Mitigating the impact of the pandemic on personal finances in CESEE: descriptive evidence for 2020

Thomas Scheiber, Melanie Koch[1]

This study describes the economic consequences the COVID-19 pandemic had on people in Central, Eastern and Southeastern Europe until October 2020. We use data from an annual survey of individuals in ten different countries. Specifically, we employ a special module from the OeNB Euro Survey in 2020 to assess what kind of measures individuals took to mitigate negative effects of the pandemic and how this relates to income shocks. Reducing expenditure was by far the most common measure, followed by reducing savings, informal support and borrowing against future income. Only very few respondents stated that they had been forced to move. Descriptive results seem to suggest that experiencing income shocks and being financially vulnerable are related to taking significantly more mitigating measures and, hence, that the mere number of different measures taken can be a proxy for how severely an individual is affected by the pandemic. However, taking more measures can also be related to having more options to actually smooth out negative effects. Therefore, classifying those who report a larger number of different mitigating measures as more vulnerable without taking other socioeconomic characteristics into account can be misleading.

The COVID-19 pandemic has been an unprecedented event in many respects. It has triggered waves of supply and demand shocks across the global economy, laying bare the weak spots of global value chains. But it has also fostered historically unique global efforts to develop and roll out vaccines, and spurred digitalization. The pandemic is leaving its traces around the globe, also on the economies of Central, Eastern and Southeastern Europe (CESEE). Swift public policy responses have supported personal incomes in CESEE during the pandemic and mitigated the amplification of income and confidence shocks through macrofinancial linkages (Grieveson et al., 2021) – reflecting a lesson learned from the global financial crisis (Soric, 2018).

Nevertheless, early evidence suggests that the economic impact within countries was felt rather unevenly (e.g. Alstadsæter et al., 2020, for Norway; Adams-Prassl et al., 2020, for Germany, the UK and the US; Bundervoet et al., 2022, for 34 countries). The crisis has affected different people in different ways and, therefore, the impact on different groups cannot be assessed based on macroeconomic figures (Basselier and Minne, 2021; Bundervoet et al., 2022). However, a better understanding of how different groups of people have been mitigating the adverse effects

of the COVID-19 pandemic is important from a policy perspective as it could shape the recovery of private consumption and therefore GDP. Moreover, such an understanding makes it possible to identify more financially vulnerable groups of people, i.e. those people who suffer severe consequences when hit by an income shock, hence informing the policy debate. It is therefore crucial to use more granular microdata to complement the general picture. In this sense, the COVID-19 pandemic is also unprecedented in terms of the production and use of microdata, in particular, survey data – probably another lesson learned from the global financial crisis. Aspects that deserve further exploration are an improved understanding of individuals' adjustment behavior during the pandemic and, related to this, finding ways to measure how strongly an individual is affected by the pandemic in overall economic terms.

This study provides additional microlevel evidence shedding some light on these two aspects based on data from a special module of the OeNB Euro Survey conducted in October 2020. With our paper, we contribute to understanding how the COVID-19 pandemic has economically affected individuals in different regions of the world. Our sampled economies mostly consist of middle-income countries in CESEE which are often overlooked in the literature and for which survey data are less frequently assessed. The study is descriptive in nature and briefly addresses the following questions: Which common measures did individuals take to mitigate the effects of the pandemic? How do these measures relate to income shocks? And does the mere number of different mitigating measures an individual took tell us something about how severely a person was affected by the pandemic? We present comprehensive descriptive evidence to establish some stylized facts for the early phase of the pandemic in CESEE.

The special module of the OeNB Euro Survey collected information on varying mitigating measures, like reducing consumption, dissaving and borrowing, and on which respondents were actually hit by an income shock. A caveat regarding the module is that it covers only the extensive, not the intensive margin of measures taken. Still, we find that for every single measure elicited, those who were hit by an income shock were more likely to have taken this measure. Moreover, individuals who experienced an income shock took more different measures at once than those who did not experience a shock. The measure reported most often in both groups (income shock, no income shock) was reducing consumption, which was followed by reducing savings and informal support, and eventually by borrowing against future income and, apparently as a last resort, by moving. With the help of generalized ordered logit regressions with partial proportional odds, we analyze if the mere number of measures taken is a good indicator for how severely a person was affected by the pandemic. We find that financially vulnerable people who experienced an income shock are significantly more likely to take more measures, which speaks in favor of this interpretation. However, we also see that more affluent people are more likely to take measures if hit by a shock. This could be driven by the ability and desire to optimally distribute the negative impact across several measure categories. Finally, we find some evidence that individuals taking measures even if not hit by an income shock might be driven by restricted consumption opportunities due to lockdowns but also by precautionary motives. Summarized, considering merely the number of measures an individual took to counteract the negative effects of the pandemic is an imperfect proxy for how severely that person was

affected. Socioeconomic characteristics should also be considered. These characteristics might lead to differing motives for how many mitigating measures are taken.

The differing impact of the pandemic, at least in terms of income shocks, was already documented in several studies. For example, based on real-time unemployment register data from Norway, Alstadsæter et al. (2020) find that layoffs hit financially vulnerable populations and had a high socioeconomic gradient. Moreover, layoffs were more common in less productive and financially weaker firms so that employment loss may cause an overestimation of total output loss. Adams-Prassl et al. (2020) employ real-time survey data for Germany, the UK and the US. They show that institutional factors and implemented policies explain a lot of the variation in labor market impacts. Within countries, the impacts are very unequal and aggravate existing inequalities. Moreover, Bundervoet et al. (2022) conclude that the crisis induced dynamic risks cementing inequality of opportunity and undermining social mobility. They use survey data from 34 countries and show that the pandemic disproportionally affected vulnerable segments of the population, i.e. women, lower-skilled workers and children. Similar to the aforementioned study, we go a step further, not only looking at the prevalence of income shocks but what potentially happens beyond that shock and what this might tell us about the general impact the pandemic has had.

Several central banks in Europe have produced and employ survey data to gauge the impact of the pandemic on household balance sheets, preferences and sentiments, or consumption behavior (e.g. Goldfayn-Frank et al., 2020; Bernard et al., 2020).[2] The European Central Bank launched the pilot of its future monthly consumer expectations survey in January 2020, an online household panel covering six euro area countries. Using the data elicited by this pilot survey, Christelis et al. (2020) find that the adverse effects of the COVID-19 pandemic on consumption expenditure mainly came from households' perceptions of financial repercussions of the shock and not from their concerns about potential health implications. Moreover, controlling for socioeconomic factors, financial concerns due to the COVID-19 pandemic amplify the negative consumption effect of a negative income shock, while consumption adjustment due to a positive income shock is rather insensitive to COVID-19-related financial concerns. Our study tries to add to the existing literature by providing descriptive evidence on more detailed individual economic responses to mitigate the impact of the pandemic, particularly for countries for which, usually, much less information is available.

This paper is structured as follows: In section 1, we describe the data and variables we use. Then, section 2 presents the descriptive results and an in-depth analysis of the measures taken to mitigate the impact of the COVID-19 pandemic and how they are related to income shocks and other socioeconomic characteristics. Section 3 concludes.

1 Data and variables

We use data from the OeNB Euro Survey, an annual, cross-sectional face-to-face survey of individuals, aged 18 years or older, commissioned by the Oesterreichische

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[2] *The use of high-frequency microdata became increasingly important in the wake of the pandemic. Data like transaction, mobility or social network data allow for timely analyses (see, for example, Baker et al., 2020; Bounie et al., 2020; Carvalho et al., 2021; Chen et al., 2020; Chetty et al., 2020; and Delle Monache et al., 2020).*

Nationalbank (OeNB). The survey intends to capture euroization and financial decisions of individuals from non-euro area CESEE countries. It covers six non-euro area EU member states (Bulgaria, Croatia, Czechia, Hungary, Poland and Romania) and four (potential) EU candidates (Albania, Bosnia and Herzegovina, North Macedonia and Serbia).[3] In each country and in each survey wave, a sample of 1,000 individuals is polled based on multistage random sampling procedures. Data weighting is used to ensure a nationally representative sample for each country; sampling weights use census population statistics on gender, age, region and, where available, education as well as ethnicity (separately for each country). Our analysis is based on data from the 2020 wave. The wave was conducted mainly in October 2020 and included a special module on the impact of the COVID-19 pandemic on individuals' economic and financial situation.[4]

1.1 The economic impact of the COVID-19 pandemic on individuals

When the survey was conducted in 2020, the COVID-19 pandemic had been ongoing for over half a year in the ten countries surveyed. Although the first wave of the pandemic in CESEE that hit around March 2020 saw relatively low infection rates (see chart A1 in the annex), all ten countries repeatedly imposed lockdowns, curfews and traveling restrictions over the course of the year. Moreover, the disruption in global value chains was felt in every country, irrespective of actual infection rates within an individual country. Tourism and mobility plummeted, especially hurting those CESEE economies that heavily rely on the tourism sector. In our sample, the average drop in GDP was 4.2% from 2019 to 2020, ranging between 0.9% in Serbia and 8.1% in Croatia (see chart A2 in the annex). Still, the unemployment rate did not even increase by 1 percentage point for all countries except Romania. In Bosnia, North Macedonia, Poland and Serbia, the unemployment rate was lower by the end of 2020 than in end-2019. All governments implemented work and income support schemes over the course of the pandemic (see Enzinger et al., 2021). These seem to have buffered some unemployment shocks. However, losing a job is not the only income shock a person can experience. Several individuals did not lose their jobs but received reduced incomes because of lockdowns and furloughs. Even if wage replacement schemes are in place, individuals usually never receive the full wage they would receive under business-as-usual conditions.

Thus, one certain way how the pandemic initially affected people's finances is through income shocks. According to economic theory, individuals can react in several ways when experiencing an income shock. They may adjust expenditure, and hence the consumption of durable and nondurable goods, or adjust their savings behavior. In case of a negative shock, they may moreover take out a loan or delay payments to the future, meaning borrowing against future income. In the OeNB

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[3] *For more information and technical details on the OeNB Euro Survey, see* https://www.oenb.at/en/Monetary-Policy/Surveys/OeNB-Euro-Survey.html.

[4] *Data collection could be finished mostly before severe infection waves hit the survey countries. Using tablets, the survey was exclusively conducted face-to-face, as in all previous waves and appropriate precautionary measures were taken by the survey institutes in all countries. Nonresponse rates increased in Albania, Croatia, Czechia, Hungary, Poland, Romania and Serbia but were in range of previous years. Only Bosnia and Herzegovina experienced an unprecedented increase in nonresponse. In Bulgaria and North Macedonia, the nonresponse rate actually declined.*

Euro Survey 2020, respondents were asked how the pandemic affected their economic situation and, indirectly, about the actions they had taken to mitigate a potential negative income shock. The question was phrased very broadly (see below).

Ad hoc question for the OeNB Euro Survey 2020: How did respondents try to mitigate the impact of the COVID-19 pandemic on their personal finances?

[ASK ALL] If you think about your economic and financial situation, since the outbreak of the Corona crisis have you been affected in any of the following ways? Please name all that apply.

1. I had to reduce the amount spent on everyday expenses
2. I had to reduce or postpone larger expenditures
3. I had to reduce money set aside for savings
4. I had to utilize savings or sold possessions
5. I had to reduce help to friends or relatives whom I helped before
6. I had to delay payment of loan installments
7. I had to delay payment of rent
8. I had to delay payment of other bills
9. I had to take out a loan from a bank
10. I had to over-draft my bank account
11. I received financial help from family or friends
12. I had to borrow money from another source
13. I received social benefits or other financial aid from the state
14. I had to decrease work hours and received a reduced salary
15. I was laid off from a job / lost a job
16. I was forced to move
For each item: Yes / No / Don't know / No answer

This is because there are several other ways in which people could be financially affected by the pandemic besides an income shock. They could suffer from other shocks like confidence and health shocks. They could be affected because consumption opportunities have been limited since the start of the pandemic or because new kinds of expenses, e.g. health-related expenses, have become necessary. The question tries to capture all these aspects at once.[5] Overall, it elicits information on two different kinds of negative income shocks and 14 possible measures to counteract a drop in income that are, however, not exclusively related to income shocks. Moreover, strictly speaking, these measures are not always in the hands of an individual because, for example, item 13 captures whether people received social benefits from their governments. The wording for most items deliberately implies necessity instead of preference ("I had to…") to highlight the crisis character of the pandemic. We still refer to the items as mitigating measures rather than as "economic affectedness" because we think there is often still an element of choice in which measures to take and how many. We are also aware that

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[5] *The order of items was not rotated. Instead, those measures that seem more likely to have been taken were put first. Still, respondents could not skip items. Enumerators read out all items carefully and respondents had to provide an answer for each single item, otherwise tablets would not continue. Moreover, straight-lining answers occurred very rarely (32 cases answered all items either "yes," "don't know" or refused to answer all items).*

the list does not include all potential financial consequences of the pandemic, especially not consequences of positive income shocks and a higher preference for precautionary savings. For example, aggregated bank deposits of private households increased in CESEE, indicating that at least some persons may have increased rather than reduced their savings. Still, we will briefly discuss the role of precautionary savings in subsection 2.4.2.

Since negative income shocks are directly linked to financial vulnerability, we want to focus our analysis on how the presence of income shocks relates to the other ways in which an individual was affected. Using items 14 and 15, we construct a COVID-19-related income shock dummy variable that is measured on the individual level whereas the other items are often added up together. An important point is that individuals are not only affected by income shocks that happen to themselves but also by those that happen to other persons within their household. For this reason, we also use another income shock variable derived from a question that asks respondents more generally whether their household has experienced any significant reduction of income over the last 12 months. The caveat regarding this question is that it likely includes some income shocks that are not related to COVID-19. Our main results will focus on all shocks together, but we will also present results for COVID-19-related income shocks separately.

1.2 Descriptive statistics on sociodemographics

In our later analysis, we will relate several sociodemographic characteristics to the number of mitigating measures taken to understand if a larger number of measures indicates that individuals have been more severely affected by the pandemic. 52% in the sample are female and the median respondent is between 45 and 54 years old. At the time of the interview, 58% were employed; of these, around 14% were self-employed. 14% were unemployed. Most respondents have a medium level of education. Their household comprises, on average, three members including themselves, and in 88% of the cases, the respondent's household owns the dwelling the household is living in. Only 42% in the sample have any kind of savings – ranging from 22% in Bosnia and Herzegovina to 75% in Czechia; the share of refused answers averages 2.8%. About one-third has some form of bank debt and around 12% have some kind of informal debt.

2 Descriptive analysis

2.1 Incidence of income shocks during the first half year of COVID-19

Although the weighted share of individuals reporting to be unemployed in the OeNB Euro Survey exceeds official unemployment statistics, the change in the unemployment rate over the years is reflected well in the survey data (see Enzinger et al., 2021). We have no reason to believe that this does not hold for income shocks in general, which are broader measures and not only include unemployment. As described above, the 2020 wave of the OeNB Euro Survey assesses whether individuals suffered from an income shock due to the pandemic but also whether the household the individual is living in experienced any kind of income shock in the previous year. This variable is measured regularly in the OeNB Euro Survey so that we can compare responses over the years. Chart 1 shows that, in every country, the share of households having experienced an income shock is significantly

Chart 1

**Share of individuals with income shocks in their household:
fall 2020 vs 2015–2019**
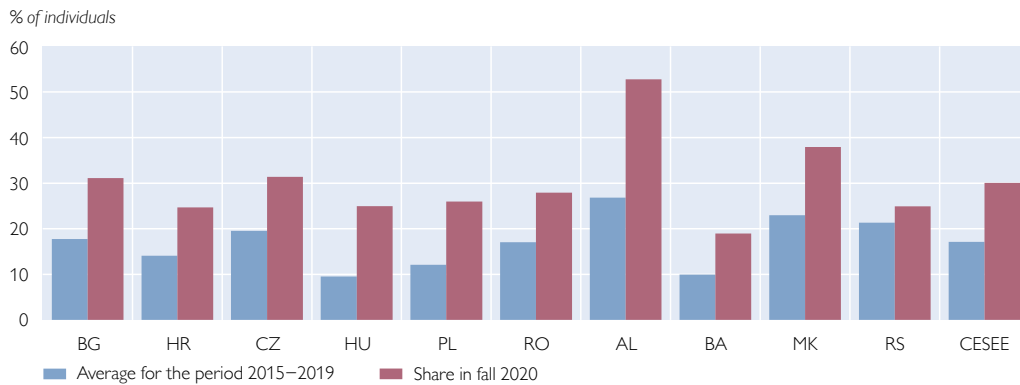
% of individuals

Source: OeNB Euro Survey 2015–2020.

Note: Share of individuals who report their household experienced a significant drop in income in the last 12 months. Results are weighted based on weights that are calibrated on census population statistics fo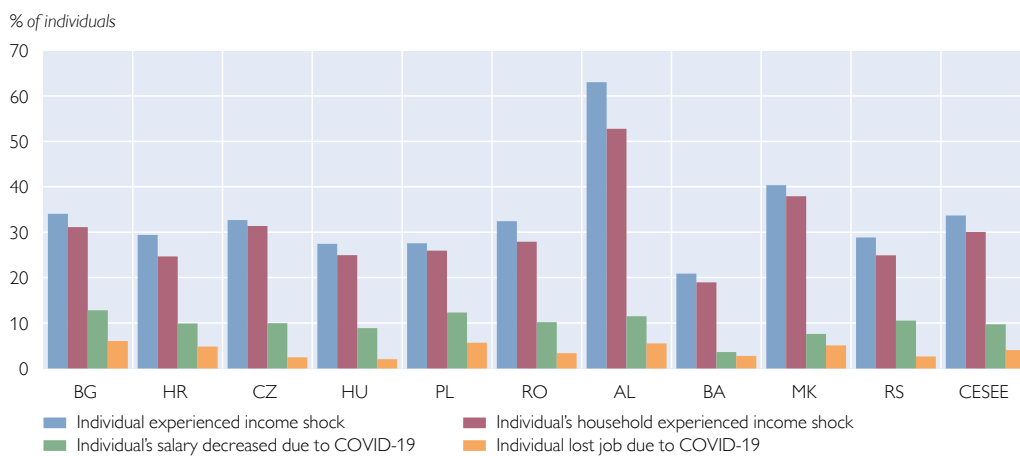r age, gender, region and, where available, education and ethnicity (separately for each country). CESEE average not adjusted for population size. Respondents answering "Don't know" or who refused to answer included as zero.

Chart 2

Self-reported shocks over the last 12 months

% of individuals

Source: OeNB Euro Survey 2020.

Note: The blue bar represents a dummy ("any income shock") equaling 1 if the individual reports a reduced salary due to the pandemic (green bar), lost a job due to the pandemic (orange bar) and/or the individual's household experienced a significant drop in income in the last 12 months (burgundy bar). Results are weighted based on weights that are calibrated on census population statistics for age, gender, region and, where available, education and ethnicity (separately for each country). CESEE average not adjusted for population size. Respondents answering "Don't know" or who refused to answer included as zero.

higher in 2020 than the average share of previous years. On average, the share increased by 76%, with the increases ranging from 17% in Serbia to 160% in Hungary.[6] The chart already indicates that the COVID-19 pandemic negatively affected (at least some) people in our sample. Moreover, the correlation between the respondent's household having experienced any income shock and the individual

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[6] The absolute number of households hit by an income shock is substantially larger in Albania than in the other countries. This is most likely due to the fact that Albania was not only hit by the pandemic but also by a massive earthquake in November 2019, which resulted in devastating damage and an economic downturn that started at the end of 2019 (see Bank of Albania, 2020).

respondent being hit by an income shock due to the pandemic is high. This is natural given that any shock reported on the individual level should also have an effect on the whole household. Still, this shows that the unspecified household income shock indeed captures income shocks related to COVID-19. As for pandemic-related income shocks, we find that, on average, almost a tenth of the surveyed individuals report a reduction in income and around 4% lost a job due to COVID-19. As can be seen in chart 2, the lowest incidences of individual shocks are reported in Bosnia and Herzegovina, where only 3.6% reported an income reduction (green bars) and 2.8% a lost job (yellow bars). Bulgaria has the highest incidences with 12.8% and 6%, respectively. On average, almost one-third of the individuals experienced some kind of income shock in 2020 (blue bars).

2.2 Number of measures taken to mitigate negative effects of the pandemic

As previously mentioned, income shocks are a crucial aspect of financial vulnerability, which is one reason why we have separated the shock items from the other items detailing economic consequences of the pandemic. The remaining 14 items are separate areas in which individuals have been affected, which can also be seen as mitigating measures to counteract a (future) negative income shock. When discussing these measures, we will differentiate between people who said they experienced an income shock and those who did not. Although measures are asked on the individual level, we consider the household income shock in addition to the COVID-19 shocks, unless stated otherwise. It is likely that even though individuals themselves did not experience a shock, they still were affected if other members of the household were hit by an income shock.

Chart 3

Number of measures taken by individuals with and without reported income shocks

Any income shock

% of individuals

No income shock

% of individuals
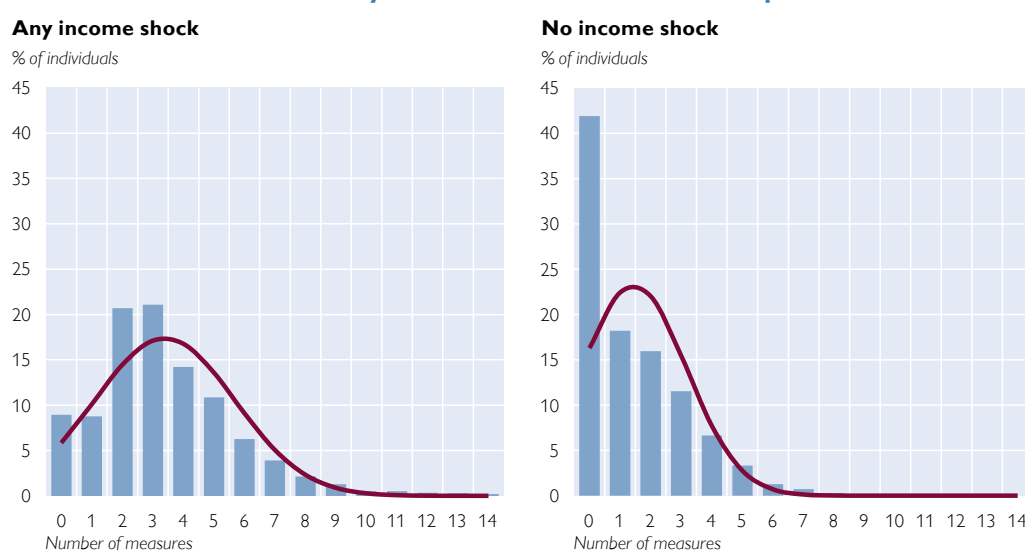
Source: OeNB Euro Survey 2020.

Note: "Any income shock" is a dummy equaling 1 if the respondent has a reduced salary due to the pandemic, lost a job due to the pandemic and/or if the respondent's household experienced a significant drop in income in the last 12 months, and zero otherwise. Results are weighted based on weights that are calibrated on census population statistics for age, gender, region and, where available, education and ethnicity (separately for each country). Respondents answering "Don't know" or who refused to answer are included in the variable category "no measures."

Chart 4

How many measures did individuals take in response to the pandemic?

Any income shock

No income shock

% of individuals

% of individuals

■ No measures   ■ 1 to 2 measures   ■ 3 to 4 measures   ■ 5+ measures
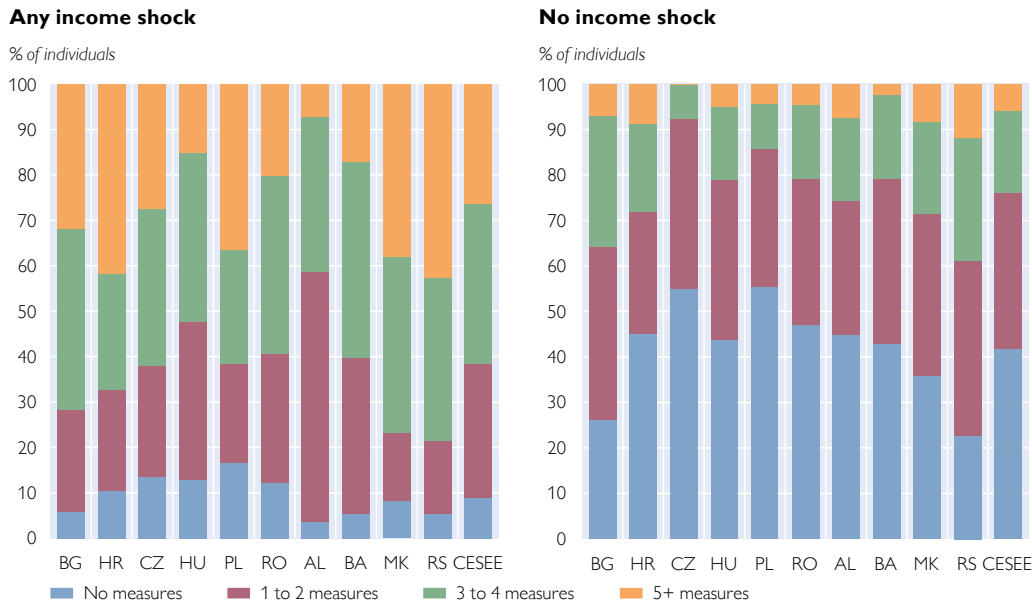
Source: OeNB Euro Survey 2020.

Note: Number of mitigating measures out of a list of 14 measures respondents report to have taken in response to the pandemic. Results are weighted based on weights that are calibrated on census population statistics for age, gender, region and, where available, education and ethnicity (separately for each country). CESEE average not adjusted for population size. Respondents answering "Don't know" or who refused to answer are included in the variable category "no measures."

Before we look at the prevalence of certain measures in detail, we first describe the number of measures taken, meaning how many measures at once individuals took. In total, around two-thirds of the individuals at least took one mitigating measure.[7] Given that only one-third were hit by any income shock, this already tells us that some individuals seem to have taken a measure without having experienced an income shock. Thus, as expected, negative income shocks are not the only way in which respondents may be economically affected by the pandemic. Separating the sample into those who have experienced any shock and those who did not, we still clearly see that mostly those who were hit by an income shock are those who took more than five different measures to cope with the pandemic (see chart 3). Only 10% of those with an income shock did not take any measure at all, most took two or three measures (20% each). The distributions of mitigating actions of those who were or were not hit by a shock are significantly different from each other. It is striking that still more than 55% of those who did not experience an income shock chose at least one mitigating measure.

The number of measures varies across countries, not only because the prevalence of shocks is different. Chart 4 shows that the variations are also conditional on either having experienced an income shock (left panel) or not (right panel). Especially for the first group, Bulgaria, Croatia, North Macedonia and Serbia stand out on the "negative" side. They have relatively low shares of shock-affected respondents with

[7] *Few individuals could not answer the questions on mitigating measures and stated "don't know," some even gave no answer at all. In total, these nonresponse shares are, on average, 3.5% and range from 1.8% (for consumption-related items) to 7.1% (for savings-related items). We include these cases in our analyses and always treat them as if the item was not chosen, so as if the answer would be "no" to the respective item.*

no mitigating measures (around 5% to 11%) and comparatively large shares with more than five reported items (32% to 46%). In Poland, the share of respondents reporting more than five items is also around 37%, but the share of people taking no action at all is somewhat higher than in the other four countries. Albania has the lowest share of individuals who suffered from a shock and did not take a mitigating measure (around 4%); most of the respondents there reported one or two measures (around 55%). Czechia, Hungary and, interestingly, Romania stand out on the rather "positive" side, with the highest shares of shock-affected respondents who took no action in response to the pandemic and the lowest shares of respondents who took three or more measures. The picture is similarly diverse for those respondents who were not hit by an income shock. Strikingly, in every country except Czechia even some of those who did not report a shock took more than five mitigating measures. Czechia and Poland are the only two countries in which the majority of those without reported shocks did not take any action. In subsection 2.4, we will discuss what the number of measures taken can tell us about the overall impact the pandemic has had on an individual.[8]

2.3 Type of measures taken to counteract negative effects of the pandemic

The 14 mitigating measures can be broadly categorized into six different areas: consumption (items 1 and 2), savings (items 3 and 4), formal and informal support (items 5, 13 and 11), borrowing (items 9, 10 and 12), delaying payments (items 6, 7 and 8) and moving (item 16). There might be some natural order or logic in the likelihood of making use of these categories. There is empirical evidence for this conjecture as can be seen in chart 5. It is important to note that this ordering is determined by what is actually feasible, not by the theoretical preference of individuals. Persons owning the dwelling they live in, which is most people in the sample, cannot delay payment of rent. Persons who do not have savings — a

Chart 5

Which mitigating measures did individuals take?
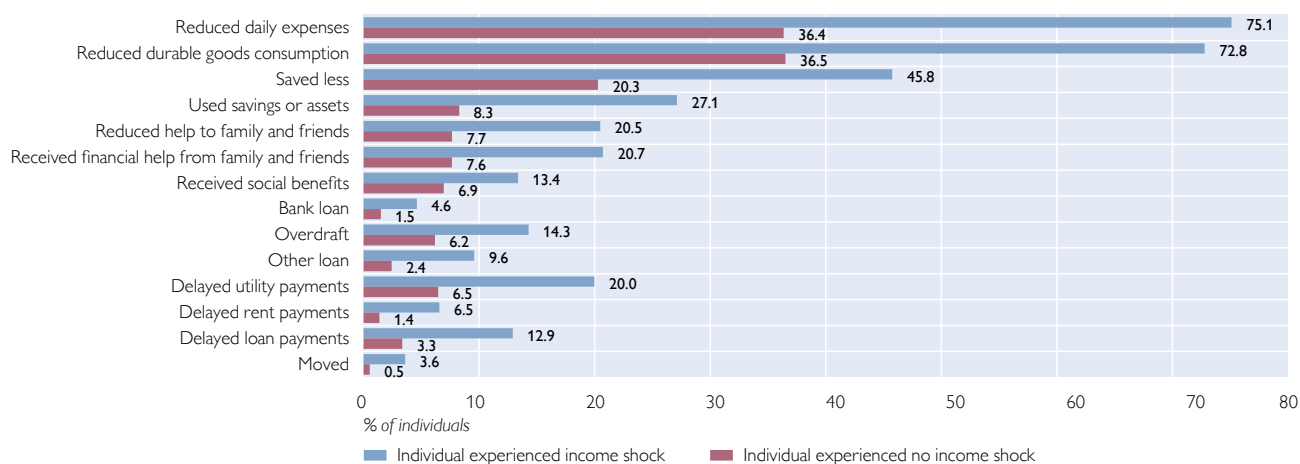
Source: OeNB Euro Survey 2020.

Note: Share of individuals who took a specific measure in response to the pandemic. Results are weighted based on weights that are calibrated on census population statistics for age, gender, region and, where available, education and ethnicity (separately for each country). Respondents answering "Don't know" or who refused to answer included as zero.

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[8] For a regional distribution of the number of measures, see figure A3 in the annex, which shows regional averages on a map.

substantial share of the sample, as it is a stylized fact that most people do not have savings in CESEE (Koch and Scheiber, 2022) – cannot save less. The same holds true for delaying loan repayments. This is only possible if you have a loan.

Chart 5 shows which share of individuals took the respective measures, again broken down into those who were and were not hit by any income shock.[9] The mitigating measures that were mentioned by the largest shares of respondents in both groups were consumption-related items. More than 70% of those who experienced a shock reduced daily and/or durable consumption. That more than one-third of those with no reported shock did so as well could be a sign of restricted consumption opportunities or precautionary motives; this will be discussed in subsection 2.4.2. Another rather common measure was to reduce the amount saved, reported by roughly 46% (shock) and 20% (no shock) of respondents, respectively. Utilizing savings or selling possessions was less commonly mentioned by both groups but still more often than the remaining items. Thus, the first resort after an income shock seems to be reduced consumption, followed by dissaving, relying on informal or formal support[10] and delaying payments. Borrowing comes in fifth and seems to be rather focused on short-term liquidity as using overdraft was the most-cited measure in this category. As expected, moving is only the last resort.

2.4 Regression analysis: Do more mitigating measures imply that a respondent has been more severely affected?

In subsection 2.2, we simply added up the number of measures mentioned by the respondent. This means we counted how many times the respondent said "yes" to items 1 to 16, excluding items 14 and 15. One could think that we at least indirectly interpret the number of measures as a proxy for the degree to which the individual was affected by the pandemic. The fact that those who suffered from income shocks indeed took more measures also seems to support this interpretation. However, that reporting more mitigating measures indicates that an individual has been more severely affected by the pandemic is not clear at all. Most importantly, we do not know the size of the measures taken, which is a major limitation. Theoretically, the number of measures taken is influenced, first, by the need to adjust, e.g. the severity of the individual shock, and second, the capacity to counteract and smooth any kind of adverse shock, i.e. based on the individual's socioeconomic situation and balance sheet. For instance, respondent A and respondent B might have to reduce their expenses due to an income shock by the same overall amount, but respondent A achieves this by only reducing everyday consumption (item 1), while respondent B might need to take three measures to achieve the same reduction of expenses. Moreover, it is not clear – when facing an income shock and individual capacity is high – what is optimal: to opt for one single action or to take several mitigating measures to spread the shock impact. Distributing the "pain" associated

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[9] For results by country, see charts A3 to A5 in the annex.

[10] It is worth mentioning that receiving informal support via the social network does not seem to be a substitute for lacking formal support via social benefits in our sample. The correlation between receiving informal and formal support is significantly positive. Furthermore, regressing the baseline controls and the dummy for receiving social benefits on the number of mitigating measures (categorical variable excluding social benefits) yields a significant positive coefficient for both split samples confirming the complementary nature of social benefits or other public financial aid measures.

with an income loss across several measure categories might be minimizing the utility loss, in particular, when balancing consumption cuts, dissaving and helping family and friends (see, for example, Gossen's second law on equalizing marginal utility per price). On the other hand, the concept of consumption smoothing would suggest to only cut savings/increase borrowing and not to touch consumption if possible because the shock might be transitory and interest rates are low. Furthermore, the countermeasures are to some extent hierarchical. The "pain" associated with reducing daily consumption is likely lower than that of moving out of one's house. Moving presumably is a last resort if other measures prove insufficient.

Summarized, it is not clear a priori how the number of mitigating measures taken relates to being affected by the pandemic. Looking at how certain personal characteristics are empirically correlated to the number (and type) of measures taken could yield some insights as to whether this number is a good proxy for how severely an individual was affected by the pandemic. In the following, we use generalized ordered logit (gologit) regressions with partial proportional odds to analyze which factors are associated with the number of measures taken to better understand what this number might tell us about the degree to which individuals have been affected by the pandemic. Against this background, we control for the need to adjust using information whether the individual has been hit by an income shock over the last 12 months, whether related to the COVID-19 pandemic or not. More specifically, we split the sample into those with income shocks and those without. In each specification, we additionally control whether the respondent is or was employed in an industry class that was severely hit by lockdowns and other containment measures. These industry classes comprise transportation, trade, personal services, tourism and food services, as well as art, entertainment and recreation. Concerning the capacity to smooth out shocks, we include socioeconomic factors both at the individual and at the household level. The individual factors are age, gender and employment status; the household factors are household net income, remittances, household size and whether there are children in the household. Concerning wealth and liabilities, we include information whether respondents (personally or together with their partners) have any loans, savings or secondary residences and whether the dwelling is in excellent, good or poor condition. The latter variable is a proxy for wealth reported by the interviewer.[11]

To derive the dependent variable, we recode the number of mitigating measures into an ordinal variable with four categories: no measures, 1 to 2 measures, 3 to 4 measures and 5+ measures (analogous to chart 4), balancing the need for a sufficiently high number of observations per category and imposing arbitrary restrictions through categorization. Economically, the difference between taking no measure and some measures and between 1 to 2 measures and 3 to 4 measures might not be equidistant, which favors an ordinal interpretation.[12] When using models for ordinal dependent variables, we need to test whether the proportionality assumption (parallel lines assumption) holds. Since the Brant test (Brant, 1990) and the Wolfe-Gould test (Wolfe and Gould, 1998) rejected the null hypothesis of

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[11] *A complete list and description of all control variables used can be found in table A1 in the annex. To retain as many observations as possible and to take nonresponse into account, we use income categories instead of PPP-adjusted income (as reported in table A1 in the annex) in the regressions.*

[12] *As robustness, we also used five instead of four ordered categories and results are qualitatively the same. We further estimated OLS regressions, which yields similar results.*

proportional odds, we explore whether a more generalized specification with variable parameters for selected explanatory factors may be a better fit. In our analysis, following the procedure of Williams (2006, 2016), we detect some explanatory variables for which variable parameters could potentially increase the goodness-of-fit. Thus, the gologit regressions take the following form (Peterson and Harrel, 1990; Williams 2016):

$$Pr(y_m > m) = \frac{\exp(\alpha_m + X^1\beta + X^2\gamma_m)}{1 + \exp(\alpha_m + X^1\beta + X^2\gamma_m)} + \varepsilon, \qquad m = 1, 2, \dots, M-1$$

where m is an ordered response category, X^1 and X^2 are vectors of independent variables, α_m is a cut point, β is the vector of logit coefficients which are fixed across cut point equations, and γ is a vector of logit coefficients which vary across cut point equations, i.e. for those variables that empirically violate the proportional odds assumption.

We pool our sample over all ten OeNB Euro Survey countries due to sample size restrictions. Regressions are estimated with country dummies using sampling weights and robust standard errors which are clustered at the primary sampling unit level. For each country, we create income tercile categories and another category for nonresponse. For the same reason, we add a dummy variable capturing item nonresponse for accumulated savings. There is valid concern that country-specific characteristics like economic structure, unemployment benefits, health and social security systems, containment measures or furlough schemes might affect how severely individuals are hit by potential health, income and confidence shocks and how they respond to such shocks. This cannot be adequately addressed with country dummies. A closer microlevel inspection of how different countries are weathering the pandemic is an interesting avenue for future research. However, figures A1 and A2 in the annex show that there is considerable regional variation in the prevalence of income shocks, meaning that within-country differences might be even larger than cross-country differences. This might reflect differences in income levels and the presence of different industrial sectors in different regions, which we hope to catch with our control variables as well.

2.4.1 Main results

Table 1 reports the average marginal effects for the gologit regressions with partial proportional odds as explained above.[13] Specification 1 relates to individuals without income shock, specification 2 to those with any type of income shock.[14] The proportional odds assumption is violated in specification 1 for the variables having accumulated savings and having a loan (and for all the country dummies except Bulgaria), and in specification 2, for the variables being below 25 years, receiving

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[13] Note that table 1 does not report the average marginal effects of the country dummies and of the insignificant gologit coefficients. See table A2 in the annex for the gologit coefficients.

[14] As a robustness exercise, we re-estimated the regressions only using the individual income shock explicitly related to the COVID-19 pandemic instead of the "any income shock" variable (see specifications 3 and 4 in table 1). Results stay qualitatively the same, yet the significance level varies due to lower number of observations in specification 4. Moreover, we excluded those who answered "don't know" or gave "no answer" to the income shock questions. Results are almost identical compared to the less strict definition. Table available from authors upon request.

remittances and having savings (and the country dummies for Albania, Bosnia and Herzegovina, and Poland).[15]

A close inspection of the average marginal effects in specification 1, i.e. the sample without the income shock, shows that there are two types of factors. First, there are factors that significantly decrease the likelihood of being in category 1 (no measures taken) and increase the likelihood mainly of being in category 3 (3 to 4 measures taken), namely working in an industry class that was potentially affected by containment measures, belonging to a household with children, and having a loan. Having savings weakly increases the likelihood for being in the highest category (5+ measures taken). Second, there are factors that produce the opposite pattern of marginal effects, increasing the likelihood of having taken no measures and decreasing particularly the likelihood of being in category 3, namely being an individual from a household of the third net income tercile (that is, more affluent) or who refused to report the household net income, living in a relatively better maintained dwelling and being below 25 years (only weakly significant).

Specification 2, i.e. the sample with the income shock, exhibits the two patterns for the marginal effects too, yet size and significance level of the effects are even higher. Additionally to the aforementioned four factors, belonging to a household of the first net income tercile (less affluent) and owning a secondary residence significantly decrease the likelihood of having taken only a few or no measures at all and increase the likelihood of having taken more measures, in particular 5+ measures. As before, high or nonreported income, living in a relatively better maintained dwelling and being below 25 years increase the likelihood of being in the first and second category while they decrease the likelihood of being in the third and fourth category. Another significant factor turns out to be whether the individual's household receives remittances. Average marginal effects exhibit a u-shaped pattern, pushing observations either into the no-measures category or into the 5+ measures category. Regressions by country show that Albanians drive the significant effect for the no-measures category while remittances in Bosnia and Herzegovina, North Macedonia, Romania and Serbia are significantly associated with the 5+ measures category.[16]

What do the regression results tell us about the relationship between the number of measures taken and how severely people were affected by the pandemic? Financially vulnerable groups, i.e. indebted individuals, individuals from low-income households or individuals working in an industry class that was potentially affected by containment measures, who have experienced an income shock have a significantly higher likelihood of having taken 5+ measures. This speaks in favor of the number of mitigating measures being an indicator of the severity of the

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[15] *Significant country dummies indicate sizeable cross-country variation, whereas the violation of the proportional odds assumptions for some country dummies indicates substantial within-country variation for the relevant economies.*

[16] *Highly significant country dummies in all specifications warrant a closer inspection of whether the results are driven by the inclusion or exclusion of a single country. Therefore, we execute a type of jackknife test, re-estimating the main specifications 1 and 2 of table 1 by excluding one country at a time. The significant coefficients turn out to be robust except for the variables low household income, receiving remittances, owning a secondary residence, and refusing to report savings. For those four variables, country-specific factors seem to have some influence on the size and significance of effects. Regressions by country reveal that signs of the four variables may change for few countries, yet the low number of observations ranging from 234 to 731 warrants caution in interpreting the results. Furthermore, the positive significant effect for individuals working in key lockdown industries increases monotonically for countries with stricter lockdown policies as measured by the Oxford Stringency Index.*

Generalized ordered logit regression: number of mitigating measures by category

Type of income shock	Any income shock		Income shock related to COVID-19	
Shock experience in 2020: yes/no	No (1)	Yes (2)	No (3)	Yes (4)
Average marginal effects by outcome				
Job in a lockdown industry (dummy)				
No measures	−0.066***	−0.018**	−0.062***	−0.023
	(0.016)	(0.007)	(0.013)	(0.017)
1 to 2 measures	0.015***	−0.031***	0.002	−0.069***
	(0.004)	(0.012)	(0.001)	(0.024)
3 to 4 measures	0.035***	0.007**	0.036***	0.080***
	(0.008)	(0.003)	(0.007)	(0.030)
5+ measures	0.016***	0.041***	0.024***	0.011
	(0.004)	(0.016)	(0.005)	(0.028)
Respondent aged under 25 years				
No measures	0.047*	0.054***	0.074***	−0.007
	(0.028)	(0.017)	(0.022)	(0.013)
1 to 2 measures	−0.011*	−0.009	−0.003	−0.014
	(0.006)	(0.028)	(0.002)	(0.029)
3 to 4 measures	−0.025*	0.045	−0.043***	−0.003
	(0.015)	(0.038)	(0.013)	(0.007)
5+ measures	−0.011*	−0.089**	−0.029***	0.024
	(0.007)	(0.037)	(0.009)	(0.049)
Household net income: 1st tercile				
No measures	0.028	−0.016*	0.014	−0.013
	(0.018)	(0.009)	(0.015)	(0.010)
1 to 2 measures	−0.007	−0.027*	−0.001	−0.028
	(0.004)	(0.015)	(0.001)	(0.020)
3 to 4 measures	−0.015	0.006*	−0.008	−0.006
	(0.010)	(0.004)	(0.009)	(0.004)
5+ measures	−0.007	0.036*	−0.005	0.048
	(0.004)	(0.020)	(0.006)	(0.034)
Household net income: 3rd tercile				
No measures	0.047***	0.017**	0.051***	0.007
	(0.018)	(0.008)	(0.014)	(0.009)
1 to 2 measures	−0.011***	0.030**	−0.002	0.014
	(0.004)	(0.014)	(0.001)	(0.019)
3 to 4 measures	−0.025***	−0.007**	−0.030***	0.003
	(0.009)	(0.003)	(0.008)	(0.004)
5+ measures	−0.011***	−0.040**	−0.020***	−0.024
	(0.004)	(0.018)	(0.006)	(0.032)
Household net income: not reported				
No measures	0.095***	0.018**	0.076***	0.010
	(0.020)	(0.009)	(0.016)	(0.011)
1 to 2 measures	−0.022***	0.032**	−0.003	0.022
	(0.005)	(0.016)	(0.002)	(0.025)
3 to 4 measures	−0.051***	−0.008*	−0.044***	0.005
	(0.010)	(0.004)	(0.009)	(0.006)
5+ measures	−0.022***	−0.043**	−0.029***	−0.036
	(0.005)	(0.021)	(0.006)	(0.041)
Household receives remittances				
No measures	0.005	0.028*	0.037	0.054***
	(0.024)	(0.017)	(0.024)	(0.020)
1 to 2 measures	−0.001	−0.045	−0.058***	0.001
	(0.006)	(0.029)	(0.020)	(0.037)
3 to 4 measures	−0.003	−0.053*	−0.015	−0.045
	(0.013)	(0.032)	(0.018)	(0.042)
5+ measures	−0.001	0.070**	0.036***	−0.011
	(0.006)	(0.029)	(0.012)	(0.047)
Children (dummy)				
No measures	−0.051***	−0.014*	−0.038***	−0.009
	(0.017)	(0.008)	(0.014)	(0.009)
1 to 2 measures	0.012***	−0.024*	0.001	−0.020
	(0.004)	(0.014)	(0.001)	(0.020)
3 to 4 measures	0.027***	0.006*	0.022***	−0.004
	(0.009)	(0.003)	(0.008)	(0.005)
5+ measures	0.012***	0.032*	0.015***	0.034
	(0.004)	(0.018)	(0.005)	(0.034)

Source: OeNB Euro Survey 2020.

Note: Dependent variable with four ordered categories: (1) no measures, (2) 1 to 2 measures, (3) 3 to 4 measures and (4) 5+ measures. Average marginal effects from a generalized ordered logit estimation with country dummies using sampling weights; robust standard errors are adjusted for clustering at the primary sampling unit (PSU) level and reported in parentheses. ***, **, * denote that the coefficient is statistically different from zero at the 1%, 5% and 10% level, respectively. For definition of explanatory variables with proportional parameters (=betas) see annex table A2 for specifications 1 and 2 and A3 for specifications 3 and 4. For a definition of variables, see annex table A1. Base categories are: respondent aged 35 to 44 years; 2nd income tercile; unemployed, inactive, retired or student; dwelling in poor condition, needs major repair; accumulated no savings; and Czech resident. The sample comprises all ten OeNB Euro Survey countries.

Table 1 continued

Generalized ordered logit regression: number of mitigating measures by category

Type of income shock	Any income shock		Income shock related to COVID-19	
Shock experience in 2020: yes/no	No (1)	Yes (2)	No (3)	Yes (4)
Average marginal effects by outcome				
Secondary residence (dummy)				
No measures	0.019	−0.019**	0.015	−0.024***
	(0.017)	(0.008)	(0.014)	(0.010)
1 to 2 measures	−0.005	−0.034**	−0.001	−0.054***
	(0.004)	(0.014)	(0.001)	(0.020)
3 to 4 measures	−0.010	0.008**	−0.008	−0.012**
	(0.009)	(0.003)	(0.008)	(0.006)
5+ measures	−0.005	0.045**	−0.006	0.090***
	(0.004)	(0.019)	(0.005)	(0.033)
Dwelling is excellent and well maintained				
No measures	0.091***	0.046***	0.097***	0.044***
	(0.023)	(0.012)	(0.020)	(0.014)
1 to 2 measures	−0.021***	0.080***	−0.004	0.096***
	(0.006)	(0.020)	(0.002)	(0.028)
3 to 4 measures	−0.049***	−0.019***	−0.056***	0.021**
	(0.012)	(0.005)	(0.011)	(0.009)
5+ measures	−0.022***	−0.107***	−0.037***	−0.160***
	(0.006)	(0.027)	(0.008)	(0.047)
Dwelling in good condition				
No measures	0.051**	0.028***	0.046***	0.034***
	(0.022)	(0.010)	(0.018)	(0.013)
1 to 2 measures	−0.012**	0.049***	−0.002	0.075***
	(0.005)	(0.017)	(0.001)	(0.026)
3 to 4 measures	−0.027**	−0.012***	−0.027***	0.016**
	(0.011)	(0.004)	(0.010)	(0.007)
5+ measures	−0.012**	−0.065***	−0.018***	−0.125***
	(0.005)	(0.024)	(0.007)	(0.043)
Respondent has accumulated savings				
No measures	−0.014	−0.012	−0.006	−0.013*
	(0.017)	(0.012)	(0.015)	(0.008)
1 to 2 measures	−0.020	−0.078***	−0.039***	−0.029*
	(0.015)	(0.017)	(0.014)	(0.017)
3 to 4 measures	0.019	0.042**	0.022*	−0.006
	(0.012)	(0.019)	(0.012)	(0.004)
5+ measures	0.016**	0.048**	0.023***	0.048*
	(0.007)	(0.019)	(0.008)	(0.028)
Refused to reveal the extent of savings				
No measures	−0.077**	−0.007	−0.047	−0.011
	(0.039)	(0.026)	(0.034)	(0.031)
1 to 2 measures	0.018*	−0.013	0.002	−0.025
	(0.009)	(0.046)	(0.002)	(0.068)
3 to 4 measures	0.041**	0.003	0.027	−0.005
	(0.021)	(0.011)	(0.020)	(0.015)
5+ measures	0.018*	0.017	0.018	0.042
	(0.009)	(0.062)	(0.013)	(0.113)
Respondent has a loan				
No measures	−0.125***	−0.055***	−0.116***	−0.047***
	(0.017)	(0.008)	(0.015)	(0.010)
1 to 2 measures	0.018	−0.097***	−0.007	−0.103***
	(0.015)	(0.011)	(0.014)	(0.015)
3 to 4 measures	0.060***	0.023***	0.046***	−0.023***
	(0.012)	(0.005)	(0.011)	(0.007)
5+ measures	0.047***	0.129***	0.077***	0.173***
	(0.007)	(0.015)	(0.008)	(0.025)
Country dummies	Yes	Yes	Yes	Yes
Other control variables (insignificant)	Yes	Yes	Yes	Yes
Log-likelihood	−7,243.6	−3,777.0	−10,187.8	−1,344.4
Probability > Chi squared (df_m)	407.91 (51)	441.16 (43)	511.29 (43)	221.17 (41)
Pseudo R-squared (McFadden)	0.049	0.074	0.045	0.095
BIC	14,959.5	7,924.5	20,790.5	3,000.6
Number of observations	6,300	3,152	8,253	1,199
Unconditional mean of dependent variable	0.88	1.82	1.07	2.03

Source: OeNB Euro Survey 2020.

Note: Dependent variable with four ordered categories: (1) no measures, (2) 1 to 2 measures, (3) 3 to 4 measures and (4) 5+ measures. Average marginal effects from a generalized ordered logit estimation with country dummies using sampling weights; robust standard errors are adjusted for clustering at the primary sampling unit (PSU) level and reported in parentheses. ***, **, * denote that the coefficient is statistically different from zero at the 1%, 5% and 10% level, respectively. For definition of explanatory variables with proportional parameters (=betas) see annex table A2 for specifications 1 and 2 and A3 for specifications 3 and 4. For a definition of variables, see annex table A1. Base categories are: respondent aged 35 to 44 years; 2nd income tercile; unemployed, inactive, retired or student; dwelling in poor condition, needs major repair; accumulated no savings; and Czech resident. The sample comprises all ten OeNB Euro Survey countries.

pandemic impact on these persons. On the other hand, individuals who experienced some kind of income shock but who own a secondary residence or have savings, i.e. economically more affluent persons, also report significantly more measures than the average person. It seems that this group prefers to distribute the painful impact of an income shock by taking several measures and is able to do so.

Summarized, the number of mitigating measures alone is an insufficient proxy for how severely an individual was affected by the pandemic, as completely opposing groups of the population took more measures than the "average" person. Depending on socioeconomic characteristics, taking more measures is more likely related to the need to adjust or the capacity to adjust. Among the group of individuals who did not experience an income shock but still, on average, report a higher number of mitigating measures are individuals working in an industry that was potentially affected by containment measures, individuals from households with children and indebted individuals. In these cases, precautionary motives or limited consumption possibilities (forced savings) might be the driving forces behind the number of measures taken.

2.4.2 Restricted consumption vs precautionary savings?

National monetary statistics from 2020 suggest that, despite the prevalence of negative income shocks in the ten CESEE countries, aggregate household savings have increased (see Koch and Scheiber, 2022). The most likely reasons for this increase are limited consumption opportunities, i.e. forced savings and/or an increase in voluntary precautionary savings. Both kinds of savings could also reflect the need to adjust to the pandemic. Indeed, as shown before, many respondents without an income shock still took mitigating measures and, in particular, reduced their consumption. If expenses go down, assuming that income stayed stable for these persons (or maybe even increased), then something else has to go up. Hence, focusing on persons without an income shock, we run additional regressions for mitigating measures 1 and 2, i.e. reducing daily expenses and reducing or postponing larger expenditures (durable goods). We treat these two measures as proxies for increased savings, trying to understand if savings increased due to limited consumption opportunities alone or whether precautionary motives could also play a role.

We hypothesize that individuals with a rather pessimistic outlook are more inclined to increase precautionary savings and, thus, reduce consumption (e.g. Dees and Brinca, 2013, for the US and the euro area; Soric, 2018, for CESEE; Binder, 2020; Christelis et al., 2020, for the euro area during the pandemic). Therefore, we try to approximate pessimistic outlooks with some additional control variables. We include three indicators of economic sentiments in the regression, looking at those individuals who did not experience any income shock and/or who did not experience a COVID-19-related income shock. The economic indicators comprise respondents' agreement on a 7-point Likert scale to the following two statements: "Over the next five years, the economic situation of [MY COUNTRY] will improve" and "Over the next 12 months, I expect the financial situation of my household to get better." The third indicator captures inflation expectations over the next 12 months. Inflation expectations were recoded into a variable with three categories (i.e. prices will stay the same or decrease a little, prices will increase a little, prices will increase a lot). Thus, we

look directly at future expectations. Moreover, we already control indirectly for a more pessimistic outlook by having included the dummy for working in a key lockdown industry. For persons working in such industries, income expectations should be less optimistic, and they should be more likely to expect a negative income shock.[17] Table 2 reports the average marginal effects from gologit regressions with partial proportional odds, in which the dependent variable is an ordinal variable with three categories for no, one and two consumption-reducing measures (items 1 and 2). Again, we include country dummies, sampling weights and robust standard errors adjusted for clustering at the primary sampling unit level and follow the procedure of Williams (2006, 2016) to determine which explanatory variable will have proportional parameters.[18] The results on economic sentiments show that individuals holding more pessimistic views about the economic situation of their country tend to take more consumption-reducing measures. However, results are only significant for the group of individuals who did not experience a COVID-19-related income shock (specification 2). Furthermore, individuals expecting rising inflation over the next 12 months are associated with reducing consumption significantly stronger in both specifications. Binder (2020) shows that many consumers associate bad events with high inflation. Accordingly, greater concern about the COVID-19 pandemic is associated with expectations of higher inflation and more pessimistic unemployment expectations, which should give rise to higher precautionary savings (see Bernard et al., 2020, for Germany).[19] Looking at socioeconomic background, we find a higher likelihood for reducing consumption for individuals working in key lockdown industries, indebted individuals and individuals living in larger households. By contrast, significantly fewer measures to reduce consumption are associated with higher income, being self-employed, having accumulated savings, living in a dwelling in excellent condition and owning a secondary residence. But also individuals below 25 years and individuals from income-poor households report significantly more outcomes of no measures.

Macroeconomic literature on the business cycle stresses the role of durable goods for intertemporal substitution and as an important signal regarding households' expectations and the strength of the recovery (Beraja and Wolf, 2021). Hence, we rerun the regressions of table 2 with the binary dependent variable capturing whether the respondent had to reduce or postpone larger expenditures. The estimations for the group of individuals who did not experience any shock qualitatively yield the same results. Pessimistic economic sentiments, higher inflation expectations, working in key lockdown industries and indebtedness increase the likelihood of reducing or postponing the consumption of durable goods, while more affluent individuals exhibit a lower likelihood of doing so during the first six month of the pandemic. Thus, we find some support in our sample for the existence of precautionary savings and for the hypothesis that a pessimistic

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[17] *Naturally, there is a positive correlation between working in a key lockdown industry and already having experienced an income shock. This decreases the sample size of those working in such industries without a shock, but in each country, we still have more than 100 observations for such cases.*

[18] *Table 2 does not report the average marginal effects of the country dummies and of the insignificant gologit coefficients. See table A4 in the annex for the gologit coefficients and the information on explanatory variables with proportional parameters.*

[19] *Note that the coefficients of the indicator on the future financial situation of an individual's own household are insignificant in both specifications.*

outlook is related to taking more consumption measures. This is also in line with what Ercolani et al. (2021) argue for Italy. They find that the amounts people think their household should set aside for unexpected events, i.e. precautionary savings, are positively related to perceived income uncertainty and health risks. Using almost the same microdata, Guglielmetti and Rondinelli (2021) conclude that not only economic conditions but also fear of infections and uncertainty about the future explain the observed drop in consumption during the pandemic; for some parts of the population, like the self-employed, the latter motives are even more important than the first.

Still, we cannot rule out forced savings completely. For example, reduced consumption opportunities could lead to both more savings and expecting stronger price increases in the future, meaning the regressions suffer from omitted-variable bias. The same might be true for the lockdown industry dummy as people working in such industries might be living in areas in which more lockdowns were imposed. Nevertheless, it is harder to explain why individuals with a loan should suffer more from suppressed consumption. Furthermore, that very affluent individuals who own secondary real estate and live in "high-class" dwellings are less likely not more likely to report reduced consumption, suggests that survey respondents were less inclined to report forced savings through restricted consumption opportunities as a mitigating measure.

Table 2

Generalized ordered logit regression: number of consumption-reducing measures

Type of income shock	Any income shock	Income shock related to COVID-19
Shock experience in 2020: yes/no	No (1)	No (2)
Average marginal effects by outcome		
Job in a lockdown industry (dummy)		
No measures	−0.048**	−0.050***
	(0.019)	(0.016)
1 measure	0.030*	0.035**
	(0.016)	(0.014)
2 measures	0.018	0.015
	(0.015)	(0.015)
Economic situation will improve over the next 5 years (7-point Likert scale)		
No measures	0.005	0.008**
	(0.004)	(0.004)
1 measure	−0.001	−0.001**
	(0.001)	(0.000)
2 measures	−0.004	−0.008**
	(0.003)	(0.004)
Expected inflation over the next 12 months (3 categories)		
No measures	−0.083***	−0.095***
	(0.012)	(0.011)
1 measure	0.019***	0.008***
	(0.003)	(0.002)
2 measures	0.065***	0.088***
	(0.009)	(0.010)
Respondent aged under 25 years		
No measures	0.063**	0.065**
	(0.032)	(0.027)
1 measure	−0.014**	0.036*
	(0.007)	(0.019)
2 measures	−0.049**	−0.101***
	(0.025)	(0.028)
Self-employed (dummy)		
No measures	0.050*	0.040*
	(0.028)	(0.024)
1 measure	−0.011*	−0.003
	(0.006)	(0.002)
2 measures	−0.039*	−0.037*
	(0.022)	(0.022)
Household net income: 1st tercile		
No measures	0.053**	0.024
	(0.022)	(0.017)
1 measure	−0.035**	−0.002
	(0.015)	(0.001)
2 measures	−0.018	−0.022
	(0.018)	(0.016)
Household net income: 3rd tercile		
No measures	0.041**	0.038**
	(0.019)	(0.016)
1 measure	−0.009**	−0.003**
	(0.004)	(0.001)
2 measures	−0.032**	−0.035**
	(0.015)	(0.015)
Household net income: not reported		
No measures	0.075***	0.052***
	(0.023)	(0.018)
1 measure	−0.039**	−0.004**
	(0.016)	(0.002)
2 measures	−0.035*	−0.048***
	(0.019)	(0.017)

Source: OeNB Euro Survey 2020.

Note: Dependent variable with three ordered categories: (1) no measures, (2) 1 measure and (3) 2 measures. Average marginal effects from a generalized ordered logit estimation with country dummies using sampling weights; robust standard errors are adjusted for clustering at the primary sampling unit (PSU) level and reported in parentheses. ***, **, * denote that the coefficient is statistically different from zero at the 1%, 5% and 10% level, respectively. For definition of explanatory variables with proportional parameters (=betas), see annex table A4. For a definition of variables, see annex table A1. Base categories are: respondent aged 35 to 44 years; 2nd income tercile; unemployed, inactive, retired or student; dwelling in poor condition, needs major repair; accumulated no savings; and Czech resident. The sample comprises all ten OeNB Euro Survey countries.

Generalized ordered logit regression: number of consumption-reducing measures

Type of income shock	Any income shock	Income shock related to COVID-19
Shock experience in 2020: yes/no	No (1)	No (2)
Average marginal effects by outcome		
Household receives remittances		
No measures	0.064**	0.065**
	(0.027)	(0.026)
1 measure	−0.014**	−0.005**
	(0.006)	(0.002)
2 measures	−0.049**	−0.060**
	(0.021)	(0.024)
Household size (number of persons)		
No measures	−0.008	−0.018***
	(0.008)	(0.007)
1 measure	0.002	0.001**
	(0.002)	(0.001)
2 measures	0.006	0.017***
	(0.006)	(0.006)
Secondary residence (dummy)		
No measures	0.031*	0.050***
	(0.018)	(0.015)
1 measure	−0.007*	−0.004***
	(0.004)	(0.001)
2 measures	−0.024*	−0.046***
	(0.014)	(0.014)
Dwelling is excellent and well maintained		
No measures	0.077***	0.080***
	(0.026)	(0.023)
1 measure	−0.017***	−0.025**
	(0.006)	(0.012)
2 measures	−0.060***	−0.055**
	(0.020)	(0.021)
Respondent has accumulated savings		
No measures	0.031*	0.035**
	(0.018)	(0.016)
1 measure	0.019	0.017
	(0.014)	(0.012)
2 measures	−0.051***	−0.051***
	(0.016)	(0.015)
Respondent has a loan		
No measures	−0.086***	−0.089***
	(0.017)	(0.014)
1 measure	0.019***	0.007***
	(0.004)	(0.002)
2 measures	0.067***	0.082***
	(0.013)	(0.013)
Country dummies	Yes	Yes
Other control variables (insignificant)	Yes	Yes
Log-likelihood	−5,806.0	−7,775.5
Probability > Chi squared (df_m)	284.55 (39)	441.28 (40)
Pseudo R-squared (McFadden)	0.040	0.054
BIC	11,967.9	15,927
Number of observations	5,891	7,739
Unconditional mean of dependent variable	0.74	0.92

Source: OeNB Euro Survey 2020.

Note: Dependent variable with three ordered categories: (1) no measures, (2) 1 measure and (3) 2 measures. Average marginal effects from a generalized ordered logit estimation with country dummies using sampling weights; robust standard errors are adjusted for clustering at the primary sampling unit (PSU) level and reported in parentheses. ***, **, * denote that the coefficient is statistically different from zero at the 1%, 5% and 10% level, respectively. For definition of explanatory variables with proportional parameters (=betas), see annex table A4. For a definition of variables, see annex table A1. Base categories are: respondent aged 35 to 44 years; 2nd income tercile; unemployed, inactive, retired or student; dwelling in poor condition, needs major repair; accumulated no savings; and Czech resident. The sample comprises all ten OeNB Euro Survey countries.

3 Conclusion

Early empirical evidence made it clear that the economic impact of the COVID-19 pandemic was felt very unevenly across different socioeconomic groups, with individual income and/or confidence shocks varying greatly. The degree to which people were affected in combination with public policy responses to the pandemic shaped the kind and number of measures people took to mitigate the effects of the pandemic. Given the uneven impact at the microlevel, macroeconomic data alone cannot adequately inform public policy when, for example, designing relief measures.

In this study, we use data from the OeNB Euro Survey, an annual survey of individuals conducted in ten different countries in CESEE, to analyze which factors potentially determine how individuals have responded to the crisis in financial terms. With a special module in 2020, the survey assessed what kind of measures individuals have taken so far to mitigate negative effects of the pandemic. We compile descriptive evidence on the prevalence of income shocks in CESEE and how individual shocks relate to the number of mitigating measures taken. Then, we use regressions to establish correlations between the number of measures taken and personal characteristics, including if individuals were hit by an income shock, to understand if the total number of mitigating measures taken is a good proxy for how severely an individual was economically affected by the pandemic.

We find that income shocks in 2020 (income shocks in general and purely COVID-19-related shocks) are related to taking significantly more measures to mitigate the adverse effects of the pandemic, even when controlling for other personal characteristics. Moreover, for financially vulnerable individuals, the number of measures taken might indeed reveal the severity of the effect the pandemic had. For the less financially vulnerable, it might be different, however. For them, several measures might merely indicate that they are in a position to distribute the negative impact of the pandemic across different measure categories. They might even take some measures for precautionary reasons. Thus, the number of mitigating measures alone is not a good indicator for how severely individuals were affected by the first half-year of the COVID-19 pandemic. At least, socioeconomic characteristics should be considered. Additionally, asking people directly how severely they have been affected by the pandemic could serve as an anchor for what the number of measures taken actually indicates.

Still, as the pandemic goes on, more and more measures will be needed to counteract the impact of lasting negative income shocks, savings might become exhausted, reducing consumption might not be enough and borrowing against future income might increase. Inequality will continue to widen due to rich households increasing their wealth while poor households have to increase their debt. Beyond unexpected income shocks, differences in educational outcomes among children and labor force participation by women in poor and rich households will add to long-run inequality if not addressed. The policy implications are neither new nor innovative: policies should restore confidence, support vulnerable people and dampen the effects the pandemic has on income inequality. To identify vulnerable individuals, it is important to continue collecting microdata and exploring how data can actually reveal vulnerability. Simply counting the variety of mitigating measures people had to take can only serve as an insufficient proxy.

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Annex

Chart A1

Confirmed COVID-19 cases per million inhabitants
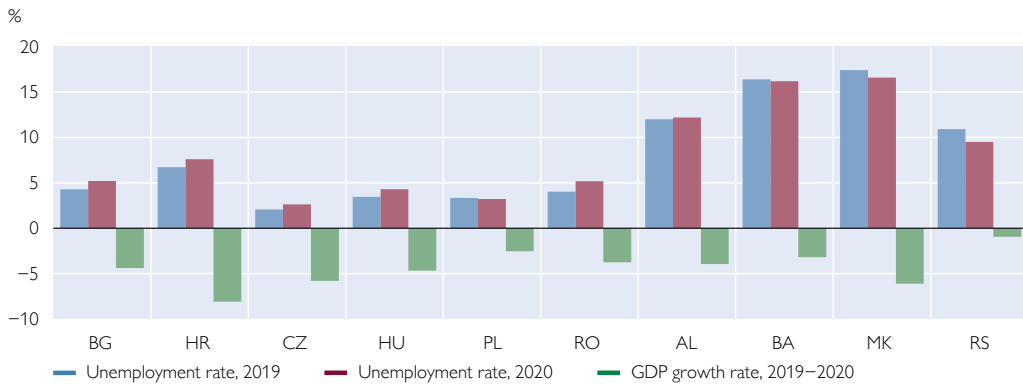
7-day rolling average
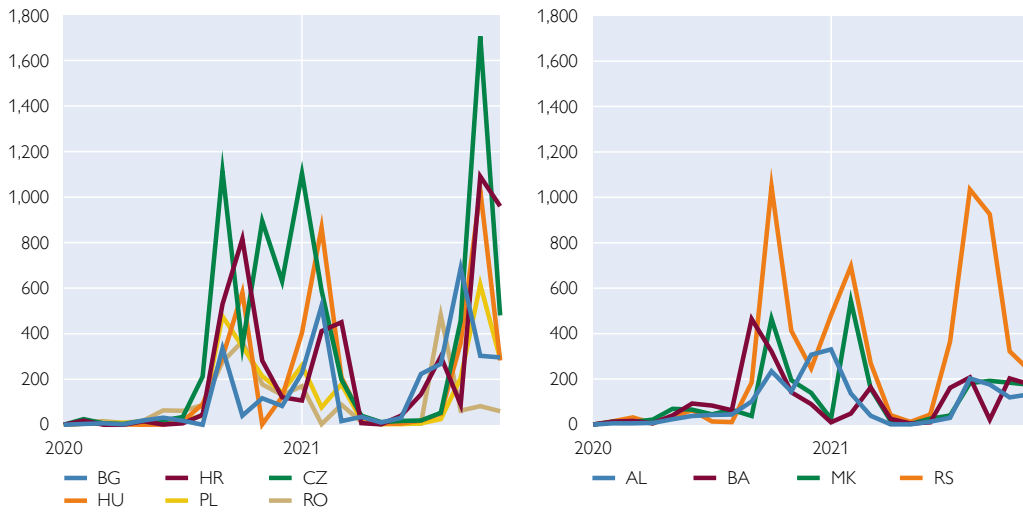
Source: Johns Hopkins University and Our World in Data.

Chart A2

GDP growth and unemployment rate in CESEE, 2019–2020

Source: Eurostat, national central banks.
Note: GDP at constant prices.

Crisis response: reducing expenditure and using financial assets
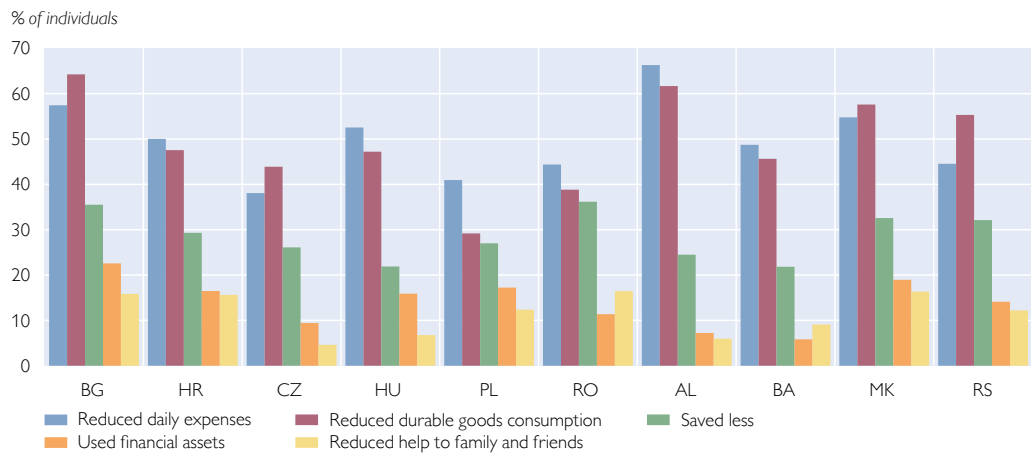
% of individuals

Reduced daily expenses — Reduced durable goods consumption — Saved less
Used financial assets — Reduced help to family and friends

Source: OeNB Euro Survey 2020.

Note: Results are weighted based on weights that are calibrated on census population statistics for age, gender, region and, where available, education and ethnicity (separately for each country). Respondents answering "Don't know" or who refused to answer excluded.

Crisis response: increasing borrowing

% of individuals

Increased borrowing — Financial help from family and friends (e.g. loans, remittances) — Bank loan
Overdraft — Other loan

Source: OeNB Euro Survey 2020.

Note: Results are weighted based on weights that are calibrated on census population statistics for age, gender, region and, where available, education and ethnicity (separately for each country). Respondents answering "Don't know" or who refused to answer excluded.

Chart A5

Crisis response: delaying payments and installments

% of individuals

Source: OeNB Euro Survey 2020.

Note: Results are weighted based on weights that are calibrated on census population statistics for age, gender, region and, where available, education and ethnicity (separately for each country). Respondents answering "Don't know" or who refused to answer excluded.
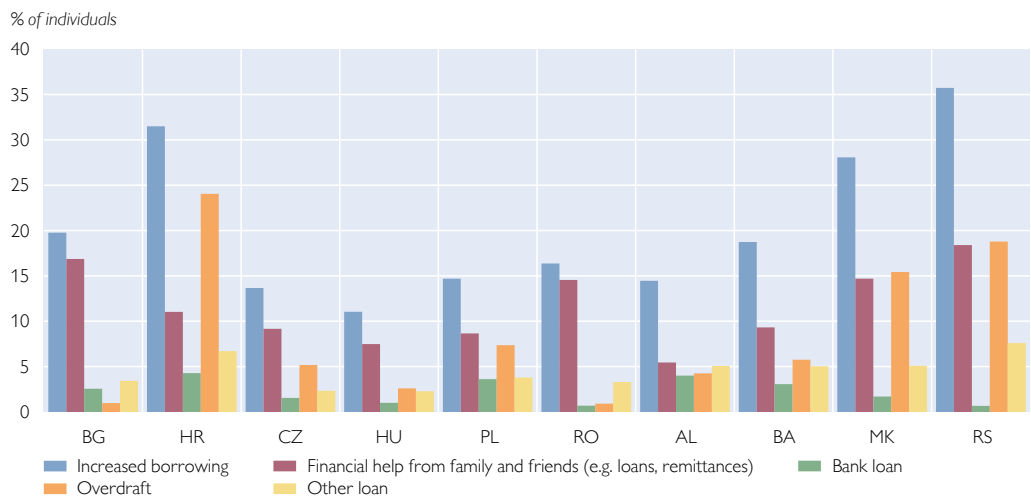
Figure A1

Any income shock

% of individuals

Source: OeNB Euro Survey 2020.

Note: Weighted regional averages based on weights that are calibrated on census population statistics for age, gender, region and, where available, education and ethnicity (separately for each country); respondents answering "Don't know" or who refused to answer excluded.

Figure A2

Income shock related to COVID-19

% of individuals

Legend:
(20,30]
(15,20]
(12.5,15]
(10,12.5]
(8,10]
(6,8]
(4,6]
(2,4]
[0,2]
No data

Source: OeNB Euro Survey 2020.

Note: Weighted regional averages based on weights that are calibrated on census population statistics for age, gender, region and, where available, education and ethnicity (separately for each country); respondents answering "Don't know" or who refused to answer excluded.

Average number of mitigating measures
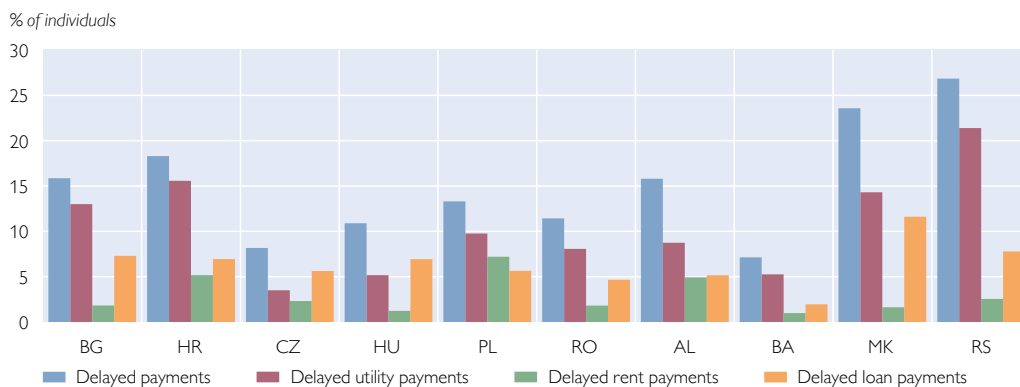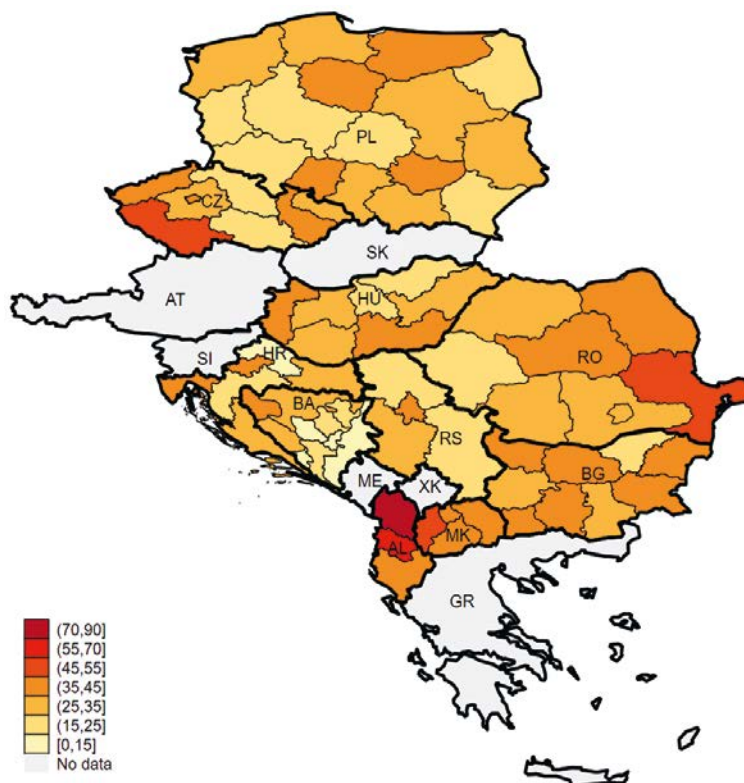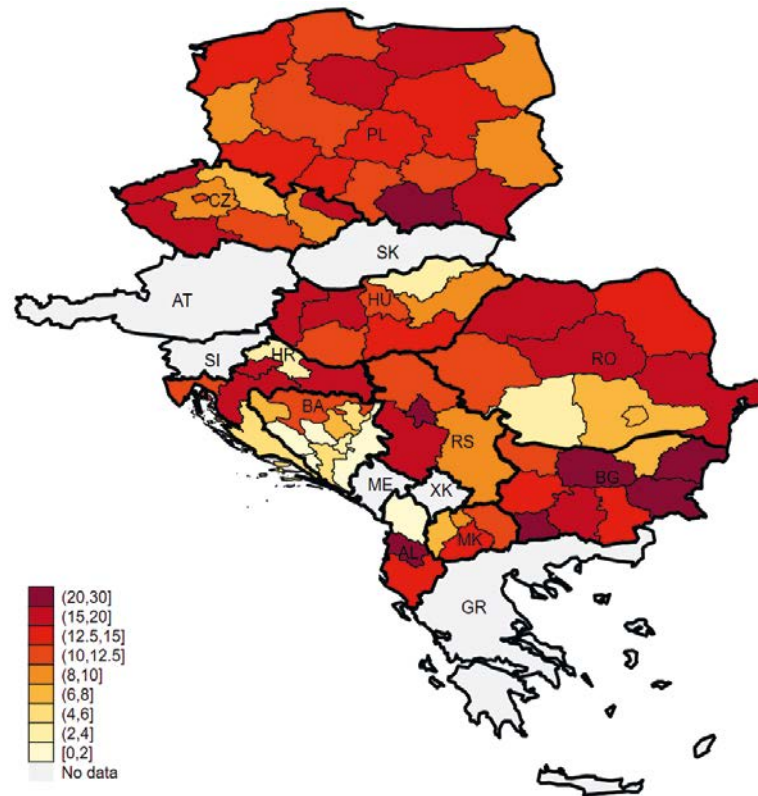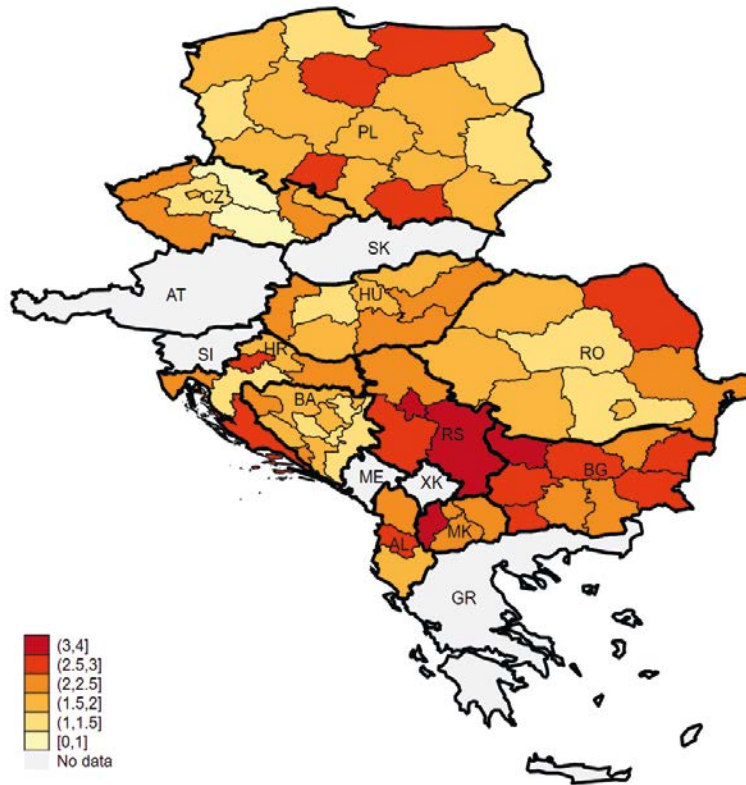
% of individuals

Source: OeNB Euro Survey 2020.

Note: Weighted regional averages based on weights that are calibrated on census population statistics for age, gender, region and, where available, education and ethnicity (separately for each country); respondents answering "Don't know" or who refused to answer excluded.

<div align="right">Table A1</div>

Control variables used in the regression analysis

Label	Description
Any income shock (dummy)	The respondent has experienced one or more of the following income shocks: Lost job due to COVID-19, reduced salary due to COVID-19 and/or the household of the respondent had a significant reduction of income in the last 12 months.
Income shock related to COVID-19 (dummy)	The respondent has experienced one or more of the following income shocks: Lost job due to COVID-19 and/or reduced salary due to COVID-19.
Job in a lockdown industry (dummy)	Dummy variable that equals 1 if the respondent has worked or works in one or more of the following industries: transportation; trade; personal services; tourism and food services; art, entertainment and recreation.
Respondent aged […]	7 variables for the age of the respondent: age brackets with a span of (mostly) 10 years, starting from 25 years to 69 years, one open age bracket for 24 years or younger, and one open age bracket for 75 years or older.
Male (dummy)	Dummy variable that equals 1 if the respondent is male and zero if the respondent is female.
Employed (dummy)	Dummy variable that equals 1 if the respondent is employed and zero otherwise (retired, unemployed, inactive, student).
Self-employed (dummy)	Dummy variable that equals 1 if the respondent is self-employed and zero otherwise (including nonworking).
Household net income […]	Household income per month (after taxes) divided into three percentiles per country: low, middle and high. Nonresponse to income is coded as fourth category.
Household receives remittances	Dummy variable that equals 1 if the respondent has received remittances in the previous year and zero otherwise.
Household size (number of persons)	Number of people living in the household of the respondent (including the respondent).
Children (dummy)	Dummy variable that equals 1 if the respondent lives with children below 18 years and zero otherwise.
Secondary residence (dummy)	Dummy variable that equals 1 if the respondent's household owns a secondary residence or other real estate and zero otherwise.
Dwelling is excellent and well maintained	Dummy variable that equals 1 if the interviewer assesses the respondent's dwelling as being in an "excellent condition and well maintained" and zero otherwise.
Dwelling in good condition	Dummy variable that equals 1 if the interviewer assesses the respondent's dwelling as being in a "good condition" and zero otherwise.
Respondent has accumulated savings	Dummy variable that equals 1 if the respondent has savings and zero otherwise.
Refused to reveal the extent of savings	Dummy variable that equals 1 if the respondent refused to report if there are savings and zero otherwise.
Respondent has a loan	Dummy variable that equals 1 if the respondent has a loan and zero otherwise.
Economic situation will improve over the next 5 years (7-point Likert scale)	Answer to "Over the next five years, the economic situation of [MY COUNTRY] will improve" on a scale from 1 – "strongly agree" to 6 – "strongly disagree." Recoded to a 7-point Likert scale with "don't know" as middle category.
Better financial situation of the household over the next 12 months (7-point Likert scale)	Answer to "Over the next 12 months, I expect the financial situation of my household to get better" on a scale from 1 – "strongly agree" to 6 – "strongly disagree." Recoded to a 7-point Likert scale with "don't know" as middle category.
Expected inflation over the next 12 months (3 categories)	Answer to "Over the next year, prices will strongly increase in [MY COUNTRY]" categorized into 1 – "prices will stay the same or decrease a little," 2 – "prices will increase a little" and 3 – "prices will increase a lot."

Source: OeNB Euro Survey 2020.

Table A2

Generalized ordered logit regression: number of mitigating measures by category

Sample split by income shock	Any income shock: no (1)			Any income shock: yes (2)		
	Betas	Gammas (variable parameters)		Betas	Gammas (variable parameters)	
Dependent variable base category	No measures	1 to 2 measures	3 to 4 measures	No measures	1 to 2 measures	3 to 4 measures
	Coefficients			*Coefficients*		
Job in a lockdown industry (dummy)	0.295***			0.231***		
	(0.070)			(0.087)		
Respondent aged under 25 years	−0.210*			−0.704***	−0.213	−0.502**
	(0.125)			(0.224)	(0.169)	(0.209)
Respondent aged 25 to 34 years	−0.050			−0.088		
	(0.088)			(0.110)		
Respondent aged 45 to 54 years	0.030			−0.030		
	(0.086)			(0.108)		
Respondent aged 55 to 64 years	0.012			−0.050		
	(0.097)			(0.122)		
Respondent aged 65 to 74 years	0.085			−0.294		
	(0.128)			(0.184)		
Respondent aged 75 years and above	0.075			−0.631		
	(0.158)			(0.402)		
Male (dummy)	0.043			−0.064		
	(0.051)			(0.070)		
Employed (dummy)	−0.098			−0.153		
	(0.082)			(0.097)		
Self-employed (dummy)	−0.152			−0.021		
	(0.112)			(0.137)		
Household net income: 1st tercile	−0.127			0.204*		
	(0.082)			(0.111)		
Household net income: 3rd tercile	−0.210***			−0.226**		
	(0.080)			(0.102)		
Household net income: not reported	−0.426***			−0.241**		
	(0.088)			(0.118)		
Household receives remittances	−0.021			−0.373*	0.081	0.394**
	(0.110)			(0.222)	(0.167)	(0.165)
Household size (number of persons)	0.009			−0.038		
	(0.032)			(0.043)		
Children (dummy)	0.229***			0.178*		
	(0.075)			(0.102)		
Secondary residence (dummy)	−0.087			0.251**		
	(0.075)			(0.105)		
Dwelling is excellent and well maintained	−0.410***			−0.599***		
	(0.105)			(0.148)		
Dwelling in good condition	−0.228**			−0.367***		
	(0.097)			(0.131)		
Respondent has accumulated savings	0.065	0.200**	0.297**	0.156	0.426***	0.269**
	(0.074)	(0.080)	(0.126)	(0.157)	(0.098)	(0.109)
Refused to reveal the extent of savings	0.346**			0.097		
	(0.175)			(0.347)		
Respondent has a loan	0.561***	0.624***	0.898***	0.722***		
	(0.079)	(0.083)	(0.127)	(0.088)		
Alphas: cut point parameters	−0.132	−2.113***	−4.381***	2.286***	0.453*	−1.136***
	(0.228)	(0.221)	(0.291)	(0.293)	(0.275)	(0.275)
Country dummies	Yes			Yes		
Log-likelihood	−7,243.6			−3,777.0		
Probability > Chi squared (df_m)	407.91 (51)			441.16 (43)		
Pseudo R-squared (McFadden)	0.049			0.074		
BIC	14,959.5			7,924.5		
Number of observations	6,300			3,152		
Unconditional mean of dependent variable	0.88			1.82		

Source: OeNB Euro Survey 2020.

Note: Dependent variable with four ordered categories: (1) no measures, (2) 1 to 2 measures, (3) 3 to 4 measures and (4) 5+ measures. Coefficients from a generalized ordered logit estimation with country dummies using sampling weights; robust standard errors are adjusted for clustering at the primary sampling unit (PSU) level and reported in parentheses. ***, **, * denote that the coefficient is statistically different from zero at the 1%, 5% and 10% level, respectively. Variable parameters are assumed for two and three explanatory variables (=gammas), respectively, proportional parameters for all other explantory variables (=betas) as well as for all country dummies except for Bulgaria in specification 1 and except for Albania, Bosnia and Herzegovina and Poland in specification 2. For a definition of variables, see annex table A1. Base categories are: respondent aged 35 to 44 years; 2nd income tercile; unemployed, inactive, retired or student; dwelling in poor condition, needs major repair; accumulated no savings; and Czech resident. The sample comprises all ten OeNB Euro Survey countries.

Generalized ordered logit regression: number of mitigating measures by category

Sample split by income shock related to COVID-19	Income shock related to COVID-19: no (1)			Income shock related to COVID-19: yes (2)		
	Betas	Gammas (variable parameters)		Betas	Gammas (variable parameters)	
Dependent variable base category	No measures	1 to 2 measures	3 to 4 measures	No measures	1 to 2 measures	3 to 4 measures
	Coefficients			*Coefficients*		
Job in a lockdown industry (dummy)	0.295***			0.412	0.521***	0.055
	(0.060)			(0.303)	(0.163)	(0.139)
Respondent aged under 25 years	−0.353***			0.120		
	(0.107)			(0.244)		
Respondent aged 25 to 34 years	−0.107			0.142		
	(0.076)			(0.167)		
Respondent aged 45 to 54 years	0.034			0.160		
	(0.076)			(0.164)		
Respondent aged 55 to 64 years	0.046			−0.072		
	(0.081)			(0.213)		
Respondent aged 65 to 74 years	−0.140			−0.137		
	(0.107)			(0.642)		
Respondent aged 75 years and above	−0.274**			−0.836		
	(0.137)			(0.639)		
Male (dummy)	−0.004			−0.082		
	(0.044)			(0.113)		
Employed (dummy)	−0.157**			−0.546***		
	(0.068)			(0.175)		
Self-employed (dummy)	−0.039			0.073		
	(0.101)			(0.221)		
Household net income: 1st tercile	−0.066			0.236		
	(0.072)			(0.168)		
Household net income: 3rd tercile	−0.244***			−0.120		
	(0.068)			(0.158)		
Household net income: not reported	−0.361***			−0.180		
	(0.076)			(0.205)		
Household receives remittances	−0.176	0.102	0.446***	−0.984***	−0.315	−0.053
	(0.116)	(0.109)	(0.143)	(0.340)	(0.229)	(0.235)
Household size (number of persons)	0.049*			0.009		
	(0.028)			(0.069)		
Children (dummy)	0.179***			0.168		
	(0.065)			(0.166)		
Secondary residence (dummy)	−0.070			0.446***		
	(0.065)			(0.165)		
Dwelling is excellent and well maintained	−0.462***			−0.796***		
	(0.094)			(0.234)		
Dwelling in good condition	−0.221***			−0.621***		
	(0.084)			(0.217)		
Respondent has accumulated savings	0.031	0.222***	0.286***	0.239*		
	(0.069)	(0.070)	(0.098)	(0.139)		
Refused to reveal the extent of savings	0.226			0.207		
	(0.162)			(0.563)		
Respondent has a loan	0.553***	0.608***	0.947***	0.860***		
	(0.072)	(0.070)	(0.091)	(0.131)		
Alphas: cut point parameters	0.318	−1.302***	−3.009***	3.104***	1.045**	−0.585
	(0.202)	(0.200)	(0.211)	(0.577)	(0.464)	(0.448)
Country dummies	Yes			Yes		
Log-likelihood	−10,187.8			−1,344.4		
Probability > Chi squared (df_m)	511.29 (43)			221.17 (41)		
Pseudo R-squared (McFadden)	0.045			0.095		
BIC	20,790.5			3,000.6		
Number of observations	8,253			1,199		
Unconditional mean of dependent variable	1.07			2.03		

Source: OeNB Euro Survey 2020.

Note: Dependent variable with four ordered categories: (1) no measures, (2) 1 to 2 measures, (3) 3 to 4 measures and (4) 5+ measures. Coefficients from a generalized ordered logit estimation with country dummies using sampling weights; robust standard errors are adjusted for clustering at the primary sampling unit (PSU) level and reported in parentheses. ***, **, * denote that the coefficient is statistically different from zero at the 1%, 5% and 10% level, respectively. Variable parameters are assumed for three and two explanatory variables (=gammas), respectively, proportional parameters for all other explantory variables (=betas) as well as for all country dummies except for Albania, Bosnia and Herzegovina and North Macedonia in specification 1 and except for Albania, Poland and Romania in specification 2. For a definition of variables, see annex table A1. Base categories are: respondent aged 35 to 44 years; 2nd income tercile; unemployed, inactive, retired or student; dwelling in poor condition, needs major repair; accumulated no savings; and Czech resident. The sample comprises all ten OeNB Euro Survey countries.

Table A4

Generalized ordered logit regression: number of consumption-reducing measures

Sample split by type of income shock	Any income shock: no (1)		Income shock related COVID-19: no (2)	
	Betas	Gammas (variable parameters)	Betas	Gammas (variable parameters)
Dependent variable base category	No measures	1 measure	No measures	1 measure
	Coefficients		*Coefficients*	
Job in a lockdown industry (dummy)	0.204**	0.099	0.220***	0.072
	(0.080)	(0.085)	(0.072)	(0.071)
Economic situation will improve over the next 5 years (7-point Likert scale)	−0.022		−0.036**	
	(0.019)		(0.017)	
Better financial situation of the household over the next 12 months (7-point Likert scale)	−0.013		−0.003	
	(0.021)		(0.019)	
Expected inflation over the next 12 months (3 categories)	0.356***		0.420***	
	(0.053)		(0.049)	
Respondent aged under 25 years	−0.271**		−0.286**	−0.484***
	(0.135)		(0.118)	(0.134)
Respondent aged 25 to 34 years	−0.124		−0.121	
	(0.097)		(0.084)	
Respondent aged 45 to 54 years	0.081		0.105	
	(0.092)		(0.080)	
Respondent aged 55 to 64 years	0.044		0.098	
	(0.103)		(0.085)	
Respondent aged 65 to 74 years	0.008		−0.138	
	(0.133)		(0.111)	
Respondent aged 75 years and above	0.087		−0.234	
	(0.168)		(0.151)	
Male (dummy)	0.003		−0.028	
	(0.055)		(0.048)	
Employed (dummy)	−0.031		−0.066	
	(0.086)		(0.072)	
Self-employed (dummy)	−0.215*		−0.175*	
	(0.120)		(0.106)	
Household net income: 1st tercile	−0.226**	−0.101	−0.104	
	(0.093)	(0.097)	(0.077)	
Household net income: 3rd tercile	−0.174**		−0.167**	
	(0.083)		(0.070)	
Household net income: not reported	−0.318***	−0.194*	−0.229***	
	(0.098)	(0.104)	(0.082)	
Household receives remittances	−0.271**		−0.290**	
	(0.116)		(0.115)	
Household size (number of persons)	0.035		0.080***	
	(0.035)		(0.030)	
Children (dummy)	0.122		0.060	
	(0.086)		(0.072)	
Secondary residence (dummy)	−0.133*		−0.220***	
	(0.078)		(0.068)	
Dwelling is excellent and well maintained	−0.330***		−0.353***	−0.263**
	(0.111)		(0.103)	(0.103)
Dwelling in good condition	−0.090		−0.042	
	(0.101)		(0.090)	

Source: OeNB Euro Survey 2020.

Note: Dependent variable with three ordered categories: (1) no measures, (2) 1 measure and (3) 2 measures. Coefficients from a generalized ordered logit estimation with country dummies using sampling weights; robust standard errors are adjusted for clustering at the primary sampling unit (PSU) level and reported in parentheses. ***, **, * denote that the coefficient is statistically different from zero at the 1%, 5% and 10% level, respectively. Variable parameters are assumed for four explanatory variables (=gammas), proportional parameters for all other explantory variables (=betas) as well as for all country dummies except for North Macedonia in specification 1 and except for Albania and North Macedonia in specification 2. For a definition of variables, see annex table A1. Base categories are: respondent aged 35 to 44 years; 2nd income tercile; unemployed, inactive, retired or student; dwelling in poor condition, needs major repair; accumulated no savings; and Czech resident. The sample comprises all ten OeNB Euro Survey countries.

Generalized ordered logit regression: number of consumption-reducing measures

Sample split by type of income shock	Any income shock: no (1)		Income shock related COVID-19: no (2)	
	Betas	Gammas (variable parameters)	Betas	Gammas (variable parameters)
Dependent variable base category	No measures	1 measure	No measures	1 measure
	Coefficients		*Coefficients*	
Respondent has accumulated savings	−0.134*	−0.278***	−0.153**	−0.246***
	(0.078)	(0.087)	(0.070)	(0.072)
Refused to reveal the extent of savings	0.064		0.033	
	(0.168)		(0.160)	
Respondent has a loan	0.367***		0.394***	
	(0.074)		(0.064)	
Alphas: cut point parameters	−0.564**	−1.630***	−0.273	−1.248***
	(0.257)	(0.259)	(0.230)	(0.228)
Country dummies	Yes		Yes	
Log-likelihood	−5,806.0		−7,775.5	
Probability > Chi squared (df_m)	284.55 (39)		441.28 (40)	
Pseudo R-squared (McFadden)	0.040		0.054	
BIC	11,967.9		15,927	
Number of observations	5,891		7,739	
Unconditional mean of dependent variable	0.74		0.92	

Source: OeNB Euro Survey 2020.

*Note: Dependent variable with three ordered categories: (1) no measures, (2) 1 measure and (3) 2 measures. Coefficients from a generalized ordered logit estimation with country dummies using sampling weights; robust standard errors are adjusted for clustering at the primary sampling unit (PSU) level and reported in parentheses. ***, **, * denote that the coefficient is statistically different from zero at the 1%, 5% and 10% level, respectively. Variable parameters are assumed for four explanatory variables (=gammas), proportional parameters for all other explantory variables (=betas) as well as for all country dummies except for North Macedonia in specification 1 and except for Albania and North Macedonia in specification 2. For a definition of variables, see annex table A1. Base categories are: respondent aged 35 to 44 years; 2nd income tercile; unemployed, inactive, retired or student; dwelling in poor condition, needs major repair; accumulated no savings; and Czech resident. The sample comprises all ten OeNB Euro Survey countries.*