

---

# FINANCIAL STRAIN: THE MITIGATING EFFECTS OF PRECAUTIONARY SAVINGS AND THE FUTILITY OF FISCAL STIMULI

---

---

CENTER FOR BUSINESS RESEARCH AND  
DEVELOPMENT RESEARCH NOTE

JULY 2020  
YEREVAN, ARMENIA

# FINANCIAL STRAIN: THE MITIGATING EFFECTS OF PRECAUTIONARY SAVINGS AND THE FUTILITY OF FISCAL STIMULI

GURGEN ASLANYAN, PhD

Manoogian Simone College of Business and Economics  
American University of Armenia

VARDAN BAGHDASARYAN, PhD

Manoogian Simone College of Business and Economics  
American University of Armenia

---

## Key Findings

---

- precautionary savings decreases the probability of the respondents to claim they were hit by the pandemic more than the others
- government financial support programs have next to zero effect on the perceived financial strain.
- savings (and not the income) ensure that the respondents were able to pay their bills during the pandemic lockdown month.

# FINANCIAL STRAIN: THE MITIGATING EFFECTS OF PRECAUTIONARY SAVINGS AND THE FUTILITY OF FISCAL STIMULI

Gurgen Aslanyan, Assistant Professor, American University of Armenia

Vardan Baghdasaryan, Associate Professor, American University of Armenia

## Introduction

2020 started with an unprecedented economic downturn that came with lockdown, disruption of global value chains, collapse of oil prices, return of migrants, and much more. All these are leading the economy into a recession - the depth and the length of which is unknown. While the length of the main cause of the recession - the Covid-19 pandemic - is epidemiological question (and thus beyond the scope of this study), the usual Keynesian suspect for the length - the aggregate demand - depends much on the expectations of the population and the government policies (fiscal and monetary).

However, as with Keynes' behaviourist theory, in order for the population to have high levels of consumption (and thus increase the aggregate demand) they need their *spiritus animalis* up. The *spiritus animalis* (or the animal spirits) are the emotions that provide confidence to people and thus drive them to higher consumption in an uncertain environment. Otherwise even with strong fundamentals, overall pessimism may trigger a vicious cycle leading to deep recessions. That is, the perceived reality may be different from the objective environment that may either amplify the negative shocks or, if spirits are high, pull the economy out of a recession.

However, the evidence suggests that during crises economic anxiety increases, the animal spirits decline and economic prudence prevails: For instance, Jribi *et al.* (2020) report that during Covid-19 even food waste went down, with 93% of the respondents claiming behavioural changes that result in lower expenditure on food. Studying the Great Recession, Wilkinson (2020) found increased economic anxiety and financial strain (thus loss of confidence in future, dire expectations, low consumption, and the like) – mostly because the population objectively suffered financial losses. However, Wilkinson finds that the financial strain exists during the crises

regardless of the actual resources available to the respondent, and hence the decline in *spiritus animalis* is omnipresent.

Thus, in this work we explore the issue of the financial strain in Armenia during the Covid-19 pandemic-induced recession. The aim of the study is to understand the causes of the financial strain, and the possibly mitigating effects of precautionary savings and government support (fiscal stimulus) programmes on the animal spirits.

### **Data and background information**

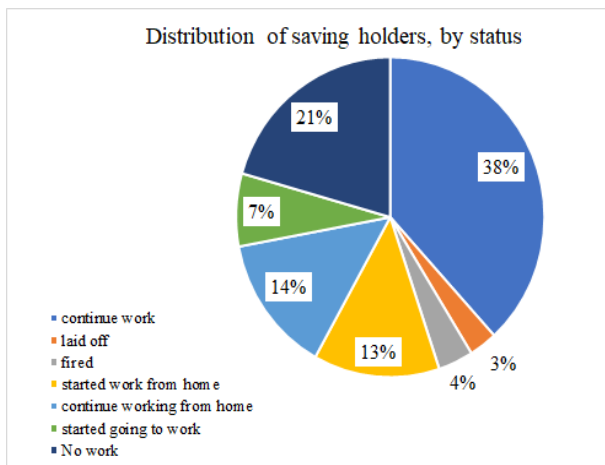
The analysis is based on a phone-survey dataset that was collected in late-May 2020 by the Avedisian Center for Business Research and Development at the American University of Armenia. Over 1300 working-age respondents from various regions of Armenia - both rural and urban - answered a set of questions (covering various questions on experience, behaviour, attitudes and the like) using their own smart devices, in return for an entry into a lottery that may potentially award them over 5% of an average monthly salary.

The results of the survey suggest that due to the pandemic 21% of the respondents have at least one household member that lost their job and 39% experiencing a salary decrease. Among the respondents, over 35 % lost their job or were required to go on an unpaid leave, as of the date the lockdown was lifted. Only 29.5 % believe that the pandemic has affected them less than others in the country.

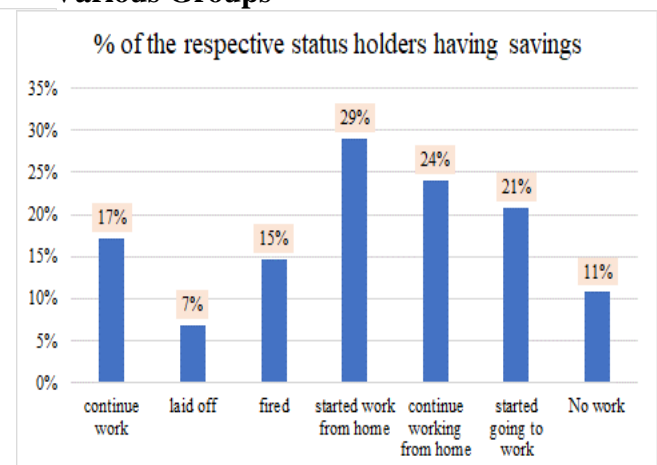
The government has launched a number of aid packages that had an objective to mitigate the negative outcomes of COVID-19. Almost half of the respondents have benefited from at least 1 of those programs. At the same time 48.8% of the respondents claim that they will not be able to cover their bills. We have investigated also the effect these programs have had on the perceived financial situation of the respondents. In particular, we have observed that those receiving the aid are more likely to report that their financial situation was hit harder than the others' around them. It is difficult to claim whether the aid was sufficient to materially mitigate the difficulties citizens are facing, but almost 80% of aid recipients (or soon-to-be recipients) claim they will use this money to cover debts, pay accounts or buy primary consumption goods.

From the pie chart in Figure 1, we can see that mostly the working population holds savings, and only 7% of the population who claim savings are those who lost their jobs (while they constitute about a fifth of the total population). Further, only 15% of those who were fired during the pandemics were in possession of savings, and only 7% among the laid-off respondents had savings. These are strictly lower than the other groups, with over a quarter of those working from home claiming some savings. Also, only 17% of the total respondents claim to have enough savings to cover for 3 months with no salary (Figure 2).

**Figure 1. Savings by Status**



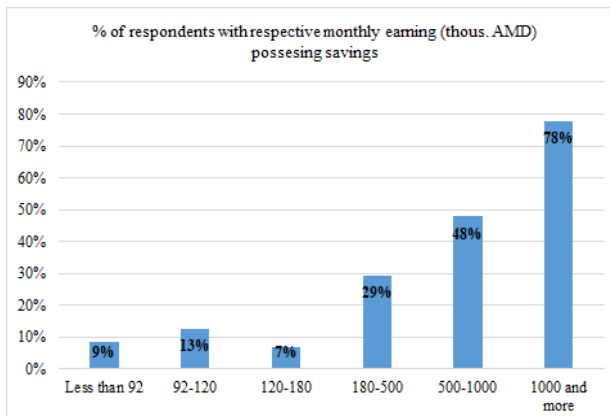
**Figure 2. Share of Savers Among Various Groups**



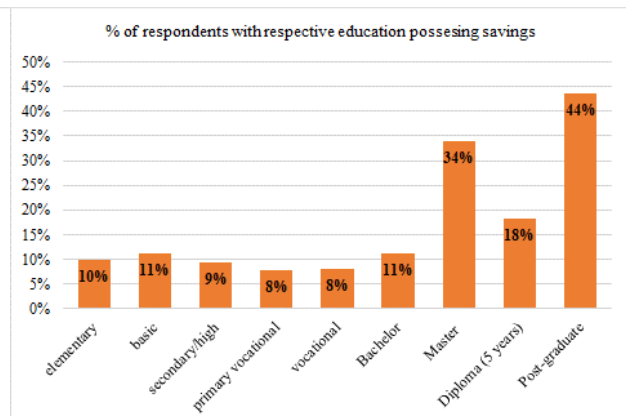
Source: CBRD Survey and authors' calculations

Figure 3 shows that those with more income are more likely to be in possession of savings worth 3 months of income. Thus, the figure shows that while the savers among those who earn up to the average wage is about 10%, the percentage of savers progressively grows with the income (with 78% of those who earn over 1 million drams claim enough savings). A similar pattern is observed with education in figure 4. Thus, among those with secondary education or below, only about 10% save; reports of the respondents with bachelor's degree holders is on a comparable level, and together they constitute 66% of all the respondents. The proportion of those who save is larger with higher degrees: thus, 18% of those with 5 years of education save, as do 34% of MS holders and 44% with postgraduate degrees. This situation may be connected to more literacy, maturity, or income.

**Figure 3. Savings and Income**



**Figure 4. Savings and Education**



Source: CBRD Survey and authors' calculations

Table 1 provides the correlation matrix of various variables and it is visible that the savings are correlated the highest with the education level, while the correlation with the other contributing factors are an order lower. Thus, income, Yerevan residency, and the full-time employment status have only 10-15% correlation with savings. Surprisingly, gender, business ownership and savings behaviour are not correlated. Again, the largest negative correlation of savings is with inability to cover the bills before the pandemics (given the permanent need in cash, savings are not being generated). It is even more acute with the inability to cover the bills during the pandemics (probably due to depletion of any savings that have been accumulated before but spent during the lockdown and vice versa).

**Table 1. Correlation Matrix**

	Savings	Income	Unemployed (pre)	Business owner	Agriculture based	Full-time employee	Fired in May	Not Government Beneficiary	Problem paying bills before covid	Problem paying bills in May	Financial strain more than average	Male	Age	Education	Yerevan	Rural
Savings		0.17	-0.04	0.05	-0.04	0.10	-0.06	0.03	-0.27	-0.34	-0.13	0.03	-0.01	0.26	0.17	-0.03
Income	0.17		-0.37	0.09	-0.09	0.49	-0.02	0.06	-0.21	-0.24	-0.03	0.22	0.14	0.34	0.27	-0.17
Unemployed (pre)	-0.04	-0.37		-0.21	-0.13	-0.37	-0.01	-0.10	0.09	0.07	0.01	-0.17	-0.10	-0.21	-0.12	0.03
Business owner	0.05	0.09	-0.21		-0.11	0.00	0.02	-0.02	-0.08	0.01	0.10	0.09	0.05	0.06	0.02	-0.07
Agriculture based	-0.04	-0.09	-0.13	-0.11		-0.10	-0.03	0.02	0.02	0.02	0.05	0.10	0.00	-0.10	-0.21	0.36
Full-time employee	0.10	0.49	-0.37	0.00	-0.10		-0.05	0.06	-0.18	-0.22	-0.08	0.11	0.14	0.31	0.19	-0.10
Fired in May	-0.06	-0.02	-0.01	0.02	-0.03	-0.05		-0.02	0.06	0.07	0.14	0.06	0.01	-0.07	0.00	0.00
Not Government Beneficiary	0.03	0.06	-0.10	-0.02	0.02	0.06	-0.02		-0.06	-0.08	-0.03	0.03	-0.08	0.05	0.01	0.00
Problem paying bills before covid	-0.27	-0.21	0.09	-0.08	0.02	-0.18	0.06	-0.06		0.61	0.09	-0.03	0.00	-0.25	-0.17	0.10
Problem paying bills in May	-0.34	-0.24	0.07	0.01	0.02	-0.22	0.07	-0.08	0.61		0.14	-0.02	-0.10	-0.30	-0.14	0.04
Financial strain more than average	-0.13	-0.03	0.01	0.10	0.05	-0.08	0.14	-0.03	0.09	0.14		0.12	-0.01	-0.13	-0.05	0.00
Male	0.03	0.22	-0.17	0.09	0.10	0.11	0.06	0.03	-0.03	-0.02	0.12		-0.04	-0.08	-0.04	0.11
Age	-0.01	0.14	-0.10	0.05	0.00	0.14	0.01	-0.08	0.00	-0.10	-0.01	-0.04		0.10	0.03	-0.09
Education	0.26	0.34	-0.21	0.06	-0.10	0.31	-0.07	0.05	-0.25	-0.30	-0.13	-0.08	0.10		0.29	-0.26
Yerevan	0.17	0.27	-0.12	0.02	-0.21	0.19	0.00	0.01	-0.17	-0.14	-0.05	-0.04	0.03	0.29		-0.49
Rural	-0.03	-0.17	0.03	-0.07	0.36	-0.10	0.00	0.00	0.10	0.04	0.00	0.11	-0.09	-0.26	-0.49	

Source: CBRD Survey and authors' calculations

Problems paying bills during the pandemic is highly correlated with the inability of paying bills before the crisis, and on a much smaller magnitude to previously being unemployed or getting fired during the crisis. A high negative correlation can be observed with income, full time work-hours, education and savings. While the correlation of the objective financial difficulty is high with objectively expected economic variables, the correlation between the objective and perceived financial strain is rather small - almost the same size as savings or education. The surprising correlates are perhaps business ownership (probably mimicking the extent of personal involvement into the business and additional economic anxiety) and gender (perhaps the traditional breadwinner feels more psychological pressure).

### Objective and perceived financial hardship induced by the pandemics

Table 2 provides the partial correlations (correlations while all the other cross-correlations are factored out) between objective and perceived financial strain and a number of control variables. Partial correlates show the connection between the variables *ceteris paribus*. The colours in the table show whether the partial correlation coefficients (expressed as percentages) are statistically different from zero.

As literature suggests (Glei *et al.*, 2018) objective hardship caused by strong distress is often perceived differently. The partial correlation analysis of Table 2 also confirms the result: While mature and more educated people get into the trouble of paying bills much less (column 1), they seem to be claiming financial strain as much as the others. Furthermore, people in agriculture seem to be more distressed (a correlation of 6.6-6.7% between perceived severity and their line of work, while objectively, they have not been affected differently than the average person). Similarly, the male population have claimed more financial strain than objectively they have had (perhaps the perceived breadwinner burden). As opposed to the above cases, the table shows, business owners claim and objectively confirm financial hardships induced by the pandemic. A noteworthy fact: while the government support policies objectively have a mitigating effect on the financial hardship, the perceived financial strain is not affected by it.

Finally, Table 2 shows that savings have mitigating effects on both objective and perceived financial hardship. While those who have savings (again controlling for other factors) are much less likely to be in objectively dire financial situations (and vice-versa, as this is a correlation only), they are also much less likely to claim financial hardship (again controlling for other factors) and thus will be in better mental health. Column 3 of Table 2 shows that if respondents claim that (if not saving) they have ready help to cover their costs, their perceived financial hardship is smaller (though less potent than the sure savings only). Noteworthy fact: it is the savings and not the income that helps people through objective and perceived financial difficulties.



**Table 2. Partial Correlates**

	Main variables			
	Problem paying bills in May	Financial strain over average (2)	Financial strain over average (3)	Savings
Savings	-20.3	-8.2		
Savings or ready help			-6.6	
Male	-0.6	10.3	10.5	2.3
Age	-12.2	-0.4	0.1	-2.9
Education	-12.1	-5.7	-6.2	18.3
Income	-4.9	2.1	1.9	5.9
Yerevan	0.6	-0.9	-1.2	11.1
Rural	-5.5	-5	-5.1	9.4
Unemployed (pre)	-5.4	2.7	2.8	4
Business owner	8.2	10.4	10.4	3.2
Agriculture based	0.3	6.6	6.7	-1.7
Full-time employee	-6.6	-3	-2.5	-2.8
Fired before May	5.7	4.4	4.5	-3.8
Fired in May	-2.4	5.6	5.5	
Not Government Beneficiary	-6.6	-1.6	-1.6	
Problem paying bills before covid	54.7	0.5	0.1	-19.4
Problem paying bills in May		5.4	6	

This color indicates significance on 0.01 level

This color indicates significance on 0.05 level

This color indicates significance on 0.1 level

Source: CBRD Survey and authors' calculations

Again, the results suggest that the most potent variable to explain the variation in savings is education (about 20% of correlation, statistically significant on 0.01 level) and residency (urban populations outside the capital region have much less savings). The role of income is significantly less (about 6% of correlation, with significance of only 0.1 level) than might be expected. And the largest and strongest negative correlation is the inability to pay the bills before the pandemics (which probably covers the cases of extreme poverty).

### **Saving *causes* less financial strain, government support does not**

To quantify the effect of various mitigating variables on objective and perceived financial strain we report the marginal effects of a *probit* model in Table 3 (the numbers in the cells can be interpreted as average predicted probability change connected to each variable). Thus, the

estimations show that having savings decreases the probability of an individual to claim increased financial strain by 15-17 percent and the probability she would be able to pay all her bills during the lockdown month by over 40 percent. These results are attributable to individuals having similar income, age, gender, occupational characteristics and settlement type.

On the contrary, being a beneficiary to any of the government support programmes (specially designed to fight Covid-induced crisis problems) are very small in magnitude and (almost always) statistically not different from zero. Noteworthy fact: business owners (or the self-employed) are 60 percent more likely to claim that they have suffered more than the others, while they have little (close to zero) chance of objectively facing a problem. The result is easily attributable to differences in perceptions.

To ensure the direction of causation statistical instruments have been used. To address the possible statistical problem that savings and financial conditions' perceptions due to pandemic might be driven by the same factor, we use various socio-demographic characteristics of the respondents as instrumental variables - assuming that education, gender, age, and the like, should not be directly associated with the effects of pandemic, as the latter is really exogenous. Thus, with the robust statistical tests the results are unaltered: possession of savings significantly decreases the chance of unnecessary feeling of financial strain, while the government policies have no effect (or if strictly interpreted, being part of a support program causes higher perceived distress).

**Table 3. Probability Unit Estimates for Causal Relationships**

VARIABLES	Financially hit more than others	Financially hit more than others	Ability to Pay bills
Government aid receiver	0.060* (0.031)	0.045 (0.034)	0.024 (0.036)
Salary category	0.011 (0.008)	.016* (.009)	0.007 (0.009)
Self-employed	0.122*** (0.039)	0.593*** (0.170)	0.028 (0.051)
ISCO occupation	0.011* (0.006)		-0.014* (0.008)
<b>Saving dummy</b>	<b>-0.170*** (0.062)</b>	<b>-0.155*** (0.045)</b>	<b>0.429*** (0.048)</b>
Female	-0.046 (0.032)		-0.051 (0.039)
Age	-0.002 (0.002)		0.002 (0.002)
Urban dummy	-0.025 (0.038)		0.015 (0.047)
Observations	551	551	601
Industry controls	Yes	Yes	Yes
Pseudo R-squared	0.11	-	0.20
Instruments	n.a.	Education, Female, Age, Urban	n.a.

Marginal effects reported. Robust Standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

## POLICY COMMENTS

In times of crises behavioural Keynesianism demands bringing the animal spirits - emotions responsible for confidence in an environment of high economic uncertainty - up in order to foster higher consumption and thus increased aggregate demand (through direct consumption and an increased multiplier). Literature shows and the results confirm that the objective and perceived financial hardship do not necessarily coincide, and even with an objectively benign financial environment people may still feel increased financial strain (decline of animal spirits).

The results (that are new to the literature to the best of the knowledge of the authors) show that having precautionary savings decreases the probability of the respondents to claim they were hit

by the pandemic more than the others. Further, even the fact that they can rely on somebody else if their savings are depleted, makes people less anxious and decreases their perception of financial strain. Finally, the results show that the government financial support programs have next to zero effect on the perceived financial strain. Moreover, savings (and not the income) ensure that the respondents were able to pay their bills during the pandemic lockdown month.

This indicates that for efficient crisis-mitigation policy the behavioural aspects need to be addressed aside from the usual fiscal policy, as the results show that the policies had very little (if any, and if not negative) effect on the perception of the situation. This study suggests that some safety anchors - particularly precautionary savings or even a reliable helping hand - are required. So, if not particularly designed policies for creating (an illusion of) savings or a supportive big brother, simple nudges or reminders that people can help each other in difficult times of crisis (as was done in Armenia in the early 90s) may prove helpful - if executed carefully.

Thus, in general, this study suggests that a well-designed saving policy may prove useful for the efficiency of fiscal policy and for shortening the length or the depth of any recession.

## References

- Glei, D.A., Goldman, N., & Weinstein, M. (2018) Perception has its Own Reality: Subjective versus Objective Measures of Economic Distress. *Population and Development Review*, 44, 695–722.
- Jribi, S., Ben-Ismaïl, H, Doggui, D, Debbabi, H (2020) COVID-19 virus outbreak lockdown: What impacts on household food wastage? *Environment, Development and Sustainability*, 22, 3939–3955.
- Wilkinson, L. R. (2016). Financial Strain and Mental Health Among Older Adults During the Great Recession. *The Journals of Gerontology: Series B*, 71, 745–754.