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The marginal propensity to consume during the COVID-19 pandemic: Evidence from Thailand and Vietnam

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The Marginal Propensity to Consume During the COVID-19 Pandemic: Evidence from Thailand and Vietnam

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February 21, 2022

Abstract

In evaluating surveys conducted in Thailand and Vietnam during the COVID-19 pandemic, we find that the marginal propensity to consume is significantly larger for positive than for negative income shocks. This result contradicts a prediction from the lifecycle permanent income model with borrowing constraints as well as empirical evidence from industrialized countries. However, our finding is consistent with Kahneman and Tversky's prospect theory, according to which the combination of income uncertainty and loss aversion can induce households to react more strongly to positive than to negative shocks.

Keywords: Marginal propensity to consume (MPC); Unanticipated income shocks; COVID-19; Thailand; Vietnam.

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

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1 Introduction

Households' marginal propensity to consume (MPC) plays a central role in evaluating the effectiveness of government cash transfers that have been made to stimulate the economy. Most of the literature on this topic focuses on estimating the MPC after positive income shocks (e.g., Jappelli and Pistaferri 2014; Coibion et al. 2020; Crossley et al. 2020; Drescher et al. 2020). Only a few studies, notably Christelis et al. (2019, 2020) and Fuster et al. (2021), investigate the MPC when households face both positive and negative shocks.

We estimate MPCs using hypothetical questions asked in household surveys conducted in Thailand and Vietnam. These questions were intended to reveal intentions and behavior in the face of unexpected income shocks. In our view, it is important to study the MPC for both positive and negative income shocks. For instance, in the recent COVID-19 pandemic, many people experienced income losses, that is, a negative income shock. At the same time, many governments provided their citizens with cash transfers in an effort to alleviate the shock and stimulate the economy, that is, a positive income shock. We also believe it is important to confirm, or not, the validity of results on MPCs in industrialized countries. Thus, we provide empirical evidence for two emerging economies in Southeast Asia, Thailand and Vietnam.

Our paper is related to Christelis et al. (2019), which uses a lifecycle permanent income model with borrowing constraints, thus suggesting that the MPC should be larger for negative than for positive income shocks. Employing Dutch household survey data, the authors find evidence supporting this theoretical prediction. Using a data set for the U.S., Fuster et al. (2021) also find that the MPC for negative income shocks is higher than the MPC for positive income shocks. Indeed, in research conducted during the COVID-19 pandemic, Christelis et al. (2020) discover similar results for five of the six largest euro-area countries.

In contrast, for our two emerging countries, we show that the MPC for negative income shocks is significantly lower than the MPC for positive income shocks. Our result is in line with Bowman et al. (1999), who construct a model based on Kahneman and Tversky's (1979) prospect theory and show, theoretically and empirically, that under income uncertainty, loss aversion can induce households to react more strongly to positive than to negative shocks. Consistent with this explanation, we find that the asymmetry in our MPC estimates is mainly driven by respondents whose financial resources deteriorated during the pandemic, especially those who state that their savings decreased compared with the year before the pandemic.

2 Data

GMO-Z.com RUNSSYSTEM, one of the leading private market research and public opinion survey companies in Southeast Asia, conducted, on our behalf, household surveys in Thailand and Vietnam during May 4–10 and December 18–27, 2020. Our analysis uses the December wave, as it includes both hypothetical MPC questions on positive and negative income shocks, whereas the first wave considers only positive income shocks. Our samples consist of 1,002 Vietnamese and 1,178 Thai respondents, aged 18–60.

The exact wording of our hypothetical questions, which is similar to that used by Jappelli and Pistaferri (2014) and Christelis et al. (2019), is as follows.

- *MPC after a positive income shock:* "Imagine you unexpectedly received a transfer equal to the amount of what your household earns in a month. How much of it would you spend? Please give the share you would spend [... per cent]"
- *MPC after a negative income shock:* "Imagine you unexpectedly have to pay a bill equal to the amount of what your household earns in a month. How would your consumption react to this unexpected liability? Please give the share by which you would reduce your spending [... per cent]"

According to our December 2020 wave, the average monthly gross household income in Thailand is about 40,000 Thai baht (roughly 3,000 USD in PPP in 2019) and is 15 million Vietnamese dong (roughly 2,000 USD) in Vietnam.

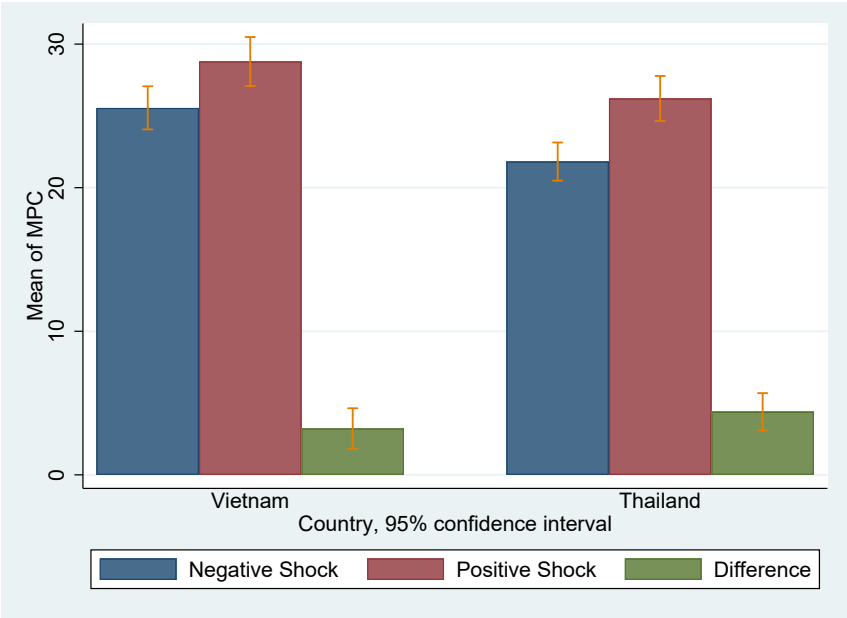
3 Distribution of MPC

We commence our analysis by studying the distribution of MPCs for positive and negative income shocks as well as the differences between them. Figure 1a shows that in December 2020, the average MPCs for positive income shocks in Thailand and Vietnam are 26% and 28%, respectively, which is about 5 and 4 percentage points higher than the average MPCs for negative income shocks. These differences are significantly different from zero at the 5% level.

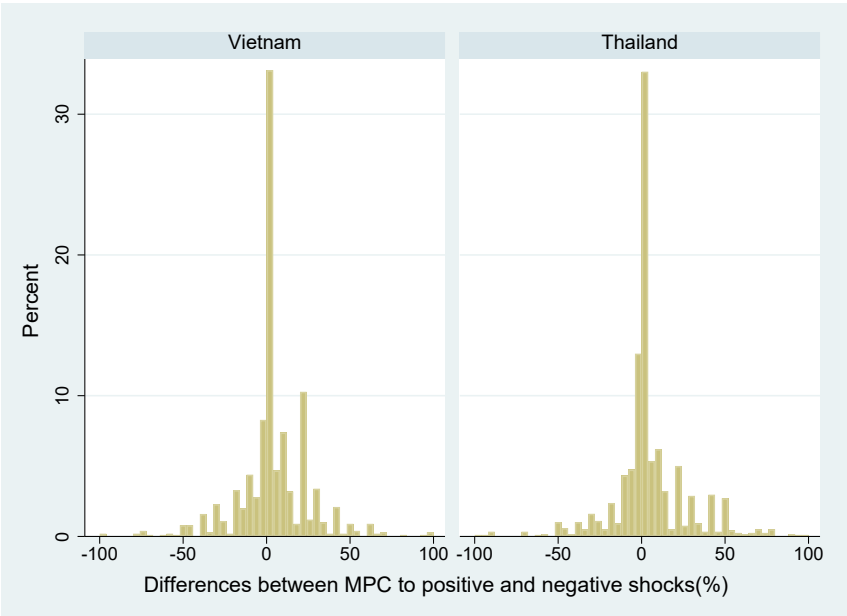
Figure 1b presents the distribution of the differences between MPCs associated with positive or negative income shocks. The figure indicates that in 42% of the cases in Thailand, and 50% of the cases in Vietnam, the MPC is absolutely higher after a positive shock than it is after a negative one. For about 25% and 21% of Thai and Vietnamese respondents, respectively, the difference is zero. The remaining group is characterized by a higher MPC for negative compared to positive income shocks (Thailand: 33%; Vietnam: 29%).

Next, we employ OLS regressions to study the main drivers of MPC heterogeneity, especially regarding the differences between MPCs for positive and negative shocks. Table

1 sets out the results. For both countries, we discover that only for the group of households whose savings decreased, compared to the previous year, from May to December 2020, is the difference in MPCs for positive and negative income shocks statistically significant and equal to about 5 percentage points (see Columns 5 and 6). As none of the other differences are significant at the 5% level, a decline in household savings during the pandemic appears to be the main driver behind the overall positive MPC differences.



(a) *Average MPC*



(b) *Difference in MPCs Between Positive and Negative Shocks*

Figure 1: Distribution of MPC

	MPC for Positive Shocks		MPC for Negative Shocks		MPC Differences	
	(1)	(2)	(3)	(4)	(5)	(6)
	Vietnam	Thailand	Vietnam	Thailand	Vietnam	Thailand
II Income Quartile	0.4	-6.2	4.1	-4.8	-3.7	-1.4
	(3.47)	(4.16)	(2.98)	(2.97)	(3.17)	(3.07)
III Income Quartile	-2.8	-8.6**	1.4	-3.2	-4.2	-5.4
	(3.42)	(4.18)	(3.16)	(3.44)	(3.25)	(3.40)
IV Income Quartile	1.8	-6.2	-0.3	-4.4	2.1	-1.8
	(3.48)	(4.51)	(2.92)	(3.75)	(2.40)	(3.46)
Negative Net Asset	-5.5	0.5	-4.4	0.4	-1.1	0.2
	(4.08)	(3.17)	(3.70)	(2.54)	(2.69)	(2.60)
Expenditure > Income	-8.9***	0.4	-5.2*	1.0	-3.7	-0.6
	(3.08)	(2.89)	(2.66)	(2.25)	(2.86)	(2.23)
Savings Decreased	10.9***	11.2***	5.8***	5.8***	5.0**	5.4**
	(2.50)	(2.75)	(2.19)	(2.18)	(2.14)	(2.08)
Income Loss due to COVID-19	5.4*	2.0	2.8	2.4	2.6	-0.4
	(3.07)	(3.11)	(2.86)	(2.60)	(2.49)	(2.12)
Health Concerns due to COVID-19						
Somewhat	2.5	-8.5	0.4	-4.6	2.2	-4.0
	(4.30)	(5.90)	(4.00)	(3.93)	(3.50)	(4.63)
Very	6.0	-8.1	3.7	-5.3	2.3	-2.8
	(4.60)	(6.35)	(4.04)	(4.44)	(3.71)	(4.92)
Financial Concerns due to COVID-19						
Somewhat	2.7	5.4	-0.08	8.7**	2.8	-3.4
	(4.43)	(7.10)	(4.89)	(3.93)	(4.62)	(5.78)
Very	0.1	6.2	1.6	11.7***	-1.5	-5.4
	(5.02)	(7.61)	(5.20)	(4.40)	(4.83)	(6.22)
R^2	0.135	0.083	0.118	0.070	0.072	0.045
N observations	934	882	934	882	934	882

Note: Demographic controls: age, gender, marital status, education, number of children and old people in the household, employment status, urban/rural area, and subjective health assessment. Reference groups: First Income Quartile, Positive and Zero Net Asset, Savings Increased or Unchanged, No Income Loss due to COVID-19, No Health Concerns due to COVID-19, and No Financial Concerns due to COVID-19. We report coefficients from OLS estimations based on population weights (age, education, and urban area distribution). Standard errors are in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 1: The Effect of Economic Characteristics on MPC

4 Discussion and conclusion

Using household surveys conducted in Thailand and Vietnam during the COVID-19 pandemic (specifically, December 2020), we study the MPC after positive and negative income shocks. Our empirical result supports Bowman et al.'s (1999) theoretical conjecture that loss aversion in combination with income uncertainty may cause household consumption to respond more strongly to positive than to negative shocks. We also show that the difference in MPCs between positive and negative shocks is primarily driven by those households who reduced their savings during the pandemic.

Our case study gives weight to some core assumptions in Bowman et al.'s (1999) model. First, our December 2020 survey was conducted at the start of a second wave of infection in both Thailand and Vietnam. Arguably, this situation increased households' income uncertainty. Second, approximately 80% of respondents in both countries report pandemic-related income losses. Compared to May to December 2019, about 50% of the respondents state that their savings decreased during those same months in 2020. Taking into account that the social security systems in Thailand and Vietnam are underdeveloped compared to those in industrialized economies suggests that December 2020 was a period of high income uncertainty for most households in our sample. Indeed, Bui et al. (2022) highlight the severe effects of the pandemic on households in these two countries.

Our findings contrast evidence on MPCs from European countries (Christelis et al. 2019, 2020) and from the U.S. (Fuster et al. 2021), which suggests that the effects of government cash support in industrialized countries are not the same as the effects of such cash transfers in emerging economies. We thus argue that positive income support in emerging countries may not only improve economic conditions at the household level, but also support macroeconomic recovery via a boost in private consumption.

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