmed by a questionnaire survey. The research is based on a questionnaire about shopping habits during the home office period. The hypothesis of the authors is that the persistence of the home office, elimination of travel for work, constant online presence, fear of the virus, and the lockdown have also significantly changed shopping habits. The survey showed that a large proportion of respondents tried to reduce the amount of personal contact during the pandemic period and most of them turned to online solutions for safety reasons. About online purchases, many respondents indicated doubts as to quality and a lack of confidence in the product they were buying. However, the positive experience gained during the pandemic period is likely to influence future purchasing habits for the majority.

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1. INTRODUCTION

Among atypical forms of employment, part-time work is the most common in Hungary, followed by teleworking. Their share in total employment can be only roughly estimated. The use of teleworking in Hungary has so far lagged significantly behind the European average. With the highest share of teleworkers in the Netherlands (40%), and in Sweden (39%), in Hungary in 2020 the figure came to just under 6%, according to Eurostat data. The effective use of teleworking is a complex process that depends on much more than merely change in employers' attitudes, but also a much more complex process. This complexity and the effective interaction of IT, human resources, and law can translate into a company having a high level of effectiveness and efficiency in the use of teleworkers. A human resources professional must also take into account that not everyone is suited to teleworking or home office work, as many people are not comfortable with the psychological strain, isolation, or the dilemma of reconciling work and family life that this entails. At the same time, there is still a lot of hidden potential in the home office, as the special legal regime introduced in Hungary in the spring of 2020 and the curfew restrictions imposed on some workplaces have shown.

2. LITERATURE REVIEW

2.1. Differences between teleworking and home office

Teleworking first appeared in the early 1970s (Nilles, 1975). It spread around the world in the 1980s and early 1990s (Baruch, 2020) and came to the fore in Hungary in the 2000s (Jáki, 2007). Act XXVIII of 2004 introduced the concept of teleworking into Hungarian law (Forgács, 2008). Telework is also included in the new Labour Code (Act I of 2021), Article 196(1), which states that telework is an activity carried out regularly at a place separate from the employer's premises, performed by means of a computer, the results of which are transmitted electronically. Telework is a form of employment in which the majority of the work is carried out at a fixed or variable location chosen by the employee or employer, outside the traditional workplace, where the employee is in contact with the employer or customers by means of a communication device. According to Bankó (2001), all work is teleworking when the employer and the employee are spatially distant from each other, i.e. independent in time and space. Teleworking is carried out in a home environment, not at the actual premises or headquarters of the company. This can be done without any problems thanks to IT systems. The employer is responsible for the preparation and precise definition of the work task and can monitor the results produced.

The legal or regulatory environment for telework is not uniform across European countries. The European Framework Agreement on Telework has been interpreted differently in European countries. It is believed to have been adapted by political interests, taking into account the views of the social partners in each country. One of the reasons for the slow take-up of telework may be the lack of adequate regulation. The lack of regulation is seen as one of the most pressing issues in the transnational implementation of telework practices (Larsen & Andersen, 2007).

Teleworking and the home office are specific forms of work. The concepts have come to the fore in the context of the pandemic. The issue is of particular interest because the concept of teleworking has been known for a relatively long time in East-Central Europe. As a result of the accession to the European Union, teleworking has become a regulated form of atypical work in Hungary. The Labour Code regulates atypical forms of work. Recently, the term home office has started to be partly associated with teleworking. In Hungarian terminology, the term home office is used as a synonym for teleworking by the general public, but often also in professional language. However, the two legal concepts are not identical: the difference lies in their function. Teleworking is an atypical form of work that requires the

active use of IT and ICT tools. Teleworking is usually established as a permanent legal relationship, typically performed from home, but not necessarily (teleworking can also be performed at a neutral location). In the case of home office, it describes working from home, but the means are specified. Work can be done with any device in a home office. The point is that it takes place in the employee's home, but only on an intermittent basis. Teleworking is therefore a form of atypical employment, and the home office is a way of organising work (typically an unregulated area from a legal point of view) (Larsen & Andersen, 2007).

One of the ways of organising work through teleworking is the home office, nowadays often prescribed, where the employee carries out work processes from his/her own home with the tools provided by his/her employer. (The home office is analysed in this paper using a questionnaire survey.) In mobile teleworking, the place of work varies depending on the content of the work. It is also possible to work in a telework centre or satellite office, where teleworking is carried out in a purpose-built office building away from the employer's premises. There is also a difference between the English equivalents of telework, telework being understood as when travel is replaced by a computer device and facilitates the performance of work. And telecommuting means that it is not the employee who travels between work and home, but his or her work (Nilles, 1975).

The benefits of the home office are mainly felt by employees. This form of work offers a greater degree of freedom, as it seems to be the ideal solution to do the same work in the comfort of one's own home, sparing oneself the routine of going to work every day and the disadvantages that go with it (de Abreu e Silva & Melo, 2018). Erdősi has pointed out an interesting paradox: the spread of ICTs and devices has not reduced people's long-distance mobility and need to travel, although this was previously assumed (Erdősi, 2015). In the case of the home office, the separation of work and private life has disappeared, as in this situation the majority of workers no longer started their working day at the traditional time, but more flexibly (Forgács, 2011). At the same time, it is not necessarily easy to find a work-life balance due to the blurred schedule, as teleworking does not always have a precise starting time (Vrchota et al., 2019). Compared to employees who remain in the workplace, a worker who is free from eight-hour working days and location constraints is significantly more autonomous and independent in terms of time, mobility and working patterns. The freedom and informality of the home office are admittedly one of the main individual motivating factors. It is generally the creative workforce that values flexibility and individual freedom in working. Gareis et al. conclude that it is a misconception that the majority of home office workers are women. Their survey found that workers are typically male, in higher management positions. The stress of going to work every day, always looking suitable, having to conform to colleagues and managers, and having to tolerate and manage internal company conflicts is eliminated, as the home worker is removed from the usually tense company atmosphere and concentrates on her task (Gareis et al., 2004).

The most frequently cited disadvantages of the home office from the employees' point of view are the loneliness resulting from working mostly alone, the loss of human contact, and the lack of personal meetings, one-to-one and group discussions (Tavares, 2015). The most ideal is for the employee to work from home only a few days a week rather than full-time, but this is not feasible for all jobs. There may also be cases where the home office reduces earnings because the worker loses out on some bonus or additional benefits (Jáki, 2007). Career opportunities are also much more limited in the home office, as there is no regular contact with superiors, and the lack of personal contact only makes matters worse (Forgács, 2011). A significant risk factor in the home office is the development of work mania or workaholism, where employees work continuously without rest, even at night (Musinszki et al., 2020).

From the employers' point of view, the advantages of the home office are that it is cheaper in terms of workplace costs, as there are no costs such as rent and overheads to maintain an office building (Bankó,

2001). Geographical distances are irrelevant; regardless of physical location, you can employ workers from anywhere in the world (de Abreu e Silva & Melo, 2018). Workers' performance can increase by up to 30% compared to the traditional workforce, and it is easier to work off the clock (Raišienė et al., 2020, 2021). The home office is an incentive for employees to work more efficiently and increase their productivity. Flexible workforce management can be achieved, with as many workers as needed at any given time (Karácsony, 2020).

On the part of employers, there are also disadvantages: the loss of traditional forms of organisation disrupts the functioning of the company. In the home office, the employer's right of command and control is severely limited, making it more difficult to measure individual performance. As a result of a much freer schedule, employers' power of control is significantly reduced. The relationship between employer and employee is being transformed, which also has a strong impact on legal issues, as the workplace is also a symbol of the legal relationship between the parties (Mélypataki, 2019). Work at home does not have the same effect on everyone; if the right people are not hired, it will have the opposite effect; instead of motivating, it will leave people dissatisfied (Forgács, 2011).

Many people believe that the labour market situation in disadvantaged areas could be greatly improved by wider use of the home office. According to Forgács, telework/home office fits well into the toolbox of territorial development and smaller municipalities, which are normally marginalised by location choice factors but also gain from the spread of telework. The author examined the development of teleworking and its expected effects in the Nagykáta sub-region of Hungary. As a tool, teleworking is believed to increase local employment, reduce the economic and social backwardness of the region compared to other sub-regions and thus increase competitiveness (Forgács, 2008). In the Sellye sub-region teleworking is seen as a solution to the high unemployment rate, which could bring about a change in the economic life of the region (Antal, 2009). Unfortunately, the digital competencies of people living in the North Hungarian region (especially in small villages) are below the national average, and this is an important obstacle to increasing employment in these areas. Where educational attainment is low, daily use of digital tools is not ensured, literacy difficulties are common and the typical employment is public work schemes, it is very difficult to introduce teleworking. Clearly teleworking has the potential to increase employment figures in more developed areas.

2.2. The spread of the coronavirus and the introduction of the special legal order

There have been three outbreaks of coronavirus in the last two decades, with SARS-CoV causing 775 deaths between 2002 and 2003 and MERS-CoV causing 858 deaths in 2012. The most recent coronavirus, COVID-19 (also known as SARS-CoV-2), originating in China, has become a global pandemic (Ahmad et al., 2020). According to Johns Hopkins University, the pandemic is estimated to have caused 6 540 000 deaths worldwide by September 2022 and there have been more than 617 000 000 confirmed cases. This represents a much more severe infection and mortality rate than previous coronaviruses. Figure 1 shows the number of cases registered on a given day in Hungary using the Atlo-Team Corona Monitor data. The first case was registered on 4 March 2020, and the so-called first wave lasted until June, with the highest daily number of new cases (210 cases) being registered on 10 April 2020. The second wave peaked on 6 December 2020 with 6697 cases. The third wave had the highest number of new cases in one day, with 11 265 cases on 26 March 2021. The fourth and fifth waves reported multiple daily new cases compared to previous data. Since spring 2022, the Hungarian reporting system has stopped providing daily data and only publishes weekly totals of new cases. On September 2022 (the last known date) a total of 2 090 000 cases for all five waves had been recorded, of which 47 503 had died.

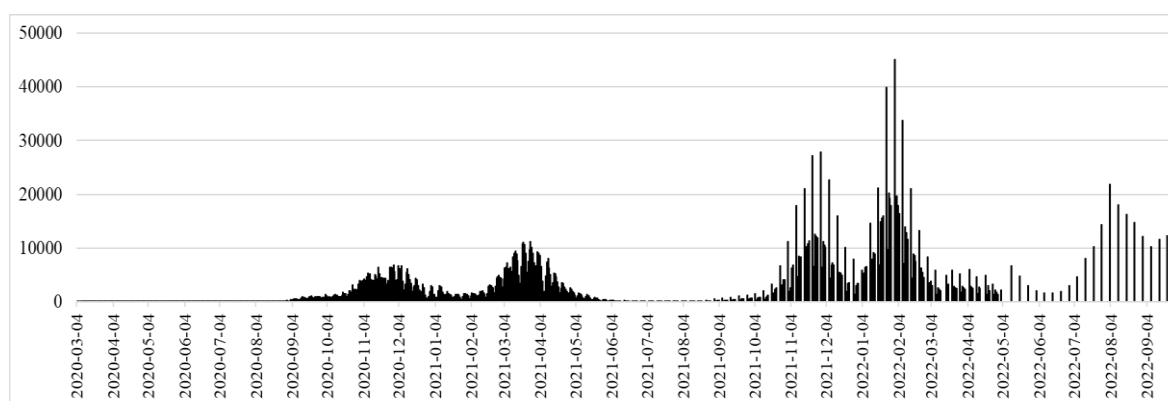


Figure 1. Number of new cases registered on a given day in Hungary

(last known data: 15-09-2022)

Source: Authors' compilation

The Hungarian Government declared a state of emergency throughout the country under Article 53 of the Fundamental Law to control the outbreak of the COVID-19 coronavirus. Under Government Decree 40/2020 (11 March 2020), an emergency was in force from 11 March 2020 until 18 June 2020, when the state of emergency and the special legal order associated with it were lifted, but the pandemic alert remained in force. Then, from 4 November 2020, the state of emergency was re-established due to the increasing number of cases (Figure 1), and is still in force (September 2022), but the curfew restrictions introduced at that time have been lifted. The analysis of government measures to control and slow down the spread of the coronavirus is beyond the scope of this article, but the periods of lockdown have had the effect of significantly changing the way citizens travel, commute, work and shop. The question is how long these changes will be sustained. Research on this topic will be relevant in a few years' time to explore the long-term effects.

2.3. Impact of the pandemic on retailing in Hungary

The economic and social consequences of the pandemic are having a severe impact on all countries in the world. There have been major declines in GDP, production, tourism, trade, labour and more (Adrjan & Lydon, 2021; Remenyik et al., 2020; Remeikiene & Gaspareniene, 2021). There has been a great deal of misinformation related to the pandemic, which spreads through social media rapidly (Sarnovský, 2022). In the retail sector, panic buying has been the biggest challenge, as the new situation has significantly changed the consumption habits of shoppers (Huszka et al., 2022; Sikos et al., 2021; Gyenge et al., 2021; Kitukutha et al., 2021; Csiszárík-Kocsir, 2021). It is important to know consumer preferences, desires and buying habits (Parts, 2007). According to the most recent flash report of the Hungarian Central Statistical Office (KSH), the average number of unemployed persons in Hungary in the second quarter of 2022 was 165,000 (one year ago was 255,500), with an unemployment rate of 3,6% (one year ago was 4.5%). Men and women had almost the same level of unemployment. The impact of the COVID-19 pandemic is visible on the labour market, with relatively high numbers of people losing their jobs.

Retail sales in Hungary exceeded the EU average in 2019, growing by 6.2% year-on-year. Within the retail sector, grocery stores employ the largest share of the sector's workforce, at 40%. These stores account for the largest share of turnover at 45%, up 3.7% compared to 2018. Food products (including beverages and tobacco) accounted for 40% of turnover, also up on the previous year. Food prices increased by 33% between 2010 and 2019, while grocery prices increased by 6.1% between 2018 and 2019.

The strong centrality of the capital and Pest County in terms of retail sales is also evident, with 38% of the value of purchases in 2019 registered in this region. This is due to the strong purchasing power of its population, the impact of commuters and the role of tourism. It is important to underline that multinational companies account for 51% of retail sales, mainly in Budapest, the agglomeration and the county capitals, while the picture is different at the district level. It is important to highlight the increasing popularity of online shopping, with the value of transactions in Hungary in 2019 exceeding the previous year by 21% every three months.

The COVID-19 pandemic has led to a global increase in online activities replacing face-to-face activities. Advances in information and communication technology have enabled citizens in many parts of the world to perform at least some activities of daily life virtually, rather than physically. Teleworking, telehealth, online learning and online shopping (e-shopping) have become prominent, and have been used as possible substitutes for face-to-face work, healthcare, education and shopping (Pierce et al., 2021; Wijesooriya et al., 2020). The strong uptake of digitalisation has been one of the strongest effects of the COVID-19 pandemic and has positively influenced the popularity of e-commerce. Curfew restrictions and fear of getting sick have led the public to see many benefits of online shopping, as illustrated by the fact that the number of searches on the topic more than doubled from March 2020 until today (Soós, 2020). According to Németh, a survey of 1 000 respondents on trends related to the first wave of the pandemic showed that the frequency of purchases has not changed significantly, in some cases they have become less frequent. Interestingly, mainly the frequency of purchases of food, fuel and beauty products decreased. Another non-representative online survey of 928 respondents between the end of March and the beginning of April 2020 showed that respondents preferred to shop in smaller grocery stores during the period (Németh et al., 2020).

The economy and the labour market have also undergone significant and sudden changes as a result of the spread of the coronavirus. Government-imposed special legislation and the restrictions that came with it limited the options available to consumers, and shopping behaviour changed radically in a matter of days. The forced use of the home office changed not only the tasks and habits of employees in terms of work and work organisation, but also their shopping and consumption habits. In the following, changes in food purchasing habits are analysed using data obtained through a questionnaire survey.

3. METHODOLOGY

To investigate the change in food shopping habits, a questionnaire survey was conducted, with data collection taking place in the month of May 2021 using an online snowball method and targeted Facebook groups. The data was collected using Google Forms and processed using IBM SPSS Statistics Version 24. After cleaning the responses, 202 valid responses were obtained. The sample composition is illustrated in Table 1.

Table 1

Sample composition (N = 202), 2021

Variables	Description	Item	Distribution (%)
Gender	Female	48	23.8
	Male	154	76.2
Age	15–29	82	40.6
	30–39	47	23.3
	40–49	44	21.8
	50–59	21	10.4
	60–	8	4.0
Marital status	Married	76	37.6
	In a relationship	70	34.7
	Divorced	8	4.0
	Widow	3	1.5
	Single	45	22.3
Education	Primary school	1	0.5
	Secondary school	72	35.7
	Bachelors or masters	104	51.5
	Ph.D.	25	12.4
Place of permanent residence	Village	31	15.3
	County seat	85	42.1
	Other town	60	29.7
	Capital town (Budapest)	26	12.9
Monthly income (HUF)	below 150 000	40	19.8
	150 001–250 000	61	30.2
	250 001–350 000	37	18.3
	350 001–450 000	27	13.4
	above 450 001	25	12.4

Source: Authors' results.

This study investigates the following research questions:

- Q1. What was the prevalence of the home office before and during the coronavirus outbreak?
- Q2. How often did citizens buy groceries before and during the outbreak?
- Q3. What were the reasons for the rise of online shopping?
- Q4. How did the home office and the coronavirus pandemic change people's general and shopping behaviour?

4. EMPIRICAL RESULTS AND DISCUSSION - CHANGES IN FOOD SHOPPING HABITS IN THE HOME OFFICE PERIOD

What was the proportion of people working in home offices before and during the coronavirus pandemic? The answers to research question Q1 are as follows: before 2020, only 39 (19.3%) worked in a home office and 163 (80.7%) did not. In the last year (from May 2020 to May 2021) 158 people (78.2%) worked in a home office and 44 people (21.8%) did not. Of the survey respondents, 72 (35.6%) worked fully in a home office, 44 (21.8%) worked part-time, only a few days a week and 86 (42.6%) were not working in a home office at the time of the survey (May 2021).

The relationship between participation in a home office in the past year and the type of municipality where the respondents live was examined. According to the null hypothesis, there is no relationship between them, which was tested using cross-tabulation analysis and the chi-square test. 72.8% (158

respondents) of the respondents had worked in a home office in the last year and 21.8% (44 respondents) had not. 15.8% of those who worked in a home office in the last year lived in a village, 28.5% in another type of town, 42.4% in a county seat, and 13.3% in the capital. For those not working in a home office, 13.6% lived in a village, 34.1% in another town, 40.9% in a county seat, and 11.4% in the capital town. Pearson's chi-squared test was used to check dependencies (i.e., to determine whether there is a relationship between two variables.) The value of the indicator is 0.589 (df = 3), and the critical significance level ($p = 0.889$) is above the threshold of 0.05, so the null hypothesis is accepted, i.e. there is no significant relationship between the type of municipality of residence of the respondents and whether or not they have worked in a home office in the last year (Cramer V = 0.054, observed significance level $p = 0.889$). The results of the cross-tabulation analysis are shown in Figure 2.

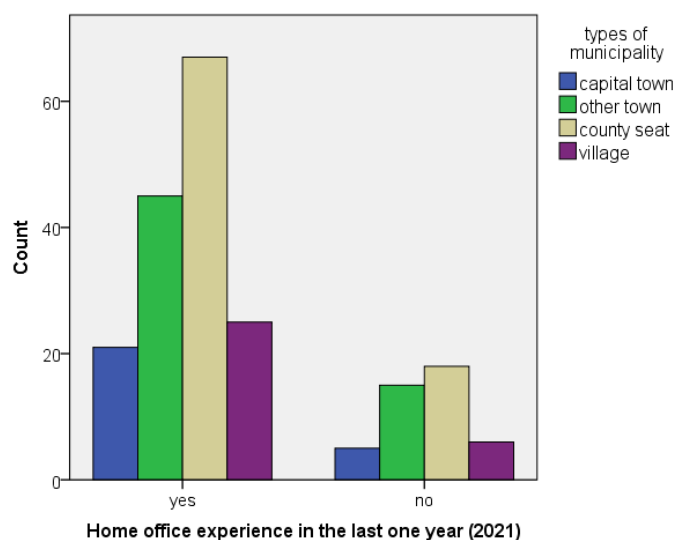


Figure 2. Home office experience in the last twelve months, by settlement type (2021)

Source: Authors' compilation

For the situation at the time of the survey (May 2021), when the lockdown was not in force, the relationship was investigated between home office participation and the type of municipality in which respondents resided (Figure 3). 35.6% of respondents were fully working in a home office at the time of the survey, 21.8% were partially working in a home office only a few days a week and 42.6% were not working in a home office. 18.1% of those working in a home office lived in a village, 27.8% in another town, 36.1% in a county seat and 18.1% in Budapest. The value of the Pearson's chi-squared is 5.291 (df = 6), and the critical significance level ($p = 0.507$) is above the threshold of 0.05, so the null hypothesis is accepted: there is no significant relationship between home office participation and the type of municipality where respondents lived (Cramer V = 0.114, observed significance level $p = 0.507$).

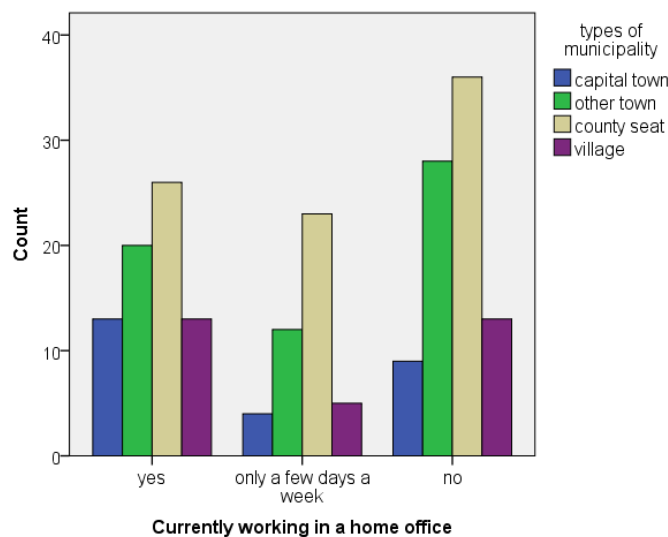


Figure 3. Respondents currently working in a home office, by settlement (2021)

Source: Authors' compilation

How often did you buy groceries before and during the pandemic? Findings related to research question Q2: in the period before the outbreak 51 people bought food daily, 145 people bought food weekly and 6 people bought food monthly. Cross-tabulation analysis was used to examine whether there is a relationship between the frequency of food purchase and the type of municipality where respondents live. Respondents living in villages, towns and other cities tended to buy food monthly, those living in the county seat weekly and those living in capital daily. The results are shown in Figure 4. Pearson's chi-squared test is 216.891 (df = 16), the critical significance level ($p = 0.000$) does not exceed the threshold of 0.05, so the null hypothesis is rejected, i.e. there is a strong significant relationship between the factors (Cramer V = 0.517, observed significance level $p = 0.000$).

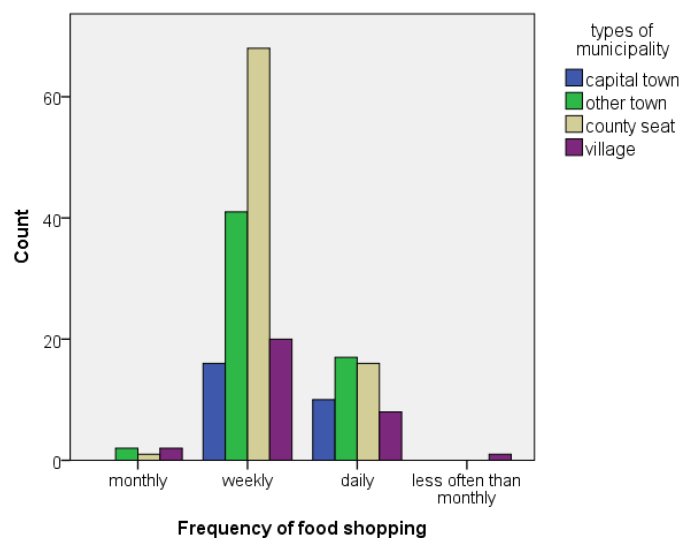


Figure 4. Frequency of food shopping (2021)

Source: Authors' compilation

The changes in the frequency of food shopping as a result of the coronavirus are as follows: 108 people went to the shops less often, 70 people did not change their frequency of shopping, 6 people went to the shops more often and 8 people spent only on the bare necessities and paid attention to their spending. Shopping habits changed before and during COVID-19 (Figure 5), with the proportion of daily purchases almost halving. Weekly purchases increased for the nearby convenience store and online shops, and decreased for the farmer’s market, hypermarket or supermarket, drugstore and pharmacy during the pandemic. The frequency of monthly purchases increased for hypermarkets or supermarkets, and hardly changed during the pandemic for pharmacies and web shops. Hypermarkets and supermarkets were the most preferred by consumers, being visited weekly before the outbreak, but less frequently during the period of the outbreak. Going to the market also decreased and visits to the nearby convenience store also decreased. The popularity of online shops increased slightly during the outbreak.

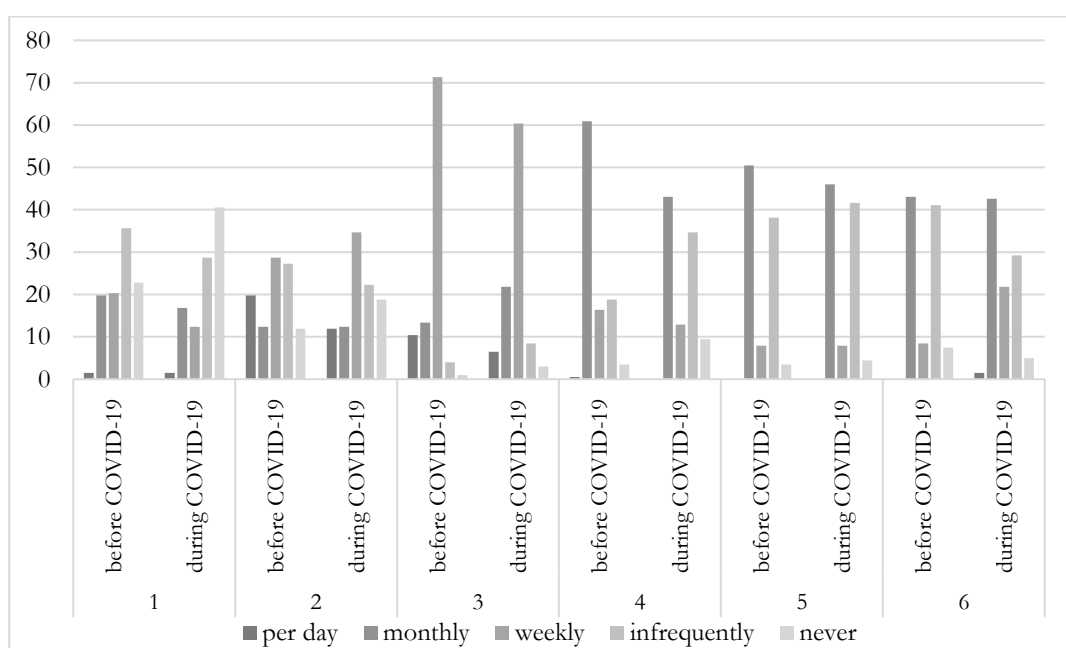


Figure 5. Percentage of purchase frequencies (%) before and during the COVID-19 pandemic ¹

Source: Authors' compilation

What were the reasons for the rise of online shopping and what groups can be identified? For research question Q3, the average score given by respondents was analysed for each factor (Figure 6).

¹ Legend: 1: market, 2: convenience store, 3: hypermarket or supermarket, 4: drugstore, 5: pharmacy, 6: online shop.

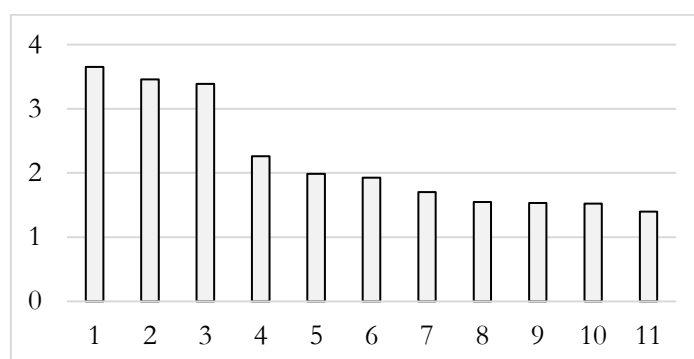


Figure 6. Average scores for reasons for online food shopping ²

Source: Authors' compilation

They scored 3.65 for weight avoidance, 3.46 for safety and 3.39 for comfort, after which there is a significant drop in scores. Not being able to go to the shop in person due to shorter opening hours only scored an average of 2.26. With an average score of 1.99, working in a home office made them reluctant to leave home, even to go shopping.

To further analyse the research question, a principal component analysis was performed, checking the appropriateness of the indicators and the normal distribution of the variables before calculating. Metric and non-dummy variables were used; multicollinearity between variables was valid; the sample was homogeneous and the sample size was above 100. It was checked whether the test factors were uncorrelated pairwise using the Kaiser-Meyer-Olkin index (the closer its value is to 1, the more applicable the principal component analysis) and the Bartlett test (based on a simple hypothesis test). The Kaiser-Meyer-Olkin coefficient is 0.667, which is good, so principal component analysis can be performed on the set of variables. A scree plot was used to decide how many component groups to form in the procedure. A breakpoint was observed after the third component, so three components were tried. To help explore the relationships between variables, the data was rotated, resulting in the rotated component matrix. The rotation was performed using a varimax procedure (variance normalisation) with Kaiser normalisation. The explained variance should be at least 60 per cent, in our case it was 66.7 per cent. A variable is considered a member of a component if the component has a weight of at least 0.5.

Based on the components, data were separated into three groups: 1) shoppers forced online due to changed circumstances due to home office and shorter opening hours, 2) group members who chose to shop online due to the coronavirus disease, and 3) group members who chose to shop online for safety reasons (Table 2).

² Legend: 1: I wanted to avoid crowds to reduce the number of contacts, 2: Safer, 3: For convenience, 4: Shorter opening hours meant I couldn't go to the shop in person, 5: Home office meant I didn't feel like going out, even to shop, 6: Home office meant I had a heavier workload and didn't have time to go shopping, 7: I have been forced to do this because of illness, but in the future I want to shop partly online and partly in person, 8: I am expecting a child or I am at home with a small child and that is why I chose to shop online, 9: I was forced to do this due to illness, but I liked it so much that I have and will continue to do so, 10: The shop where I used to shop has closed, 11: I was forced to do this due to illness, but I will not use this option in the future.

Table 2

Respondents' views on the factors that influence online shopping,
Rotated component matrix

Variables	Component		
	1	2	3
I wanted to avoid crowds, to reduce the number of contacts.	-0.023	0.123	0.935
Safer.	0.093	0.116	0.927
I was forced to do this due to illness, but I liked it so much that I have and will continue to shop this way.	0.226	0.823	0.142
I was forced into this solution because of illness, but I will not use this option in the future.	0.133	0.810	-0.066
I was forced to do so by illness, but in future I intend to shop partly online and partly in person.	0.164	0.839	0.101
The home office makes me not want to leave the house, even to go shopping.	0.801	0.189	0.139
The home office has increased my workload, so I don't have time to go shopping.	0.626	0.421	0.154
Shorter opening hours mean I can't go to the shops in person.	0.746	0.130	0.168
I am expecting a child or have a small child at home and therefore chose to shop online.	-0.070	0.012	0.109
For convenience.	0.358	-0.262	0.458
The shop where I used to shop was closed.	0.775	0.101	-0.239

Note: Groups of variables that can be defined by components are marked in different colours.

Source: Authors' results.

How have the home office and the coronavirus pandemic changed people's general and shopping habits? (Q4) Respondents rated each factor on a Likert scale of 1 to 4, with the average score given in Figure 7. The highest score of 3.5 reflects respondents' view that the long-term impact of the virus would radically change our future.

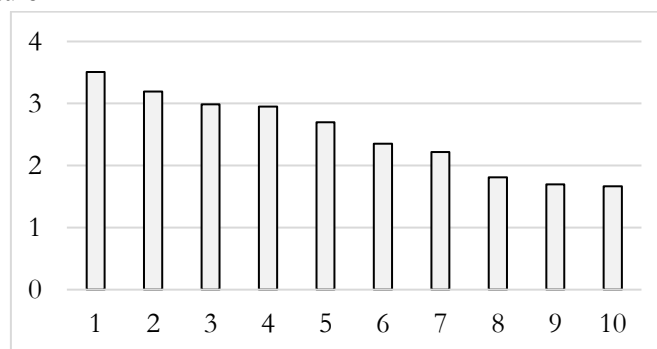


Figure 7. Home office and the coronavirus pandemic together have changed respondents' habits, mean scores for each factor ³

Source: Authors' compilation

³ Legend: 1: The long-term impact of the virus will radically change our future, 2: I am more conscious about food rationing, I try not to waste, 3: I cook more often for myself and my family since I work in a home office, 4: I can spend more time with my family and household, 5: The coronavirus pandemic has not changed my case at all, 6: I have started to buy from a food bank because I thought it was safer, 7: I order more ready-made food than before, 8: I have started gardening so that I can grow my own fruit and vegetables, 9: My job and livelihood are in danger because of the virus, 10: I am afraid of a shortage of goods because of the virus.

Changes to behaviour and general perceptions are investigated here. High-scoring factors were more consciously rationing food, trying not to waste food (average score of 3.2), cooking more often since working in a home office (2.9). The lowest scoring factors were having started gardening to grow fruit and vegetables (1.8); believing that my job and livelihood are in danger because of the virus (1.7); being afraid of a shortage of goods because of the coronavirus pandemic (1.7).

67.8% of respondents had not bought food online in the last year, 10.4% had bought regularly and 21.8% had bought occasionally. The main reasons given by those who had not bought food online were that they like to look at food, read labels, like to choose what they buy (e.g. fruit or vegetables) and do not trust the quality of goods bought online.

The authors also wanted to know how much respondents spend on a purchase. When shopping in a shop, the highest proportion (31.7%) of respondents spend between HUF 5,000 and 10,000, while 25.7% of respondents spend between HUF 10,000 and 20,000. When shopping online, the largest proportion (27.2%) spend between HUF 10,000 and 20,000 and a further 20.3% of respondents spend between HUF 5,000 and 10,000. To further analyse the research question, principal component analysis was carried out, and the value of the Kaiser-Meyer-Olkin coefficient was 0.742, which is considered to be very good.

Table 3

Respondents' views on changes in habits due to the home office and the coronavirus pandemic,
Rotated component matrix

Variables	Component		
	1	2	3
I cook for myself and my family more often since I started working in a home office.	0.750	0.118	0.200
I order ready meals more often than before.	-0.039	0.058	0.801
The coronavirus pandemic has made no difference at all to my case.	-0.240	0.145	-0.758
I started gardening to grow my own fruit and vegetables.	0.321	0.499	-0.129
I am more conscious about food rationing, trying not to waste.	0.726	0.217	0.126
I can spend more time with family and household.	0.761	0.074	-0.078
I shopped for non-perishable food because I thought it was safer.	0.445	0.552	-0.047
I'm afraid that the virus will cause a shortage of goods.	0.090	0.787	0.096
The long-term impact of the virus will radically change our future.	-0.034	0.564	0.415
My job and livelihood are in danger because of the virus.	0.082	0.495	-0.092

Note: Groups of variables that can be defined by components are marked in different colours.

Source: Authors' results.

On the basis of the components, the following three groups were identified: Group 1 members are able to spend more time with the family because of the home office, Group 2 was labeled hoarders because they fear a possible shortage of goods due to the virus and have also taken steps towards self-sufficiency. For Group 3 members the virus has not caused any significant change except that they have switched to ordering ready meals.

5. CONCLUSION

The coronavirus pandemic of the last almost two and a half years and the sudden introduction of the home office, a new way of organising work, have significantly changed the general and shopping habits of citizens. The effects of the long-lasting home office have left some workers 'spoilt'. The survey showed that a large proportion of respondents tried to reduce the number of contacts during the pandemic period and most of them turned to online solutions for security reasons. In relation to online purchases, many

respondents indicated a fear of quality and a lack of confidence in the product they were buying, but the positive experience gained during the pandemic period is likely to influence future purchasing habits for the majority. The question is to what extent this trend will be sustained in the future. A part of society will continue to be open to online shopping in the future, mixed with in-store shopping in person. With the end of panic buying and renewed confidence in supply chains, consumers have returned to their usual shopping habits. As a continuation of the research, we believe it is worth repeating the questionnaire survey, as the year since the data was collected has seen many changes in consumer markets.

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