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COVID ECONOMIC IMPACT: AN EXOGENOUS SHOCK WITH HETEROGENOUS HOUSEHOLD RESPONSE. EVIDENCE FROM MEXICO.

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COVID ECONOMIC IMPACT: AN EXOGENOUS SHOCK WITH HETEROGENOUS HOUSEHOLD RESPONSE. EVIDENCE FROM MEXICO.

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Abstract

We investigate the impact of the Covid pandemic in household financial decisions in Mexico in 2020. We find that on one extreme households with higher wealth and no income shock were less likely to adopt a coping strategy. On the other extreme, lower wealth households with no previous savings and a negative income shock were more likely to ask for a loan or sell assets.

Keywords: Covid, health shock, income shock, coping strategies, household finance.

1.- Introduction.

Covid-19 was an exogenous shock for families around the globe. It was a health crisis that provoked an economic shock for countries, corporations, and households. Our paper studies differences in household financial behavior in Mexico during the pandemic. We present evidence of the determinants of seven financial strategies that households adopted to manage their financial shocks.

In the health area the story is about massive contagions, with a controlled number of deaths in societies around the globe. In the economic area the story in countries around the world is a big fall in GDP in 2Q 2020[1] with a major rebound in 3Q and further recovery thereafter. By the end of 2020 the economy did well, and the median household did not suffer much. On average household balance sheets improved with more savings and less debt. In sum, the health shock led to a short-term economic shock, but not a systemic financial or economic crisis.

In order to respond to the shock, households adopted different strategies. There is literature about household coping strategies when facing an external shock. It is mostly related to climate shocks in communities or health shocks in families.

Gao and Mills (2018) find that a social safety net reduces changes in consumption when there is a rainfall shock. Bonafice (2017) estimate the determinants of different coping

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[1] For OECD countries was a -10.3% with respect to previous quarter.

strategies similar to the ones we defined. Islam and Maitra (2012) find that access to microcredit can mitigate wealth impact on families that suffer a health shock. Gallegher and Hartley (2016) find that after Katrina there was a limited increase in credit card loans showing that financial intermediaries imposed a credit restriction.

The income shock was not homogeneous for all households, and largely depended on whether its income generating activity was essential or if work could be done from home. The impact on the labor market was industry and country specific. In most of developed countries Government spending was anticyclical providing support to more vulnerable groups to mitigate the income shock and smooth their consumption. In countries like the US, the aid was a positive windfall for households.

The economic story of Mexico is similar to other countries. The big difference is that the Mexican Government did not send checks to families in an economy with high informality and a limited social security safety net.

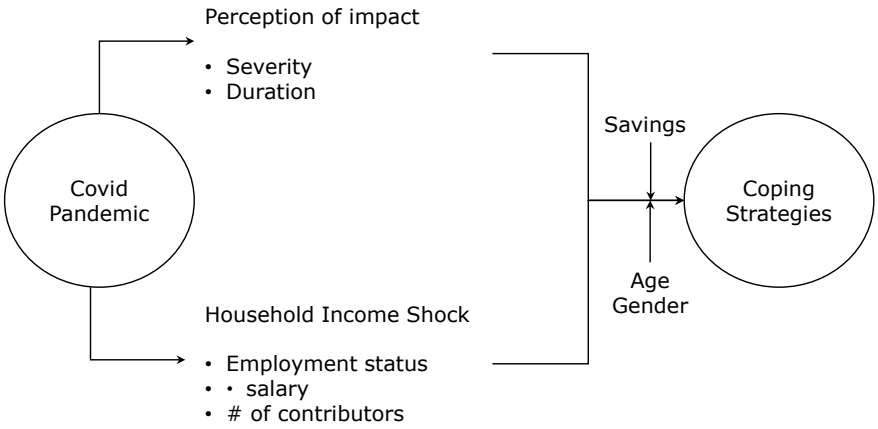
The broad impact of the Covid shock together with the absence of Government programs define an interesting setting to study coping strategies. We argue that there is a story at the household level. The micro story of strategy adoption depends on household variables such as if there was an income shock, savings, and its characteristics.

2.- Hypothesis.

The case of Covid-19 is different from the shocks analyzed by the coping strategies literature in at least three important ways. It had an impact in the whole world economy, so it was not community or family specific. Second, households were subject to varying degrees of both health and economic pressures from Covid. Third, unlike a natural disaster, in Covid there was uncertainty related to the duration of the crisis.

We present our model of household behaviour in Figure 1. First, we define that there were two possible shocks, health and economic. For each one we define some specific variables. Second, we consider households characteristics (such as previous savings and wealth) together with demographics (age and gender). The interaction of all the variables is what defines the choice among the different coping strategies.

Figure 1.- Our Model of Expected Behaviour



We would expect that a shock to household income will be a key determinant in deciding whether to adopt or not a coping strategy. Additionally, we have the following hypothesis regarding other factors that may influence the adoption of a coping strategy in response to the pandemic.

Hypothesis 1: perception of the magnitude of the Covid crisis influences financial behaviour.

During the first months of the Covid crisis there was abundant and often conflicting information about the severity and the possible duration of the crisis. The perceived severity is relevant because people who believe that the return to normalcy would take longer acted prudently.

Hypothesis 2: access to alternative financial instruments depend on the socio-economic level of the household.

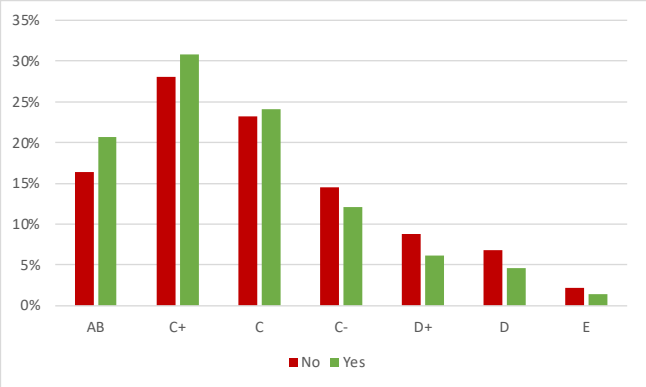
Higher wealth and income households will access bank loans, while lower-level households will have to use informal channels or pawn shops to have access to credit.

Hypothesis 3: having savings determine the strategy adopted.

Not all strategies were an option for all households. Not having savings will limit the options to reducing spending or obtaining money form an external source.

The graph shows that savings frequency is similar for all socio-economic levels.

Graph 1.- Previous Savings by Socioeconomic level



Source: own calculations using data from survey.

3.- Data and model specification.

Our initial approach was to collect face-to-face surveys of a representative sample of households. This option was not possible during the first months of the pandemic due to lock-down restrictions. Our random sample of respondents were contacted through calls to landlines and mobile phone numbers.

The sampling scheme was probabilistic and stratified by region[2] using the population over 18 years old. We gathered a total of 4,476 responses.

We estimate logit regressions using the following form:

$$Y_{in} = a + B_1X_1 + B_2X_2 + B_3X_3 + B_4X_4 + B_5X_5 + e$$

Where:

Y_{in} = Household financial strategy i.

X_1 = Variables related to income shock.

X_2 = Variables related to perceived severity and duration of the pandemic.

X_3 = Variables related to household wealth.

X_4 = Household savings (Dummy variable).

X_5 = Other control variables (gender, age, and region).

[2] According to Mexico's six electoral districts.

We have seven dependent variables obtained from the question "Since the beginning of the COVID-19 lockdown, have you carried out any of the following actions to cover household expenses?." The option for each question was a binary variable. Respondents were asked to respond "Yes" or "No" for each strategy.

The seven dependent variables are: taking a loan, using savings, selling an asset, reducing expenses, searching for another job, pawning, and did not need it.

We divided the strategies into passive and active. The former are strategies where the main action was to reduce spending or use savings. The latter are strategies where households recurred to external financing to complement their income, such as getting a loan, or selling or pawning an asset.

To measure the income shock, we asked both the employment status, as well as changes in salary. We also asked the number of people contributing to household, as we expect that households which rely on several incomes will be less vulnerable. This variable serves as a control in our analysis.

We applied a standard battery of questions designed by AMAI[3] to determine socio-economic level, ranging from A (highest) to E (lowest). This is a proxy for household wealth and income level.

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Perceived severity is a response to the question "In your opinion, how severe is COVID-19 in Mexico?", and expected duration to the question "When do you think your life and daily dynamics will return to normal?" We estimated correlations between the two sets of perception variables. Results show that are small and not significant.

4.- Results.

We ran logistic regressions for each household financial strategy. Table 1 presents the results.

[3] Mexican Association of Marketing Research and Public Opinion Agencies.

Table 1.- Regressions of Household Strategies

	Loan	Savings	Selling	Expenses	Employment	Pawning	Does not need
Unchanged income	−0.178	−0.048	−0.421***	−0.087	−0.235	−0.355	0.224***
	−(0.110)	−(0.102)	(0.144)	(0.077)	(0.146)	(0.391)	(0.075)
Reduced income	0.354***	0.128	0.111	−0.014	−0.044	0.024	−0.104
	(0.111)	(0.102)	(0.151)	(0.079)	(0.154)	(0.413)	(0.077)
Suspended income	0.395**	0.374**	0.537**	0.027	0.394*	0.287	−0.410***
	(0.186)	(0.175)	(0.224)	(0.144)	(0.237)	(0.629)	(0.150)
Gravity	0.097	−0.020	0.194	0.088	−0.263**	−0.039	−0.099*
	(0.091)	(0.081)	(0.125)	(0.061)	(0.128)	(0.311)	(0.058)
Expected duration							
Two/three months	0.222	0.519**	0.431	0.480***	0.628**	0.000	−0.373**
	(0.264)	(0.216)	(0.341)	(0.176)	(0.304)	(-)	(0.178)
End of 2020	0.314**	0.284**	0.358*	0.325***	0.170	−0.119	−0.441***
	(0.140)	(0.125)	(0.198)	(0.096)	(0.193)	(0.536)	(0.093)
2021/never	0.125	0.050	0.415**	0.191*	0.179	0.294	−0.217**
	(0.145)	(0.132)	(0.197)	(0.098)	(0.194)	(0.500)	(0.093)
Socioeconomic level							
C+	0.038	0.121	0.133	0.336**	−0.081	0.412	−0.225**
	(0.163)	(0.137)	(0.239)	(0.107)	(0.220)	(0.598)	(0.102)
C	0.257	−0.013	0.523**	0.228**	0.161	−0.599	−0.205*
	(0.166)	(0.147)	(0.235)	(0.114)	(0.222)	(0.772)	(0.108)
C-	0.172	0.045	0.729***	0.241*	0.255	−0.007	−0.330**
	(0.198)	(0.179)	(0.259)	(0.136)	(0.257)	(0.783)	(0.133)
D+	0.149	−0.036	0.553*	0.185	0.229	0.881	−0.171
	(0.243)	(0.225)	(0.311)	(0.167)	(0.308)	(0.737)	(0.161)
D	0.360	−0.448	0.860	0.203	0.396	1.209	−0.323
	(0.267)	(0.310)	(0.334)	(0.199)	(0.351)	(0.750)	(0.199)
E	0.607	0.301	0.000	−0.314	0.653	0.000	−0.659*
	(0.406)	(0.418)	(-)	(0.364)	(0.515)	(-)	(0.356)
Previous savings	−0.339***	0.685***	−0.287**	−0.018	−0.356**	0.158	0.035
	(0.109)	(0.100)	(0.144)	(0.074)	(0.145)	(0.385)	(0.072)
Gender	−0.190*	−0.193**	−0.127	0.183**	−0.024	0.362	−0.019
	(0.107)	(0.097)	(0.142)	(0.074)	(0.143)	(0.400)	(0.072)
Age							
26 to 35 years	0.189	−0.012	−0.211	0.046	0.198	−0.513	−0.032
	(0.153)	(0.129)	(0.192)	(0.102)	(0.196)	(0.676)	(0.102)
35 to 45 years	0.150	−0.356**	−0.210	−0.223*	0.227	0.684	0.219*
	(0.174)	(0.158)	(0.219)	(0.119)	(0.220)	(0.578)	(0.114)
46 to 60 years	0.004	−0.328**	−0.247	−0.098	−0.149	0.385	0.212*
	(0.170)	(0.147)	(0.208)	(0.111)	(0.225)	(0.580)	(0.108)
Over 60 years	0.472**	−0.342*	−0.936***	−0.069	−0.751**	(0.342)	(0.047)
	(0.198)	(0.200)	(0.341)	(0.146)	(0.360)	(0.747)	(0.144)
People who contribute	−0.004	−0.007***	−0.001	−0.005***	−0.007**	−0.026	0.006***
	(0.002)	(0.002)	(0.003)	(0.002)	(0.004)	(0.024)	(0.001)
Constant	−2.211	0.304	−3.103	−1.367	0.475	−5.459	0.108
	(0.344)	−(5.620)	(0.474)	(0.234)	−(6.860)	(1.248)	(0.222)

Observations: 3,331
Note: *p<0.1, **p<0.05, ***$p < 0.01$

Salary status as a proxy for income shock had the expected impact. People who received a complete salary were less likely to get a loan, sell an asset or get a second job. Conversely, people who stopped receiving their salary are more likely to use these strategies as well as their savings. The number of people working in the household also had a significant and negative impact in the use of most instruments.

When we compare perception variables, Gravity has a lesser impact then Expected duration. While gravity only has a significant positive impact on the decision to get a second

employment, Duration has a significant and positive impact on using all but one coping strategy.

The use of different instruments is explained by household wealth and income level. Using A/B as the base category, people across the middle class are more likely to reduce expenses, and people in the middle low levels are more likely to get a loan or sell an asset. Interestingly, the only significant variable that explains pawning as a coping strategy is being in the D socioeconomic level. Except for the D+ level, all levels are significantly less likely not requiring a coping strategy to deal with the crisis than A/B.

Having savings has a significant impact on the types of strategy used. As expected, people with savings used them as a primary way of dealing with the pandemic related shocks. They are significantly less likely to get a loan, sell an asset or get a second job.

Age also has an impact. Compared with younger people, all the age brackets above 35 are less likely to use their savings. The oldest bracket (over 60) is also less likely to sell an asset or get a second job. The 35-45 bracket is significantly less likely to have to recur to a coping strategy. The results of gender are interesting. Women are more likely to reduce spending and less likely to get a loan. Region had no significant impact in the determination of the coping strategies.

5.- Conclusions.

Covid-19 pandemic was a health and economic external shock that had a generalized impact in all the economies. We use this shock as a natural experiment to understand if household characteristics influence the choice among the different financial strategies to deal with a widening gap between expenses and income.

In a nutshell, we find that the perception of the severity of the health crisis, socio-economic level and previous savings affect the propensity to adopt different scoping strategies, even controlling for income shock and demographic variables. All the results are consistent with our hypothesis of household behaviour.

Declaration of interests

The authors declare that they have no competing financial interests nor personal relationships that could inappropriately influence their work.

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