

Bui, Dzung; Dräger, Lena; Hayo, Bernd; Nghiem, Giang

Working Paper

The Effects of Fiscal Policy on Households during the COVID-19 Pandemic: Evidence from Emerging Economies

MAGKS Joint Discussion Paper Series in Economics, No. 20-2021

Provided in Cooperation with:

Faculty of Business Administration and Economics, University of Marburg

Suggested Citation: Bui, Dzung; Dräger, Lena; Hayo, Bernd; Nghiem, Giang (2021) : The Effects of Fiscal Policy on Households during the COVID-19 Pandemic: Evidence from Emerging Economies, MAGKS Joint Discussion Paper Series in Economics, No. 20-2021, Philipps-University Marburg, School of Business and Economics, Marburg

This Version is available at:

<https://hdl.handle.net/10419/234874>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.



No. 20-2021

Dzung Bui, Lena Dräger, Bernd Hayo and Giang Nghiem

**The Effects of Fiscal Policy on Households during the
COVID-19 Pandemic: Evidence from Emerging Economies**

This paper can be downloaded from
<http://www.uni-marburg.de/fb02/makro/forschung/magkspapers>

Coordination: Bernd Hayo • Philipps-University Marburg
School of Business and Economics • Universitätsstraße 24, D-35032 Marburg
Tel: +49-6421-2823091, Fax: +49-6421-2823088, e-mail: hayo@wiwi.uni-marburg.de

The Effects of Fiscal Policy on Households during the COVID-19 Pandemic: Evidence from Emerging Economies

Dzung Bui*, Lena Dräger†
Bernd Hayo‡, Giang Nghiem§

May 11, 2021

Abstract

In response to the economic crisis created by the COVID-19 pandemic, many governments provided financial assistance to households. Using representative consumer surveys conducted during the pandemic in 2020, we examine the effects of this fiscal policy instrument on households in two emerging economies, Vietnam and Thailand. Our paper contributes to the literature by studying consumer sentiment and durable spending responses to government financial support and the underlying transmission channels for these responses. We find that government support improves consumer sentiment and increases the likelihood of durable spending. Possible channels for these effects include more optimistic macroeconomic expectations and higher trust in the government's ability to deal with the pandemic, as well as less concern about the general impact of the crisis. We also find that financial support improves individuals' mental health and life satisfaction. Our results suggest that government financial support not only helps stimulate the economy but also enhances people's well-being more generally.

Keywords: Fiscal policy; Financial support of households; Consumer sentiment; Durables spending; Expectations; Government trust; COVID-19; Thailand; Vietnam.

JEL classification: E62; E71; D12; D83; H31

*University of Marburg, Email: buid@wiwi.uni-marburg.de

†Leibniz University of Hannover, Email: draeger@gif.uni-hannover.de

‡University of Marburg, Email: hayo@wiwi.uni-marburg.de

§Leibniz University of Hannover, Email: nghiem@gif.uni-hannover.de

1 Introduction

In response to the economic crisis created by the COVID-19 pandemic, many governments provided financial support to households. In light of the substantial public funds involved, it is important to assess the effectiveness of this fiscal policy instrument. Indeed, a growing literature studies the effect of government financial support on consumer spending, including, among others, [Baker et al. \(2020\)](#), [Bayer et al. \(2020\)](#), [Christelis et al. \(2020\)](#), [Coibion et al. \(2020a\)](#), and [Karger and Rajan \(2020\)](#). Our paper contributes to this literature by studying consumer sentiment and durable spending responses to government financial support and the underlying transmission channels for these responses. In particular, we focus on the transmission channels of macroeconomic expectations, trust in the government in dealing with the pandemic, and households concerns due to the pandemic.

As an important part of the fiscal policy package created to reduce the economic damage caused by the COVID-19 pandemic, the governments of Vietnam and Thailand provided financial support to qualifying households for a period of up to three months, typically from April to June 2020. The aid targeted individuals whose jobs were affected by the pandemic as well as poor households more generally (in Vietnam) and farmers (in Thailand). As a consequence of these programs, each eligible individual received financial assistance ranging from \$35 to \$240 per month in Vietnam and up to \$412 per month in Thailand (U.S. dollar in PPP in 2019). This fiscal policy response was unprecedented in both countries.

To assess the impact of financial support on households, our study uses two novel Internet-based consumer surveys conducted in Vietnam and Thailand in May and December 2020. For each country and wave, the surveys include about 1,000 respondents aged 18 or older. Our analysis focuses on the second wave, as it contains information about government cash transfers received by individuals. We employ the first wave mainly for robustness checks. According to our survey, about 30% and 60% of Vietnamese and Thai respondents, respectively, benefited from pandemic-related financial support from the government. Our survey combines various measures of macroeconomic expectations, an indicator for trust in the government, various household concerns caused by the pandemic, and subjective well-being, which makes it possible to study not only the effects of financial support on consumer sentiment, but also identify some of their underlying channels.

Our main findings suggest that the fiscal spending programs had statistically significant and economically substantial effects. Respondents who received financial support from the government because of the pandemic show a 7% and 16% increase in consumer sentiment relative to the average value of consumer sentiment in Vietnam and Thailand, respectively. The likelihood that they bought durable goods in the period from May to December 2020 rises by 22 and 13 percentage points (pp), respectively. Regarding future consumption, financial assistance recipients indicate an increase in the probability that

they will certainly buy durable goods in the next 12 months by 7 pp in Vietnam and 6 pp in Thailand. Moreover, we find that financial support increases individuals' mental well-being, for example, by inducing feelings such as calm and being less nervous, and their overall life satisfaction.

Further analysis suggests several possible channels through which financial support from the government leads to an increase in consumer sentiment and durable spending. First, financial assistance recipients express more optimistic macroeconomic expectations, such as lower expected inflation and unemployment rates as well as higher expected economic growth. Second, they trust more in the government's ability to mitigate the side effects of social distancing on the economy. They are also more likely to state that the government has been doing a good job in terms of supporting households and firms affected by the pandemic. Finally, government financial support reduces respondents' pandemic-induced concerns about their health, job security, personal financial situation, and the economy in general. Using mediation analysis, we discover that all these channels affect consumer sentiment in a significantly positive way. In both countries, the largest indirect effect on consumer sentiment is due to people's assessment of government policies supportive of firms and households affected by the pandemic.

Our results control for a large number of socio-demographic and other individual characteristics, which ensures that the effects of government financial support on consumer sentiment and durable spending, as well as the transmission channels mentioned above, are not explained by any of these factors. As the fiscal programs in both countries target specific groups, we use Heckman selection models to control for a potential selection bias. Since our core results remain unchanged, we conclude that selection bias is not a major concern. Furthermore, we employ the information from the first survey wave conducted in May 2020 to control for lagged values of our left-hand-side variables in the baseline models. These robustness checks show that our results remain mostly unchanged, implying that government financial support also has positive dynamic effects on the change in our variables of interest within individuals over a period of seven months.

Our paper makes two main contributions to the current literature on the effect of fiscal policy on households' consumption during the pandemic (Baker et al., 2020; Bayer et al., 2020; Christelis et al., 2020; Coibion et al., 2020a; Karger and Rajan, 2020). First, we shed light on the mechanisms underlying the consumption response to the government cash transfer, particularly the transmission effect via macroeconomic expectations, trust in the government's ability to deal with the pandemic, and households' concerns due to the pandemic. To the best of our knowledge, this paper is one of the first attempts to consider such a variety of possible channels. By doing so, we also add to the literature studying the direct effect of the pandemic on aggregate expectations (Binder, 2020; Coibion et al., 2020b), trust in government (Devine et al., 2020; Sibley et al., 2020) and household concerns (Binder, 2020; Christelis et al., 2020).

Second, we provide new empirical evidence on the effect of cash transfers during the COVID-19 pandemic on households' consumption in the emerging economies Vietnam and Thailand, whereas the current literature focuses on industrialized economies. For instance, in the United States, a burgeoning literature studies the effect of the one-time cash transfers from the CARES Act in response to the COVID-19 pandemic. [Karger and Rajan \(2020\)](#) and [Baker et al. \(2020\)](#) report that this policy increases recipients' spending immediately upon receiving the cash payments and [Bayer et al. \(2020\)](#) show positive output multipliers for both unconditional and conditional cash payments. In addition, [Baker et al. \(2020\)](#) and [Coibion et al. \(2020a\)](#) provide evidence that consumers spend more on nondurable goods and less on durables compared to the economic stimulus in 2008. [Christelis et al. \(2020\)](#) survey consumers in the six largest economies of the euro area and find that household concerns due to the pandemic reduce consumption.

We add to this literature by analyzing two emerging countries from the same region in Asia. Moreover, while the main measures describing households' consumption patterns in the previous literature are total household consumption expenditure and some of its subcategories, we focus on individual consumer sentiment and durable spending. The individual index of consumer sentiment is based on responses to the same questions that are used to calculate the aggregate consumer sentiment index in the University of Michigan Surveys of Consumers ([Bui et al., 2021](#)): consumers' current and expected financial situation, their macroeconomic expectations, and their readiness to purchase durable goods. Regarding durable spending, we measure not only respondents' actual spending, but also their plans to buy durable goods in the next 12 months. We focus on durable consumption, as nondurable good consumption is dominated by less elastic expenditure categories, such as food and clothing.

Our paper is also more generally related to a large body of literature studying the impact of cash transfers on households in emerging economies before the pandemic, such as the effect on reducing poverty, improving health conditions, and fostering economic autonomy (see [Bastagli et al. \(2016\)](#) for a review). For Kenya, [Egger et al. \(2019\)](#) show large positive effects of cash transfers on household income and consumption in rural areas and [Haushofer and Shapiro \(2016\)](#) find a strong consumption response to unconditional cash transfers at the village and household levels. Moreover, lump-sum transfers are more likely to be spent on durables, a finding that motivated us to focus our study on durables. Moving beyond consumption, [Haushofer and Shapiro \(2016\)](#) also report an increase in psychological well-being (happiness, life satisfaction, reduction in stress and depression), which is consistent with research conducted by [Lund et al. \(2011\)](#), who demonstrate that conditional cash transfer and asset promotion programs have positive mental health benefits. Finally, [Evans et al. \(2019\)](#) show for Tanzania that cash transfers significantly enhance trust in elected leaders.

Our research has at least three important policy implications. (i) Government financial support is effective in terms of stimulating current and planned consumption spending.

(ii) The cash transfers improve people’s economic outlook by making consumers more optimistic about their own economic situation as well as the general macroeconomic situation. (iii) These transfers have various effects over and above a direct consumption response. They significantly bolster households’ trust in the government, reduce personal concerns, and raise subjective well-being. Thus, at least during times of crisis, government financial assistance appears to be a highly effective fiscal policy instrument.

The rest of this paper is organized as follows. Section 2 presents the data, Section 3 shows the results and robustness checks, and Section 4 concludes.

2 Data

To study the impact of COVID-19 on households’ well-being and economic situation, we implemented two waves of online surveys during May and December 2020 in Vietnam and Thailand. In Vietnam (Thailand), 3,300 respondents (2,200 respondents) were surveyed over the period May 4–9, 2020 (May 4–10, 2020). We conducted a second wave over the period December 18–27, 2020 and re-interviewed 1,016 Vietnamese and 1,189 Thai respondents from the first wave. Our surveys were conducted by GMO-Z.com RUNSYSTEM, one of the largest private market research and public opinion survey companies in South-East Asia. The survey company has a large number of registered participants who are familiar with online surveys. All participants who complete the survey receive “reward points,” which can be exchanged for gifts.

Our analysis mainly relies on the second wave, in which we additionally asked respondents whether they had received any financial support from the government due to the pandemic. This is a unique dataset because it combines consumer sentiment indicators, actual and planned durable spending, macroeconomic expectations, trust in the government, household concerns, and subjective well-being. To ensure representativeness of our samples, we construct population weights based on the respective national distribution of age, education, and share of people living in an urban area and employ these throughout our empirical analysis. In all estimations, we control for a large number of demographic characteristics, such as age, gender, marital status, living area, income, employment status, and health conditions, as well as pandemic-induced job loss and income loss.

2.1 Key variables of interest

Our main explanatory variable is a dummy from the second survey wave conducted in December 2020 indicating whether respondents and/or other household members received financial support from the government due to the COVID-19 crisis (*fin_support*). We study the effect of government financial support on various outcome variables. First, we employ the measure of individual consumer sentiment proposed by Bui et al. (2021), which is a simple average of the following five qualitative questions: (i) perceptions about

the financial situation of the household in the past 12 months, (ii) expectations about the financial situation of the household in the next 12 months, (iii) expectations about the national business condition in the next 12 months, (iv) expectations about the national economic situation in the next five years, and (v) current readiness to spend on durables. Thus, individual consumer sentiment ranges from 1 to 5, with higher values denoting more optimistic sentiment. Note that these five questions are used in the University of Michigan Surveys of Consumers to calculate an aggregate consumer sentiment index. In addition, we inquire whether respondents purchased durable goods between May and December 2020 (*purchased_durable*) and ask them about their plans to buy durable goods in the next 12 months (*plans_to_buy_durables*).

Other key variables of interest include subjective well-being (measured by feeling calm or nervous, and life satisfaction), macroeconomic expectations (with respect to inflation, unemployment, economic growth), assessment of government in supporting firms (*govt_support_firm*) and households (*govt_support_household*) affected by the pandemic, trust in the government in mitigating the negative effects of the pandemic on the economy (*govt_trust_econ*), and household concerns due to COVID-19 (with respect to health, job security, financial situation, and the economy in general). In the Appendix, we show summary statistics for all our variables of interest (Table A1), as well as the exact wording of the underlying questions (see Appendix A.4).

In the baseline analysis, we exclude respondents who do not know the answer to or do not voice an opinion on the following topics: macroeconomic expectations, assessment of and trust in government, personal concerns, and consumer sentiment. Our final samples consist of 847 Vietnamese and 713 Thai respondents who participated in both waves. As a robustness check, we follow the approach taken by the University of Michigan Surveys of Consumers and assume that respondents who state that they do not know the answer or do not form opinions are expressing a neutral position (e.g., expecting “no change” or viewing policies as “neither good nor bad” or being “not concerned at all”).¹ We re-estimate our baseline results with these extended samples, which include 1,016 observations for Vietnam and 1,189 observations for Thailand (see Appendix A.3.3).

2.2 Stylized Facts about the Impact of COVID-19 on Households and Assessment of Government Reaction

Our analysis reveals that the COVID-19 pandemic has had severe negative effects on Vietnamese and Thai consumers. Figure 1 shows the impact of COVID-19 on our respondents’ economic situation and concerns. First, a majority of households from both countries, 57% in Vietnam and 72% in Thailand, have lost their jobs or suffered a reduction in work-

¹The aggregate consumer sentiment index in the University of Michigan Surveys of Consumers is calculated by evaluating the difference in shares of positive and negative answers. All other answers (including missing values) are implicitly treated as neutral. This approach is also taken by Statistics Netherlands to calculate the aggregate consumer confidence index.

ing hours. This and other factors contribute to a situation in which the vast majority of households in both countries (approximately 80%) report income losses. While these numbers are similar to those measured in other surveys conducted in the same countries during the COVID-19 pandemic (Morgan and Trinh, 2020; MDRI and UNDP, 2020),² they are considerably higher than those reported from industrialized countries (Parker et al., 2020; Major et al., 2020).³ Second, the pandemic exacerbates personal concerns and reduces mental health. In both countries, consumers have similar concerns about their health, job security, and personal finances, as well as about the whole economy. Only a minority of respondents have no concerns about these topics, with an underlying range of 8-13% and 3-5% in Vietnam and Thailand, respectively. Consumers worry most about the effects of COVID-19 on their households' financial situation and the whole economy (Vietnam: 48% somewhat worried and 43-44% very worried; Thailand: 34-40% somewhat worried and 57-62% very worried). These results suggest a high degree of awareness about the seriousness of the pandemic in both countries, which corresponds to the worldwide personal anxiety due to COVID-19 shown in other surveys (Fetzer et al., 2020).

Despite these similarities, Thai and Vietnamese respondents report opposite views on their governments' efforts to mitigate the negative economic effects of the pandemic, as shown in Figure 2 (similar results are also reported in Dölitzsch (2020) and Fetzer et al. (2020)).⁴ Although almost 60% of our Thai respondents stated that they or someone in their household already received financial assistance, they are neither content with their government's support to individuals and households (44% answer that the government does a "poor job," 43% answer "fair job," and only 13% say "good job"), nor with its support to firms (48% say "poor job," 39% say "fair job," and only 13% state "good job").⁵ In light of this assessment, they put little trust in their government's ability to return the economy to pre-pandemic levels (about 49% have no trust, 29% have a neutral view, and only 21% have at least some trust).

²Conducting population surveys in eight South-East Asian countries during May and July 2020, Morgan and Trinh (2020) show that about 50% of households in Thailand and Vietnam experienced job losses and/or a reduced work load and two-thirds of respondents in Vietnam and three-quarters in Thailand report income losses. Another survey in Vietnam conducted during September 2020 finds that 65% of respondents report income losses due to the pandemic (MDRI and UNDP (2020)).

³During the COVID-19 pandemic, Parker et al. (2020) find that 25% of U.S. adults report that they or their household's members lost a job or were laid off, and 32% of U.S. adults say that they or their household's members had to reduce their working hours or took a pay cut as of mid August 2020. Major et al. (2020) document in their September/October 2020 survey that 12.7% of U.K. respondents experienced job loss or zero working hours, and 45% of U.K. respondents suffered from earning losses.

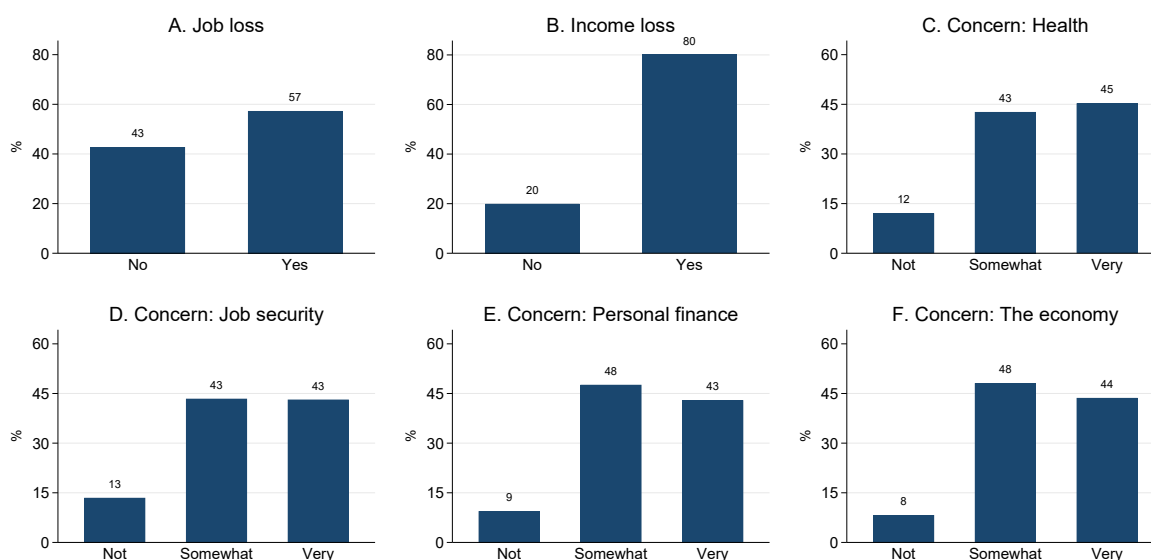
⁴In March 2020, Dölitzsch (2020) surveyed citizens from 45 countries and finds that Thailand had the highest share of respondents who believe that their government responds too little to the pandemic, while Vietnam had the highest share of respondents who think that their government responds appropriately. In March/April 2020, Fetzer et al. (2020) surveyed citizens from 58 countries and reports that only 5% of Vietnamese citizens think their government's responses are insufficient, whereas the corresponding number in Thailand is 56%. In the first wave of our survey in May 2020, we find a similar disagreement about their respective government's reaction between Thai and Vietnamese respondents

⁵According to Ariyapruchya et al. (2021), around 54% (300 out of 555 billion baht) of the authorized fiscal funds for cash transfers had been disbursed in Thailand by December 2020.

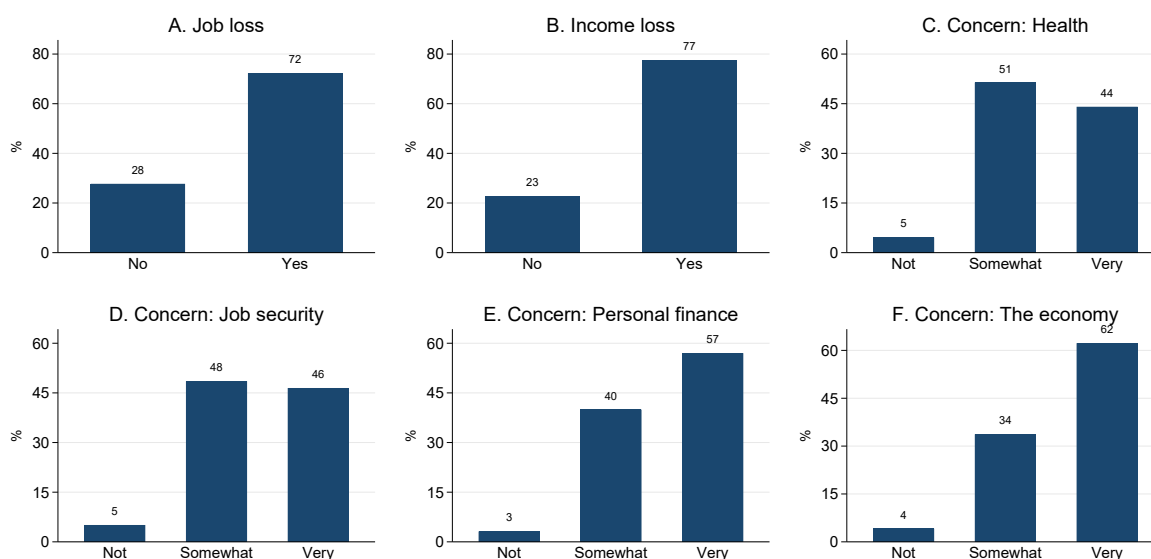
In contrast, most Vietnamese people believe that their government does well in terms of support to individuals and households (only 17% say “poor job,” 31% answer “fair job,” and 52% state “good job”) as well as support to firms (only 15% say “poor job,” 37% answer “fair job,” and 49% state “good job”). Moreover, they firmly trust that their government will revive the economy (about 5% have no trust, 27% have a neutral view, and 67% have at least some trust). These results are astonishing in light of the fact that less than one-third (30%) of Vietnamese respondents actually benefited from government financial assistance.⁶ The diverging results between the two countries can be linked to the pre-crisis level of government assessment, which was much more positive in Vietnam (66% respondents say “good job”) than in Thailand (14% respondents say “good job”). This suggests that government trust is to some extent deep-rooted and only partially influenced by actual government policy.

⁶According to survey data from September 2020, about 20% of Vietnamese received financial support from the government (MDRI and UNDP (2020)). As of 25 December 2020, VND 12.8 trillion had been disbursed to roughly 13 million people and 30,569 household businesses (Ngan-Anh, 2021).

Figure 1: The Impact of COVID-19 on Households



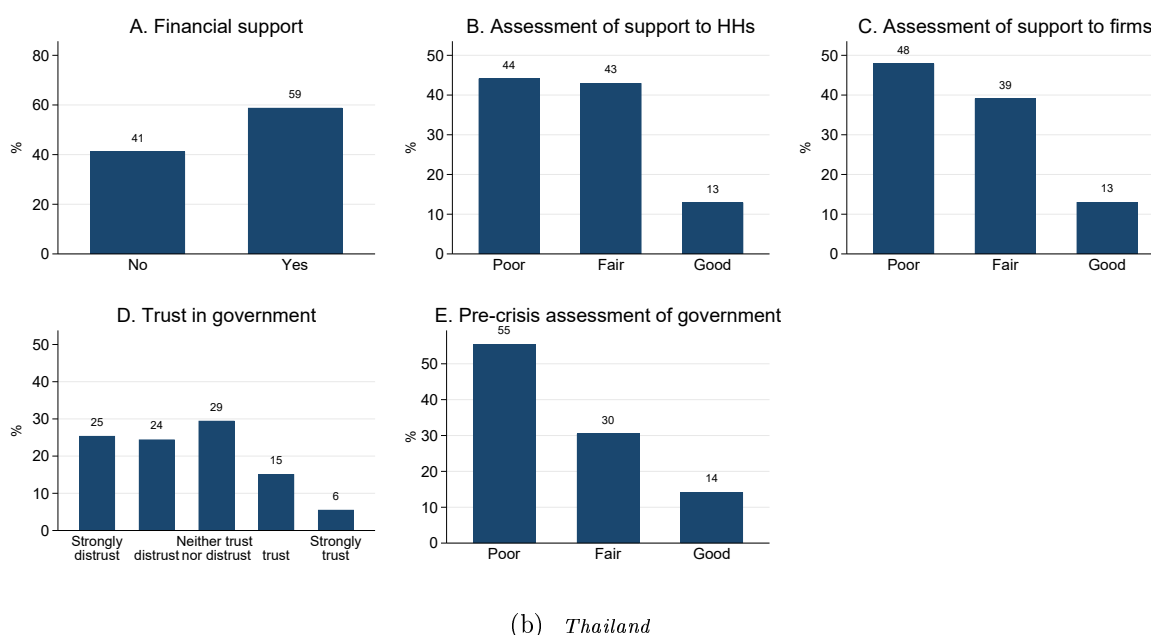
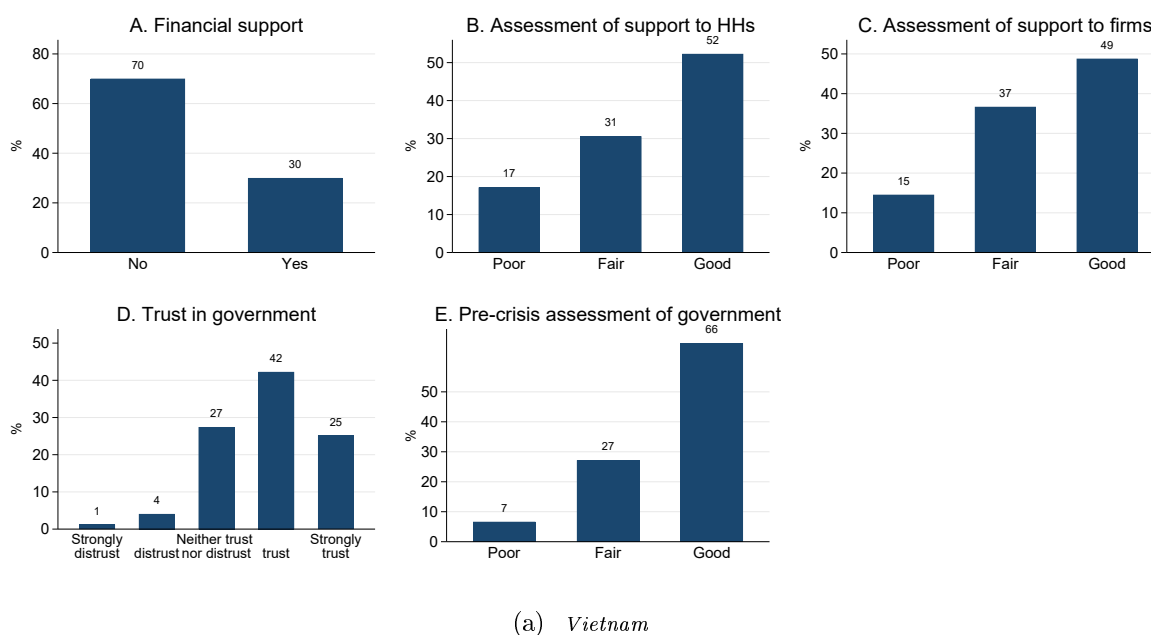
(a) Vietnam



(b) Thailand

Note: The survey questions for each panel are the following. Panel A: “Since May 2020, did you or anyone else in your household lose their job or have to work less because of COVID-19?” Panel B: “Since May 2020, did you or anyone else in your household experience income losses because of COVID-19?” Panels C/D/E/F: “How concerned are you about the effects that COVID-19 might have on your health or the health of other members of your household/your job security or that of other members of your household/the financial situation of your household/ the economy.”

Figure 2: Financial Support and the Assessment of Government Reaction



Note: The survey questions for each panel are the following. Panel A: “Did you or anyone else in your household receive financial support from the government due to COVID-19?” Panel B: “Please think about the economic policies initiated by the government to support individuals and households affected by the COVID-19 pandemic. Would you say the government has been doing a good job, fair job, or a poor job?” Panel C: “Now think about the economic policies initiated by the government to support firms affected by the COVID-19 pandemic. Would you say the government has been doing a good job, fair job, or a poor job?” Panel D: “How much do you trust the government to mitigate the negative side-effects of social distancing on the economy, such as an increase in unemployment and a fall in production?” Panel E: “As to the macroeconomic policy of the government before the COVID-19 outbreak—we mean steps taken to fight inflation or unemployment—would you say the government was doing a good job, fair job, or a poor job?”

3 Results

We estimate the effect of COVID-19-related financial support from the government on our dependent variables of interest using the following equation:

$$Y_{it} = \alpha + \beta fin_support_{it} + \gamma X_{it} + \epsilon_{it}, \quad (1)$$

where Y_{it} is the outcome of interest, that is, households' consumption indicators (consumer sentiment, purchased durables, plans to buy durables), subjective well-being (mental health and life satisfaction), macroeconomic expectations (with respect to inflation, unemployment, GDP growth), trust in the government in dealing with the pandemic, and personal concerns due to COVID-19 (health, job security, financial situation, the general economy); $fin_support_{it}$ is a dummy variable indicating whether household i received financial support from the government due to COVID-19; X_{it} is a vector of control variables and includes household income per capita, employment status, dummies measuring whether any household members experienced job loss or income losses due to the pandemic, subjective health assessment, as well as various demographics, including urban/rural area, age, age-squared, education, gender, marital status, number of children, and number of old people in the household. β is our coefficient of interest.

3.1 The Effect of Financial Support on Consumption and Subjective Well-being

Table 1 shows that financial support has a significantly positive influence on consumer sentiment and durable spending. Based on Columns 1 and 2, we compute that receiving financial support corresponds to a 7% and 16% increase in consumer sentiment compared to the sample averages in Vietnam and Thailand, respectively. These effects amount to a moderate change of about 0.4 standard deviations in the consumer sentiment index in both countries. Columns 3 and 4 show that Vietnamese and Thai beneficiaries are 22 pp and 13 pp, respectively, more likely to report that they bought durable goods between May and December 2020. Regarding future consumption, financial assistance recipients indicate an increase in the probability that they will certainly buy durable goods in the next 12 months of 6 pp in Vietnam and 5 pp in Thailand. These effects are not only highly statistically significant, but also economically meaningful, suggesting that government financial support plays an important role in stimulating household consumption during the pandemic.

As the COVID-19-related government programs aim at both stimulating the economy and improving social protection, we study the effect of financial support on subjective well-being outcomes, such as mental health (feeling calm or nervous) and overall life satisfaction. Table 2 sets out the results. For both countries, we find that financial support positively affects mental health and life satisfaction. Vietnamese beneficiaries show a 3

Table 1: Marginal Effects of Fiscal Policy on Consumer Sentiment and Durable Spending

	consumer_sentiment		purchased_durables		plans_to_buy_durables	
	(1)	(2)	(3)	(4)	(5)	(6)
	VN	TL	VN	TL	VN	TL
fin_support	0.23*** (0.06)	0.41*** (0.10)	0.22*** (0.05)	0.13** (0.05)	0.06* (0.03)	0.05** (0.02)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
R ²	0.151	0.122				
Pseudo R ²			0.096	0.067	0.048	0.041
N observations	847	713	847	713	847	713

Note: Demographic controls include job loss, income loss, log of household income per capita, employment status, urban/rural area, age, age squared, education, gender, marital status, number of children, number of the old, and subjective health assessment. We report coefficients based on population weights from OLS estimations (column 1 & 2), marginal effects of probit estimations (column 3 & 4), and marginal effects for choosing the highest answer category from ordered probit estimations (column 5 & 6). Standard errors are in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

pp lower likelihood of reporting that they strongly agree with the statement that they are nervous when thinking about their current situation. In the case of Thailand, we find a 3 pp higher probability that beneficiaries strongly agree with the statement that they are calm and relaxed. Vietnamese and Thai respondents who received financial support have an increased likelihood of 4 pp and 2 pp, respectively, of answering that they are totally satisfied with their life as a whole. While the magnitude of these effects is small, the effects corroborate our previous results that financial support makes individuals more optimistic with respect to consumer sentiment and willingness to spend on durables.

Table 2: Marginal Effects of Government Financial Support on Subjective Well-Being

	nervous		calm		life_satisfaction	
	(1)	(2)	(3)	(4)	(5)	(6)
	VN	TL	VN	TL	VN	TL
fin_support	-0.03** (0.01)	0.02 (0.02)	0.002 (0.02)	0.03** (0.01)	0.04*** (0.01)	0.02** (0.01)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Pseudo R ²	0.030	0.014	0.043	0.023	0.083	0.048
N observations	847	713	847	713	847	713

Note: Demographic controls include job loss, income loss, log of household income per capita, employment status, urban/rural area, age, age squared, education, gender, marital status, number of children, number of the old, and subjective health assessment. We report marginal effects for choosing the highest answer category from ordered probit estimations based on population weights. Standard errors are in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

3.2 Transmission Channels of Financial Support

In this subsection, we investigate three potential channels for explaining how government cash transfers affect economic outcomes at the household level, that is, consumer sentiment and durable spending. Do consumers spend more because they (i) are more optimistic about future macroeconomic development, (ii) believe the government has been doing a good job in terms of mitigating the negative effects of the pandemic on the economy, or (iii) are less concerned about the effect of the pandemic on their health, job security, financial situation, and the economy in general?

(i) Macroeconomic Expectations: Table 3 shows the effect of government support on qualitative measures of macroeconomic expectations with respect to inflation, unemployment, and economic growth (GDP). In both countries, receipt of financial support leads to expectations of lower inflation and unemployment and higher economic growth in the next 12 months. For Vietnamese respondents, the likelihood that beneficiaries of financial support state that inflation and unemployment will increase significantly declines by 9 pp and 5 pp, respectively. In the Thai sample, financial support reduces the likelihood of stating that unemployment (GDP growth) will increase by 0.8 pp (4 pp). All the estimated effects are statistically significant at conventional levels, except for inflation expectations (GDP growth expectations) in the Thai (Vietnamese) sample. The effects on expected unemployment and economic growth are intuitive. From a macroeconomic perspective, the negative effect of government financial support on inflation expectations is somewhat surprising, as an increase in government spending might be expected to raise inflation. However, one explanation for this result is that financial support recipients have more trust in the government being able to manage the economy, which includes keeping the inflation rate under control. This interpretation is consistent with our results from studying government trust. A second explanation arises from the observation that high inflation is often interpreted as a negative economic signal. Thus, low inflation expectations may mirror overall optimism regarding future macroeconomic development (Binder, 2020). This interpretation is in line with our findings, shown below, regarding the effect of financial support on households' concerns about the general economy.

(ii) Assessment of and Trust in the Government Reaction: Table 4 shows significantly positive effects of financial support on the assessment of and trust in the government in dealing with negative spillovers to the economy from the pandemic. The likelihood that beneficiaries state that the government has been doing a good job to support firms and households affected by the pandemic increases by about 22–25 pp in the Vietnamese sample and by 13–14 pp in the Thai sample. Moreover, beneficiaries in Vietnam and Thailand have a 9 pp and 5 pp, respectively, higher probability of saying that they strongly trust the government to mitigate the negative side-effects on the economy of social distancing. Our results remain generally unchanged when we additionally control for the assessment of the government's macroeconomic policies before the pandemic,

implying that financial support does affect assessment of and trust in the government's responses to the pandemic. Although the marginal effects of receiving financial support on government trust are relatively larger in Vietnam, they are not statistically different from those estimated for Thailand. Note, however, that the average level of assessment of and trust in the government is significantly lower in Thailand.

Table 3: Marginal Effects of Government Financial Support on Macroeconomic Expectations

	inflation_expectations		unemployment_expectations		gdp_expectations	
	(1)	(2)	(3)	(4)	(5)	(6)
	VN	TL	VN	TL	VN	TL
fin_support	-0.09*** (0.02)	0.008 (0.04)	-0.05*** (0.02)	-0.08* (0.05)	0.035 (0.02)	0.04*** (0.01)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Pseudo R ²	0.037	0.021	0.028	0.016	0.039	0.024
N observations	847	713	847	713	847	713

Note: Demographic controls include job loss, income loss, log of household income per capita, employment status, urban/rural area, age, age squared, education, gender, marital status, number of children, number of the old, and subjective health assessment. We report marginal effects for choosing the highest answer category from ordered probit estimations based on population weights. Standard errors are in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 4: Marginal Effects of Government Financial Support on the Assessment of and Trust in Government in Dealing with COVID-19

	govt_support_firms		govt_support_households		govt_trust_econ	
	(1)	(2)	(3)	(4)	(5)	(6)
	VN	TL	VN	TL	VN	TL
fin_support	0.25*** (0.05)	0.14*** (0.03)	0.22*** (0.05)	0.13*** (0.03)	0.09** (0.04)	0.05*** (0.01)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Pseudo R ²	0.072	0.072	0.098	0.068	0.041	0.039
N observations	847	713	847	713	847	713

Note: Demographic controls include job loss, income loss, log of household income per capita, employment status, urban/rural area, age, age squared, education, gender, marital status, number of children, number of the old, and subjective health assessment. We report marginal effects for choosing the highest answer category from ordered probit estimations based on population weights. Standard errors are in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

(iii) Households' Concerns Due to the Pandemic: The results set out in Table 5 show that, in both countries, government financial support significantly reduces various household concerns due to the pandemic. Vietnamese beneficiaries are less likely to answer that because of the pandemic they are very concerned about their health and job security (19 pp), financial situation (13 pp), and the economy in general (18 pp). In Thailand, government financial support reduces the probability of respondents reporting

that they are very concerned about the economy in general by 11 pp, whereas the negative marginal effects for the other concerns are not statistically significant. However, the effects of financial support on concerns about job security and financial situation become statistically significant when using the extended sample (see Section 2 and Table A16 in the Appendix). This suggests that these insignificant effects are due to the smaller sample size in the baseline analysis. As the magnitude of the estimated effects is large, we conclude that financial support plays an important role in mitigating household distress during the pandemic.

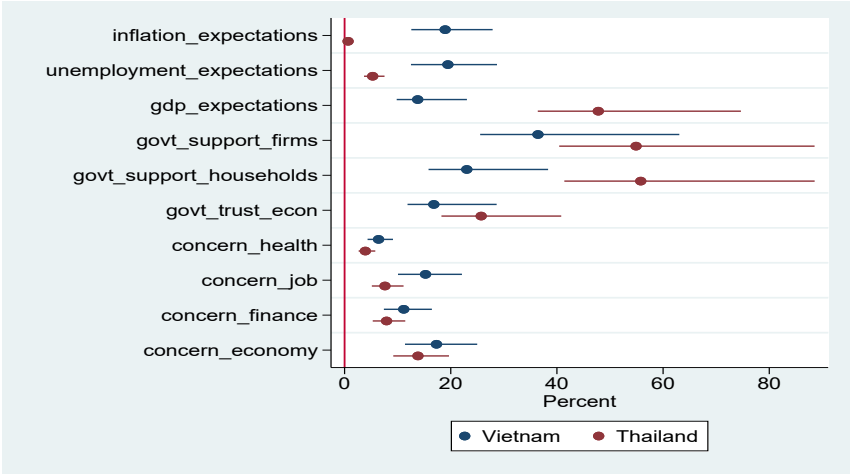
Table 5: Marginal Effects of Government Financial Support on Household Concerns Due to COVID-19

	concern_health		concern_job		concern_finance		concern_economy	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	VN	TL	VN	TL	VN	TL	VN	TL
fin_support	-0.19*** (0.05)	-0.03 (0.05)	-0.19*** (0.05)	-0.06 (0.06)	-0.13** (0.05)	-0.07 (0.05)	-0.18*** (0.05)	-0.11** (0.05)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Pseudo R ²	0.059	0.044	0.120	0.041	0.116	0.077	0.044	0.082
N observations	847	713	847	713	847	713	847	713

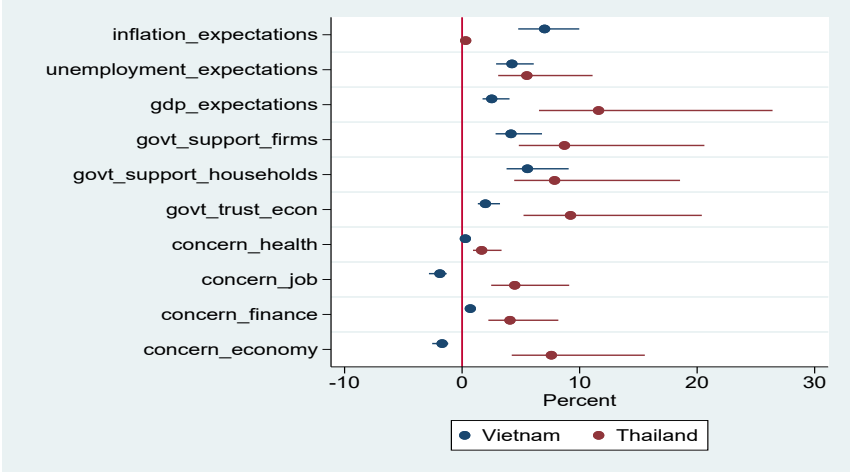
Note: Demographic controls include job loss, income loss, log of household income per capita, employment status, urban/rural area, age, age squared, education, gender, marital status, number of children, number of the old, and subjective health assessment. We report marginal effects for choosing the highest answer category from ordered probit estimations based on population weights. Standard errors are in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

We conduct a mediation analysis to measure how macroeconomic expectations, trust in the government, and household concerns affect the impact of financial support on consumer sentiment and durable spending. Following Imai et al. (2010), we estimate the indirect effect of financial support through each of these factors. To facilitate implementation of the mediation analysis using OLS, we assume that our outcome variables, which proxy the three transmission channels, are continuous. Figure 3 shows the relative influence (in percent) of the indirect effects on the total effect of financial support on consumer sentiment and durable spending. For both countries, the results show that all three channels mediate the effect of financial support on consumer sentiment and plans to buy durables at a 10 percent level of significance. Regarding actual durable spending in Vietnam, we find that the positive effect of financial support is reduced for those with personal concerns about job security and the economy, whereas all other channels increase the effect on spending. Our results also suggest that in both countries, the effect of financial assistance on sentiment or durable spending is mediated most strongly via consumers' assessment of government support.

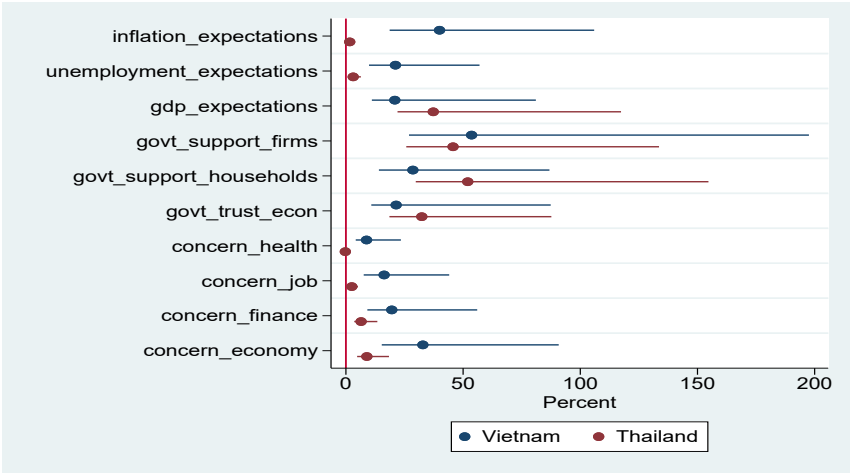
Figure 3: The Proportion of Indirect Effects in the Total Effect of Financial Support on Consumer Sentiment and Durable Spending



(a) Consumer sentiment



(b) Purchased durables



(c) Plans to buy durables

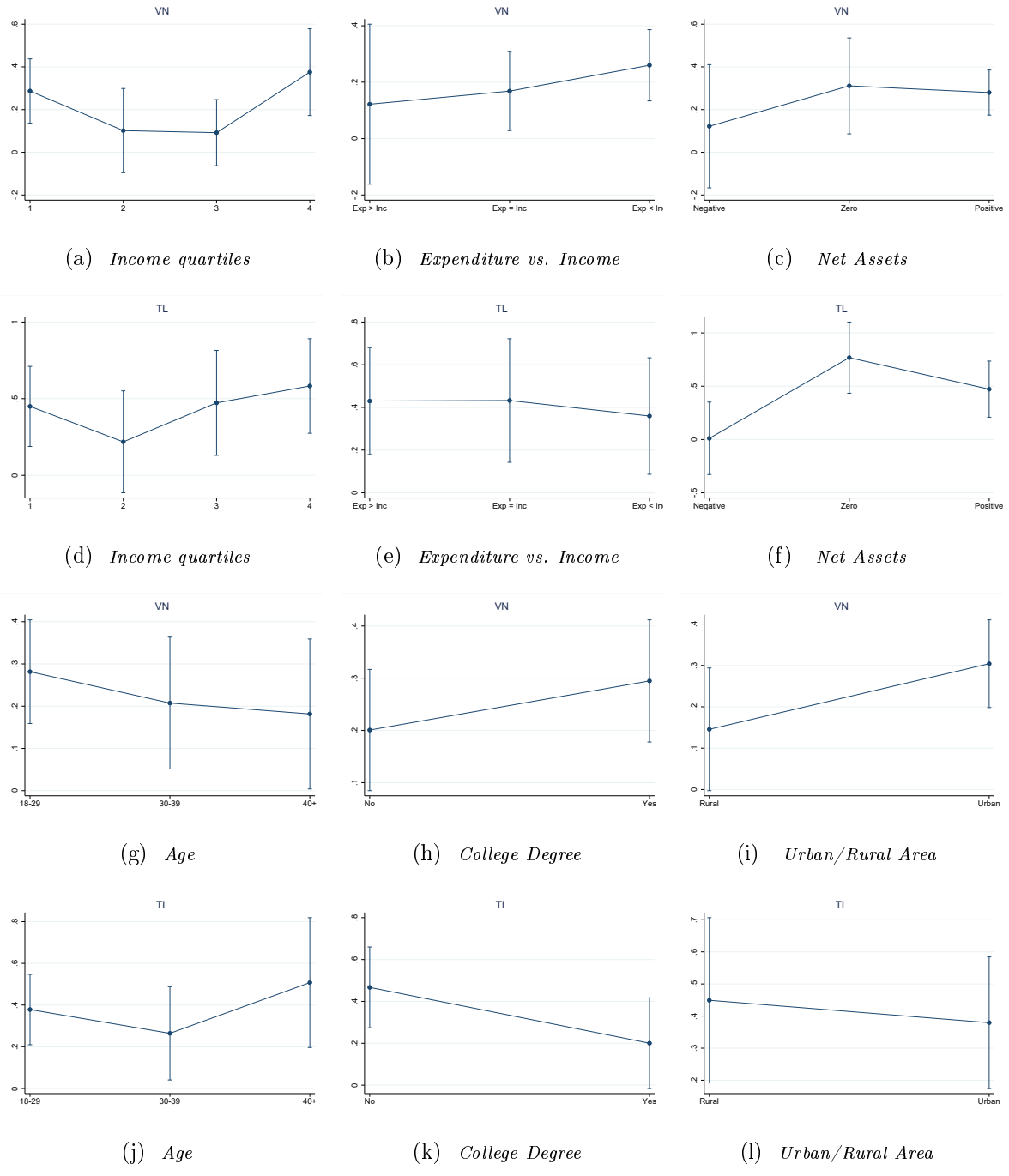
Note: This figure reports point estimates and the 90% confidence interval of the proportion of indirect effects to total effects of government financial support on consumer sentiment and durable spending through different channels. Demographic controls include job loss, income loss, log of household income per capita, employment status, urban/rural area, age, age squared, education, gender, marital status, number of children, number of the old, and subjective health assessment. All estimations use population weights.

3.3 Heterogeneity Across Household Characteristics

In this subsection, we examine whether government financial support has heterogeneous effects on consumer sentiment. Employing our first survey wave from May 2020, we allow for potential heterogeneity associated with income quartiles, expenditure vs. income of the household, and net asset position. We use these household economic characteristics measured in May because government financial support in both countries was initiated based on household conditions during the early phase of the pandemic and most of the financial support in the two countries was provided between April and June 2020. We also examine the heterogeneous effect of financial support across various demographic characteristics of households, including age, education, and rural/urban residence. We test for the potential importance of heterogeneous effects by regressing consumer sentiment on each of the above characteristics as well as these variables interacted with the dummy capturing receipt of financial support from the government.

Figure 4 presents heterogeneous marginal effects of financial support on consumer sentiment and their 90% confidence intervals. In the Appendix, we show the heterogeneous effects of government financial support on durable spending (Figures A1 and A2). In general, we find that the estimated point effects differ only slightly across categories and are not statistically different from each other. However, in a number of cases, we discover that the estimated effects are statistically different from zero only for some groups but not for others. Thus, we conclude that the effects of government financial assistance on consumer sentiment and durable spending in both countries are quite homogeneous across important socio-demographic and economic groups. For both countries, these results suggest that the estimated effects of government financial support discussed in the previous sections are not influenced by any specific types of household groups.

Figure 4: The Heterogeneous Effects of Government Financial Support on Consumer Sentiment with 90% Confidence Intervals



3.4 Robustness Checks

To this point, our regressions have controlled for household income per capita, employment status, dummies measuring whether any household members experienced job loss or income losses due to the pandemic, subjective health assessment, and various demographics, thus implying that our results are not explained by any of these characteristics. It is still possible that omitted variables that our controls do not fully capture affect both the probability of receiving government financial support and consumer sentiment, such as social status. However, in our view, these omitted variables are more likely to cause our estimates to be downward biased. For instance, due to the design of the program, those who have lower social status or are less well-off are more likely to receive financial support from the government. However, this group of people is typically less optimistic about the future, that is, more likely to express more pessimistic consumer sentiment and have poorer macroeconomic expectations, as shown by [Das et al. \(2020\)](#). This implies that the true effects might be even larger than our results suggest.

As the fiscal programs in both countries target specific groups, we check our results using Heckman selection models based on the following procedure. In the first-step, the selection probit regression, we regress *fin_support* on a set of demographic control variables from our first survey wave conducted in May 2020 and calculate the inverse Mills ratio (IMR). In the second-step, we use the same models as in Equation 1 of the baseline analysis, but additionally control for the IMR. Tables A2-A6 in the Appendix show the estimates from the second-step regressions. Our baseline results remain unchanged, suggesting that our conclusions do not suffer from selection bias.

To capture possible autoregressive behavior of our dependent variables, we integrate information from our May survey into our data from December 2020. Equation 2 illustrates that our model now contains dynamic effects in the form of lagged dependent variables:

$$Y_{it} = \alpha + \beta fin_support_{it} + \eta Y_{i,t-1} + \gamma X_{it} + \epsilon_{it}, \quad (2)$$

Note that some outcome variables in the baseline models were not elicited in the first wave, such as the durable spending measures and the assessment of the government's response in terms of supporting households and firms affected by the pandemic. Tables A7-A10 in the Appendix show that estimating Equation 2 barely influences our previous conclusions. In many regressions, especially those for Vietnam, we find significant lags of our respective dependent variables. This enables us to compute the long-term effect of government financial support on the changes in our variables of interest as $\beta/(1-\eta)$. Using Tables A7 to A11, we discover that the long-term effects are up to about 20% larger than the short-term estimates. For instance, the long-term influence of financial support on consumer sentiment is about 17% larger than its short-term influence. Overall, the finding that our results are robust to any persistence in the dependent variables suggests that

government financial support has positive dynamic effects on the change in our variables of interest within households over a period of more than half a year.

Finally, we re-estimate our baseline models using extended samples. As discussed in Section 2, for this purpose we assume that those who state that they do not know the answer or report that they do not form opinions are considered as having a neutral position. Tables A12-A16 in the Appendix set out the results, which are generally unchanged from our baseline results.

4 Conclusion

In this paper, we study the reaction of consumers in Vietnam and Thailand to their respective government’s financial support programs during the COVID-19 pandemic. We utilize two waves of representative population surveys conducted in May and December 2020 in these two emerging countries of Southeast Asia. We discover that by December 2020, government financial support had reached about 30% of citizens in Vietnam and 60% in Thailand. In our survey, we find that financial support has statistically significant and economically notable effects on indicators of future economic activity as well as indicators of people’s well-being. For instance, Vietnamese and Thai respondents who received COVID-19-related cash transfers show a 7% and 16% increase in consumer sentiment, respectively. The probability that they purchased durable goods in the period from May to December 2020 rises by 22 and 13 pp in Vietnam and Thailand, respectively. Regarding future consumption, for those who benefited from government financial assistance, we estimate an increase in the likelihood that they will certainly buy durable goods in the next 12 months. At 6 pp in Vietnam and 5 pp in Thailand, the magnitude of the effect is moderate, but similar across the two countries. Furthermore, we find that benefiting from government financial support programs increases individuals’ mental well-being, expressed through feeling calm and less nervous, and increases recipients stated value of life satisfaction.

We identify three channels through which these effects may manifest. First, respondents receiving financial assistance from the government express more optimism about the macroeconomic outlook, such as lower expected inflation and unemployment rates as well as higher expected economic growth. Second, these respondents have a higher degree of trust in the government’s ability to deal with the negative side-effects of COVID-19 on the economy, for example, employment and income losses. Moreover, recipients of cash transfers have a greater probability of answering that the government has been doing a good job in terms of supporting households and firms affected by the pandemic. Third, government cash transfers appear to alleviate various concerns arising from the crisis, such as concerns over health, job security, financial situation, and the general economic situation.

Conducting a mediation analysis, we demonstrate that all these channels play a significantly positive role in shaping the influence of government financial support on consumer sentiment. The analysis also reveals that the largest individual indirect effect of financial support on consumer sentiment is via people’s assessment of and trust in the government in supporting firms and households affected by the pandemic. In our study, we control for many socio-demographic and economic variables. Thus, the impact of government financial support on consumer sentiment, durable spending, and subjective well-being, as well as the transmission channels mentioned above, are not due to these controls. Moreover, we use a Heckman approach to control for non-randomness in the selection of individuals to receive government financial support. Finally, we use the information from the two survey waves in each of the countries to control for lagged values of our left-hand side variables. This allows us to estimate the long-term effects of government financial support, and we discover that the short-run results discussed in the baseline models are likely lower bounds of the actual effects. Overall, our conclusions are robust to all these extension.

An important finding from our investigation is that government financial assistance during a crisis appears to have a number of effects that go beyond a direct consumption response. First, such support makes people more optimistic about their future personal economic situation as well as about the aggregate economic situation. Second, financial assistance helps sustain trust in the government, which may be important when a country experiences a prolonged lockdown and other severe measures. Third, the psychological pressure due to personal concerns lessens and this coincides with an improvement in subjective well-being. Thus, when designing fiscal policy in the form of cash transfers, governments are well advised to factor these additional positive spillovers into the process.

References

- Ariyapruchya, K., K. A. Edwards, H. E. Moroz, I. M. Hapsari, P. Uruhamanon, F. Lamanna, R. J. Palacios, J. Yang, N. B. H. Belghith, E. T. Vashakmadze, R. Tatucu, and R. Anantavrasilpa (2021, January). Thailand Economic Monitor: Restoring Incomes, Recovering Jobs. Worldbank Report.
- Baker, S. R., R. Farrokhnia, S. Meyer, M. Pagel, and C. Yannelis (2020). How Does Household Spending Respond to an Epidemic? Consumption During the 2020 COVID-19 Pandemic. The Review of Asset Pricing Studies 10(4), 834–862.
- Bastagli, F., J. Hagen-Zanker, L. Harman, G. Sturge, V. Barca, T. Schmidt, and L. Pellerano (2016, July). Cash Transfers: What does the Evidence say? A Rigorous Review of Impacts and the Role of Design and Implementation Features. Overseas Development Institute Research Reports and Studies.

- Bayer, C., B. Born, R. Luetticke, and G. Müller (2020). The Coronavirus Stimulus Package: How Large is the Transfer Multiplier? CEPR Discussion Paper 14600.
- Binder, C. (2020). Coronavirus Fears and Macroeconomic Expectations. Review of Economics and Statistics (forthcoming).
- Bui, D., L. Dräger, B. Hayo, and G. Nghiem (2021). Consumer Sentiment during the COVID-19 Pandemic: The Role of Others' Beliefs. CESifo Working Paper 9010.
- Christelis, D., D. Georgarakos, T. Jappelli, and G. Kenny (2020). The Covid-19 Crisis and Consumption: Survey Evidence From Six EU Countries. ECB Working Paper 2507.
- Coibion, O., Y. Gorodnichenko, and M. Weber (2020a). How Did U.S. Consumers Use Their Stimulus Payments? NBER Working Paper 27693.
- Coibion, O., Y. Gorodnichenko, and M. Weber (2020b). The Cost of the COVID-19 Crisis: Lockdowns, Macroeconomic Expectations, and Consumer Spending. NBER Working Paper 27141.
- Das, S., C. Kuhnen, and S. Nagel (2020). Socioeconomic Status and Macroeconomic Expectations. Review of Financial Studies *33*(1), 395–432.
- Devine, D., J. Gaskell, W. Jennings, and G. Stoker (2020, August). Trust and the Coronavirus Pandemic: What are the Consequences of and for Trust? An Early Review of the Literature. Political Studies Review. <https://doi.org/10.1177/1478929920948684>.
- Dölitzsch, C. (2020, March). Global Study about COVID-19: Dalia Assesses How the World Ranks Their Governments' Response to the Pandemic. Dalia Report.
- Egger, D., J. Haushofer, E. Miguel, P. Niehaus, and M. W. Walker (2019, December). General Equilibrium Effects of Cash Transfers: Experimental Evidence from Kenya. NBER Working Paper 26600.
- Evans, D. K., B. Holtemeyer, and K. Kosec (2019). Cash transfers increase trust in local government. World Development *114*, 138–155.
- Fetzer, T., L. Hensel, J. Hermle, and C. Roth (2020). Coronavirus Perceptions and Economic Anxiety. Review of Economics and Statistics (forthcoming).
- Fetzer, T., M. Witte, L. Hensel, J. M. Jachimowicz, J. Haushofer, A. Ivchenko, S. Caria, E. Reutskaja, C. R. Roth, S. Fiorin, M. Gomez, G. Kraft-Todd, F. M. Goetz, and E. Yoeli (2020). Global Behaviors and Perceptions in the COVID-19 Pandemic. <https://doi.org/10.31234/osf.io/3kfmh>.
- Haushofer, J. and J. Shapiro (2016, July). The Short-term Impact of Unconditional Cash Transfers to the Poor: Experimental Evidence from Kenya. The Quarterly Journal of Economics *131*(4), 1973–2042.

- Imai, K., L. Keele, and D. Tingley (2010). A general approach to causal mediation analysis. Psychological Methods (15), 309–334.
- Karger, E. and A. Rajan (2020). Heterogeneity in the Marginal Propensity to Consume: Evidence from Covid-19 Stimulus Payments. Federal Reserve Bank of Chicago Working Paper 15.
- Lund, C., M. De Silva, S. Plagerson, S. Cooper, D. Chisholm, J. Das, M. Knapp, and V. Patel (2011, October). Poverty and Mental Disorders: Breaking the Cycle in Low-income and Middle-income Countries. The Lancet 378(9801), 1502–1514.
- Major, L. E., A. Eyles, and S. Machin (2020, October). Generation COVID: Emerging Work and Education Inequalities. Centre for Economic Performance, London School of Economics and Political Science.
- MDRI and UNDP (2020, December). Citizens’ Opinions of and Experiences with Government Responses to COVID-19 Pandemic in Vietnam: Findings from a phone-based survey. A Joint Policy Research Paper on Governance and Participation commissioned by the Mekong Development Research Institute (MDRI) and United Nations Development Programme (UNDP) in Vietnam.
- Morgan, P. J. and L. Q. Trinh (2020, September). Impact of COVID-19 Pandemic on Households in ASEAN Economies. ADBI-ADB Webinar on COVID-19 Impacts on Asian MSMEs and Households (53rd ADB Annual Meeting Seminar Series).
- Ngan-Anh (2021, January). Six Imprints of Social Security in 2020. Bao Nhan dan dien tu. <https://nhandan.com.vn/tin-tuc-xa-hoi/sau-dau-an-ve-an-sinh-xa-hoi-cua-nam-2020-630330/> (accessed March 15, 2021 in Vietnamese).
- Parker, K., R. Minkin, and J. Bennett (2020, September). Economic Fallout from COVID-19 Continues To Hit Lower-Income Americans the Hardest. Pew Research Center Report.
- Sibley, C. G., L. M. Greaves, N. Satherley, M. S. Wilson, N. C. Overall, C. Lee, P. Milojev, J. Bulbulia, D. Osborne, T. L. Milfont, C. A. Houkamau, I. M. Duck, R. Vickers-Jones, and F. K. Barlow (2020). Effects of the COVID-19 Pandemic and Nationwide Lockdown on Trust, Attitudes toward Government, and Well-being. The American psychologist 75(5), 618–630.

A Appendix

A.1 Summary statistics

Table A1: Summary Statistics of Key variables

Variable	Vietnam			Thailand			Min	Max
	N	Mean	Std. Dev.	N	Mean	Std. Dev.		
<i>fin_support</i>	847	0.30	0.46	713	0.59	0.49	0	1
<i>consumer_sentiment</i>	847	3.42	0.54	713	2.57	0.92	1	5
<i>purchased_durables</i>	847	0.63	0.48	713	0.48	0.50	0	1
<i>plans_to_buy_durables</i>	847	2.94	0.69	713	2.28	0.95	1	4
<i>calm</i>	847	3.16	1.08	713	2.51	1.12	1	5
<i>nervous</i>	847	3.11	1.13	713	3.35	1.09	1	5
<i>life_satisfaction</i>	847	3.39	0.84	713	3.00	1.10	1	5
<i>inflation_expectation</i>	847	3.49	1.00	713	3.66	1.07	1	5
<i>gdp_expectation</i>	847	3.51	1.00	713	2.61	1.28	1	5
<i>unemployment_expectation</i>	847	2.85	1.13	713	3.70	1.30	1	5
<i>gouv_support_firm</i>	847	2.34	0.72	713	1.65	0.70	1	3
<i>gouv_support_household</i>	847	2.35	0.76	713	1.69	0.69	1	3
<i>gouv_trust_econ</i>	847	3.86	0.88	713	2.51	1.18	1	5
<i>concern_health</i>	847	2.33	0.68	713	2.39	0.58	1	3
<i>concern_job</i>	847	2.30	0.69	713	2.41	0.59	1	3
<i>concern_finance</i>	847	2.34	0.64	713	2.54	0.56	1	3
<i>concern_economy</i>	847	2.35	0.63	713	2.58	0.57	1	3

Note: This table shows the summary statistics of our key variables of interest based on population weights. These samples exclude respondents who do not know the answer or who do not have opinions on the survey questions of our key variables. Section A.4 show the exact wording of these questions.

A.2 Additional result

Figure A1: The Heterogeneous Effects of Government Financial Support on Purchased Durables with 90% Confidence Intervals

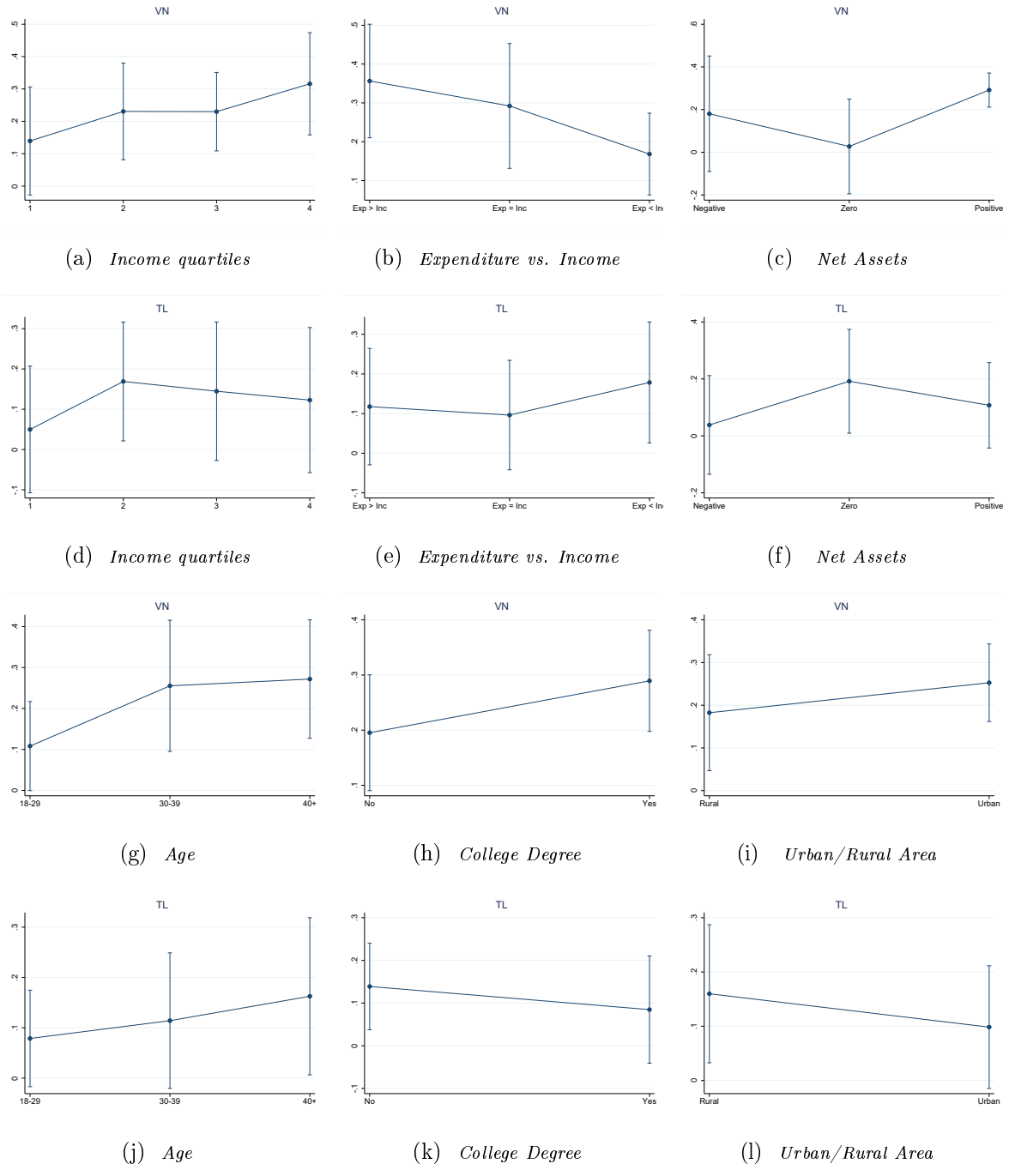
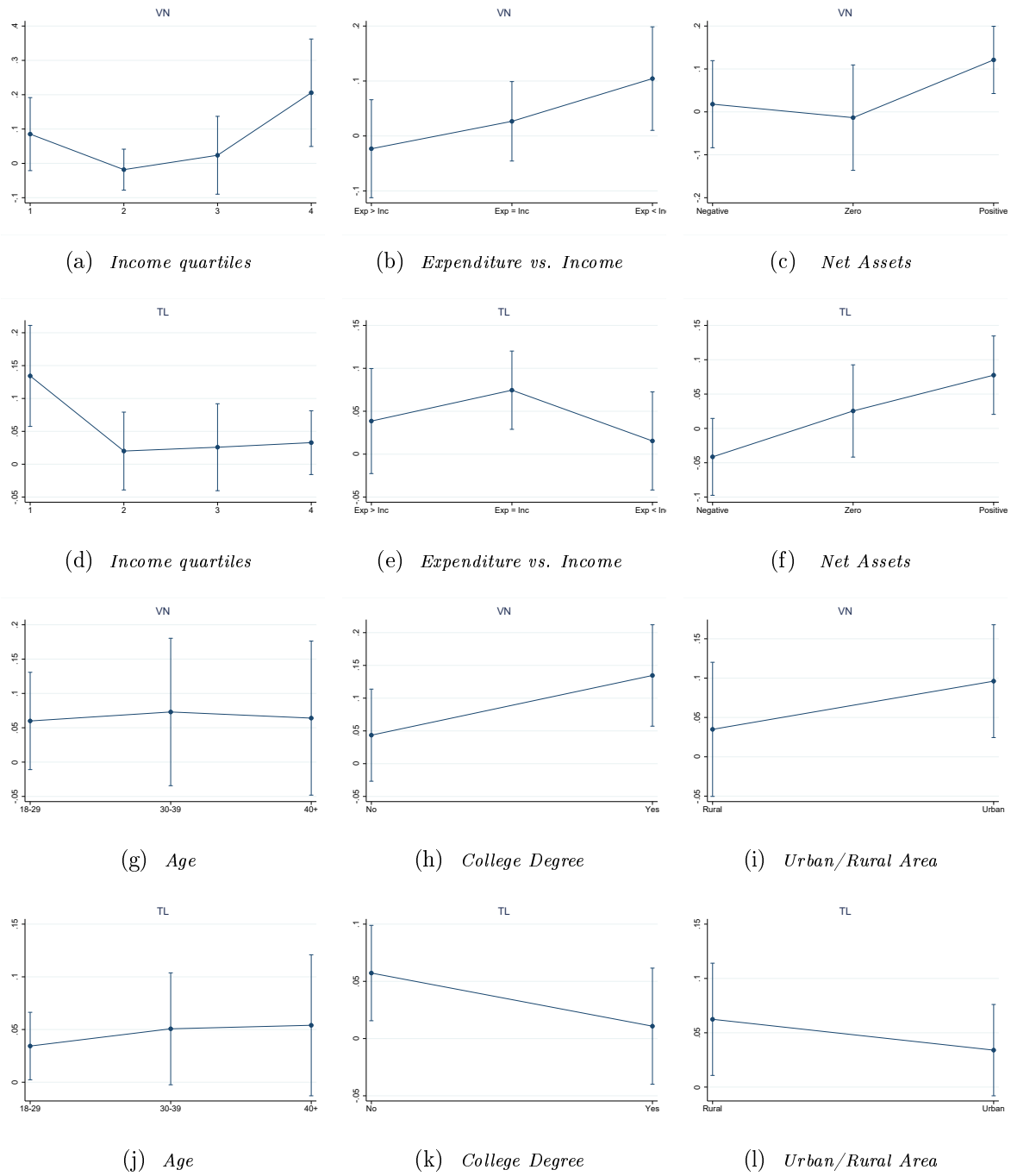


Figure A2: The Heterogeneous Effects of Government Financial Support on Plans to Buy Durables with 90% Confidence Intervals



A.3 Robustness Checks

A.3.1 Heckman Selection Models

Table A2: Marginal Effects of Government Financial Support on Consumer Sentiment and Durable Spending: Heckman Selection Models (The Second-Step Estimations)

	consumer_sentiment		purchased_durables		plans_to_buy_durables	
	(1)	(2)	(3)	(4)	(5)	(6)
	VN	TL	VN	TL	VN	TL
fin_support	0.22*** (0.06)	0.41*** (0.10)	0.21*** (0.05)	0.12** (0.05)	0.062* (0.03)	0.049** (0.02)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
R ²	0.152	0.123				
Pseudo R ²			0.102	0.069	0.048	0.042
N observations	847	713	847	713	847	713

Note: Demographic controls include job loss, income loss, log of household income per capita, employment status, urban/rural area, age, age squared, education, gender, marital status, number of children, number of the old, and subjective health assessment. We report coefficients from OLS estimations (column 1 & 2) and marginal effects of probit estimations (column 3 & 4) and marginal effects for choosing the highest answer category from ordered probit estimations (column 5 & 6) based on population weights. Standard errors are in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A3: Marginal Effects of Govt Financial Support on Subjective Well-Being: Heckman Selection Models (The Second-Step Estimations)

	nervous		calm		life_satisfaction	
	(1)	(2)	(3)	(4)	(5)	(6)
	VN	TL	VN	TL	VN	TL
fin_support	-0.03** (0.01)	0.02 (0.02)	-0.0008 (0.02)	0.03** (0.01)	0.03** (0.01)	0.02** (0.01)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Pseudo R ²	0.030	0.014	0.045	0.024	0.088	0.048
N observations	847	713	847	713	847	713

Note: Demographic controls include job loss, income loss, log of household income per capita, employment status, urban/rural area, age, age squared, education, gender, marital status, number of children, number of the old, and subjective health assessment. We report marginal effects for choosing the highest answer category from ordered probit estimations based on population weights. Standard errors are in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A4: Marginal Effects of Government Financial Support on Macroeconomic Expectations: Heckman Selection Models (The Second-Step Estimations)

	inflation_expectations		unemployment_expectations		gdp_expectations	
	(1)	(2)	(3)	(4)	(5)	(6)
	VN	TL	VN	TL	VN	TL
fin_support	-0.089*** (0.02)	0.012 (0.03)	-0.050*** (0.02)	-0.083* (0.05)	0.035 (0.02)	0.044*** (0.01)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Pseudo R ²	0.037	0.025	0.028	0.016	0.039	0.026
N observations	847	713	847	713	847	713

Note: Demographic controls include job loss, income loss, log of household income per capita, employment status, urban/rural area, age, age squared, education, gender, marital status, number of children, number of the old, and subjective health assessment. We report marginal effects for choosing the highest answer category from ordered probit estimations based on population weights. Standard errors are in parentheses.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A5: Marginal Effects of Government Financial Support on Trust in Government in Dealing with COVID-19: Heckman Selection Models (The Second-Step Estimations)

	govt_support_firm		govt_support_household		govt_trust_econ	
	(1)	(2)	(3)	(4)	(5)	(6)
	VN	TL	VN	TL	VN	TL
fin_support	0.25*** (0.05)	0.14*** (0.03)	0.21*** (0.05)	0.13*** (0.03)	0.076* (0.04)	0.047*** (0.01)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Pseudo R ²	0.076	0.073	0.101	0.069	0.047	0.041
N observations	847	713	847	713	843	713

Note: Demographic controls include job loss, income loss, log of household income per capita, employment status, urban/rural area, age, age squared, education, gender, marital status, number of children, number of the old, and subjective health assessment. We report marginal effects for choosing the highest answer category from ordered probit estimations based on population weights. Standard errors are in parentheses.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A6: Marginal Effects of Govt Financial Support on Concerns Due to COVID-19: Heckman Selection Models (The Second-Step Estimations)

	concern_health		concern_job		concern_finance		concern_economy	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	VN	TL	VN	TL	VN	TL	VN	TL
fin_support	-0.2*** (0.05)	-0.03 (0.05)	-0.2*** (0.05)	-0.05 (0.06)	-0.1** (0.05)	-0.07 (0.05)	-0.2*** (0.05)	-0.1** (0.05)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Pseudo R ²	0.060	0.045	0.121	0.041	0.117	0.077	0.050	0.084
N observations	847	713	847	713	847	713	847	713

Note: Demographic controls include job loss, income loss, log of household income per capita, employment status, urban/rural area, age, age squared, education, gender, marital status, number of children, number of the old, and subjective health assessment. We report marginal effects for choosing the highest answer category from ordered probit estimations based on population weights. Standard errors are in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

A.3.2 Additional Control for the Lagged of Dependent Variables

Table A7: Marginal Effects of Government Financial Support on Consumer Sentiment: Lagged control

	(1)	(2)
	VN	TL
fin_support	0.18*** (0.05)	0.49*** (0.11)
Lagged dependent variable	0.35*** (0.04)	0.063 (0.06)
Controls	Yes	Yes
R ²	0.292	0.151
N observations	810	539

Note: Demographic controls include job loss, income loss, log of household income per capita, employment status, urban/rural area, age, age squared, education, gender, marital status, number of children, number of the old, and subjective health assessment. We report marginal effects of the OLS estimations based on population weights. Standard errors are in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A8: Marginal Effects of Government Financial Support on Subjective Well-Being: Lagged control

	nervous		calm		life_satisfaction	
	(1)	(2)	(3)	(4)	(5)	(6)
	VN	TL	VN	TL	VN	TL
fin_support	-0.020*	0.013	0.0013	0.030**	0.027**	0.023**
	(0.01)	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)
Lagged dependent variable	0.034***	0.0051	0.0044	0.0078**	0.044***	-0.0026
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Pseudo R ²	0.068	0.014	0.044	0.028	0.127	0.049
N observations	847	713	847	713	847	713

Note: Demographic controls include job loss, income loss, log of household income per capita, employment status, urban/rural area, age, age squared, education, gender, marital status, number of children, number of the old, and subjective health assessment. We report marginal effects for choosing the highest answer category from ordered probit estimations based on population weights. Standard errors are in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A9: Marginal Effects of Government Financial Support on Macroeconomic Expectations: Lagged control

	inflation_expectations		unemployment_expectations		gdp_expectations	
	(1)	(2)	(3)	(4)	(5)	(6)
	VN	TL	VN	TL	VN	TL
fin_support	-0.06***	0.009	-0.03**	-0.09*	0.02	0.03**
	(0.02)	(0.04)	(0.01)	(0.05)	(0.02)	(0.01)
Lagged dependent variable	0.05***	0.006	0.03***	-0.02	0.05***	0.0001
	(0.01)	(0.02)	(0.01)	(0.02)	(0.01)	(0.00)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Pseudo R ²	0.090	0.024	0.064	0.019	0.089	0.031
N observations	828	630	836	628	831	594

Note: Demographic controls include job loss, income loss, log of household income per capita, employment status, urban/rural area, age, age squared, education, gender, marital status, number of children, number of the old, and subjective health assessment. We report marginal effects for choosing the highest answer category from ordered probit estimations based on population weights. Standard errors are in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A10: Marginal Effects of Government Financial Support on Trust in Government in Dealing with COVID-19: Lagged control

	govt_trust_covid_econ	
	(1)	(2)
	VN	TL
fin_support	0.03 (0.04)	0.05*** (0.02)
Lagged dependent variable	0.2*** (0.02)	-0.002 (0.00)
Controls	Yes	Yes
Pseudo R ²	0.144	0.042
N observations	841	677

Note: Demographic controls include job loss, income loss, log of household income per capita, employment status, urban/rural area, age, age squared, education, gender, marital status, number of children, number of the old, and subjective health assessment. We report marginal effects for choosing the highest answer category from ordered probit estimations based on population weights. Standard errors are in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A11: Marginal Effects of Government Financial Support on Concerns Due to COVID-19: Lagged control

	concern_health		concern_job		concern_finance		concern_economy	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	VN	TL	VN	TL	VN	TL	VN	TL
fin_support	-0.14*** (0.05)	-0.042 (0.05)	-0.18*** (0.06)	-0.037 (0.06)	-0.15*** (0.05)	-0.094* (0.05)	-0.20*** (0.05)	-0.100** (0.05)
Lagged dependent variable	0.28*** (0.04)	0.028 (0.04)	0.35*** (0.04)	0.0044 (0.04)	0.22*** (0.04)	-0.041 (0.04)	0.24*** (0.04)	0.0084 (0.03)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Pseudo R ²	0.125	0.043	0.220	0.040	0.166	0.086	0.096	0.076
N observations	846	680	842	671	833	670	832	666

Note: Demographic controls include job loss, income loss, log of household income per capita, employment status, urban/rural area, age, age squared, education, gender, marital status, number of children, number of the old, and subjective health assessment. We report marginal effects for choosing the highest answer category from ordered probit estimations based on population weights. Standard errors are in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

A.3.3 Using the Full Sample

Table A12: Marginal Effects of Government Financial Support on Consumer Sentiment and Durable Spending

	consumer_sentiment		purchased_durables		plans_to_buy_durables	
	(1)	(2)	(3)	(4)	(5)	(6)
	VN	TL	VN	TL	VN	TL
fin_support	0.24*** (0.06)	0.33*** (0.07)	0.21*** (0.05)	0.13*** (0.04)	0.054** (0.03)	0.052*** (0.02)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
R ²	0.144	0.098				
Pseudo R ²			0.119	0.048	0.053	0.027
N observations	1016	1189	1016	1189	1016	1189

Note: Demographic controls include job loss, income loss, log of household income per capita, employment status, urban/rural area, age, age squared, education, gender, marital status, number of children, number of the old, and subjective health assessment. We report coefficients from OLS estimations (column 1 & 2) and marginal effects of probit estimations (column 3 & 4) and marginal effects for choosing the highest answer category from ordered probit estimations (column 5 & 6) based on population weights. Standard errors are in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A13: Marginal Effects of Government Financial Support on Subjective Well-Being

	nervous		calm		life_satisfaction	
	(1)	(2)	(3)	(4)	(5)	(6)
	VN	TL	VN	TL	VN	TL
fin_support	-0.04** (0.02)	0.0005 (0.02)	0.006 (0.01)	0.02** (0.01)	0.03*** (0.01)	0.02** (0.01)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Pseudo R ²	0.026	0.014	0.046	0.017	0.090	0.040
N observations	1016	1189	1016	1189	1016	1189

Note: Demographic controls include job loss, income loss, log of household income per capita, employment status, urban/rural area, age, age squared, education, gender, marital status, number of children, number of the old, and subjective health assessment. We report marginal effects for choosing the highest answer category from ordered probit estimations based on population weights. Standard errors are in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A14: Marginal Effects of Government Financial Support on Macroeconomic Expectations

	inflation_expectations		unemployment_expectations		gdp_expectations	
	(1)	(2)	(3)	(4)	(5)	(6)
	VN	TL	VN	TL	VN	TL
fin_support	-0.067*** (0.02)	0.019 (0.03)	-0.052*** (0.02)	-0.087*** (0.03)	0.028 (0.02)	0.032*** (0.01)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Pseudo R ²	0.020	0.011	0.021	0.016	0.036	0.021
N observations	1016	1189	1016	1189	1016	1189

Note: Demographic controls include job loss, income loss, log of household income per capita, employment status, urban/rural area, age, age squared, education, gender, marital status, number of children, number of the old, and subjective health assessment. We report marginal effects for choosing the highest answer category from ordered probit estimations based on population weights. Standard errors are in parentheses.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A15: Marginal Effects of Government Financial Support on the Assessment of and Trust in Government in Dealing with COVID-19

	govt_support_firm		govt_support_household		govt_trust_econ	
	(1)	(2)	(3)	(4)	(5)	(6)
	VN	TL	VN	TL	VN	TL
fin_support	0.25*** (0.05)	0.096*** (0.02)	0.21*** (0.05)	0.13*** (0.02)	0.094** (0.04)	0.040*** (0.01)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Pseudo R ²	0.055	0.061	0.064	0.067	0.034	0.035
N observations	1016	1189	1016	1189	1016	1189

Note: Demographic controls include job loss, income loss, log of household income per capita, employment status, urban/rural area, age, age squared, education, gender, marital status, number of children, number of the old, and subjective health assessment. We report marginal effects for choosing the highest answer category from ordered probit estimations based on population weights. Standard errors are in parentheses.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A16: Marginal Effects of Government Financial Support on Household Concerns Due to COVID-19

	concern_health		concern_job		concern_finance		concern_economy	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	VN	TL	VN	TL	VN	TL	VN	TL
fin_support	-0.18*** (0.05)	-0.036 (0.04)	-0.20*** (0.05)	-0.090** (0.04)	-0.11** (0.05)	-0.11*** (0.04)	-0.14*** (0.05)	-0.10*** (0.04)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Pseudo R ²	0.045	0.048	0.097	0.044	0.090	0.086	0.031	0.068
N observations	1016	1189	1016	1189	1016	1189	1016	1189

Note: Demographic controls include job loss, income loss, log of household income per capita, employment status, urban/rural area, age, age squared, education, gender, marital status, number of children, number of the old, and subjective health assessment. We report marginal effects for choosing the highest answer category from ordered probit estimations based on population weights. Standard errors are in parentheses.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

A.4 Survey Questions

Financial support

- *fin_support*: Did you or anyone else in your household receive financial support from the government due to COVID-19? [Yes, No]

Consumer sentiment index Following the construction of the aggregate index of consumer sentiment by the University of Michigan (Surveys of Consumers), we calculate this index for each respondent as a simple average of the following five questions:

- Did the current financial situation of your household get better or worse over the past 12 months? [Got much worse, Got a bit worse, Stayed the same, Got a bit better, Got much better, Don't know]
- How do you think the financial situation of your household will develop over the next 12 months? [Get much worse, Get a bit worse, Stayed the same, Get a bit better, Get much better, Don't know]
- How do you think the national business conditions will develop over the next 12 months? [Get much worse, Get a bit worse, Stayed the same, Get a bit better, Get much better, Don't know]
- How do you think the national economic situation will develop over the next 5 years? [Get much worse, Get a bit worse, Stayed the same, Get a bit better, Get much better, Don't know]
- Generally speaking, do you think now is a good or bad time for people to buy major household items, such as furniture, a refrigerator, stove, television, and things like that? [Very bad, Bad, Neither good or bad, Good, Very good, Don't know]

Durable goods purchase

- *purchased_durables*: Since May 2020, did your household buy major household items, such as furniture, refrigerator, stove, television, and things like that? [Yes, No]
- *plans_to_buy_durables*: Is your household planning to buy major household items, such as furniture, refrigerator, stove, television, and things like that in the next 12 months? [Yes, certainly; Yes, perhaps; Probably not; Certainly not; Don't know]

Subjective well-being

- *nervous*: To which extent do the following statement apply to you right now? I am nervous when I think about the current situation [Strongly disagree, Moderately disagree, Neither agree nor disagree, Moderately agree, Strongly agree]

- *calm*: To which extent do the following statement apply to you right now? I am calm and relaxed when I think about the current situation. [Strongly disagree, Moderately disagree, Neither agree nor disagree, Moderately agree, Strongly agree]
- *life_satisfaction*: All things considered, how satisfied are you with your life as a whole? [Totally dissatisfied, Partly dissatisfied, Neither dissatisfied nor satisfied, Partly satisfied, Totally satisfied]

Macroeconomic expectations

- *inflation_expectations*: How do you think prices in general (which are used to measure the inflation rate) will develop over the next 12 months compared to the previous 12 months? They will [Decrease a lot, Decrease a little, Stay about the same, Increase a little, Increase a lot, I do not form opinions about future general price level, Don't know.]
- *unemployment_expectations*: How do you think unemployment will develop over the next 12 months compared to the previous 12 months? It will [Decrease a lot, Decrease a little, Stay about the same, Increase a little, Increase a lot, I do not form opinions about future unemployment, Don't know]
- *gdp_expectations*: How do you think national economic growth (GDP growth) will develop over the next 12 months compared to the previous 12 months? It will [Decrease a lot, Decrease a little, Stay about the same, Increase a little, Increase a lot, I do not form opinions about future economic growth, Don't know]

Assessment of and trust in the government

- *govt_assessment_normal_times*: As to the macroeconomic policy of the government before the COVID-19 outbreak -- we mean steps taken to fight inflation or unemployment--would you say the government was doing a good job, fair job, or a poor job? [Good job, Fair job, Poor job, Don't know]
- *govt_support_household*: Please think about the economic policies initiated by the government to support individuals and households affected by the COVID-19 pandemic. Would you say the government has been doing a good job, fair job, or a poor job? [Poor job, Fair job, Good job , Don't know]
- *govt_support_firm*: Now think about the economic policies initiated by the government to support firms affected by the COVID-19 pandemic. Would you say the government has been doing a good job, fair job, or a poor job? [Poor job, Fair job, Good job , Don't know]

- *govt_trust_econ*: How much do you trust the government to mitigate the negative side-effects of social distancing on the economy, such as an increase in unemployment and a fall in production? [Strongly distrust, Somewhat distrust, Neither trust nor distrust, Somewhat trust, Strongly trust, I don't know]

Personal concerns due to COVID-19

- *concern_health*: How concerned are you about the effects that COVID-19 might have on your health or the health of other members of your household [Not at all concerned, Somewhat concerned, Very concerned, Don't know]
- *concern_job*: How concerned are you about the effects that COVID-19 might have on your job security or the job security of other members of your household [Not at all concerned, Somewhat concerned, Very concerned, Don't know]
- *concern_finance*: How concerned are you about the effects that COVID-19 might have on the financial situation of your household [Not at all concerned, Somewhat concerned, Very concerned, Don't know]
- *concern_econ*: How concerned are you about the effects that COVID-19 might have on the economy [Not at all concerned, Somewhat concerned, Very concerned, Don't know]