SAVINGS AND ECONOMIC DISASTERS: GLOBAL EVIDENCE

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Abstract

In recent literature, economic disasters have shown promising potential to fill some important gaps in empirical research. The term economic disaster is used in the literature to identify particularly large economic crises, and Barro and Ursúa (2008, 2012) define it as a cumulative decline in output or consumption over one or more years of at least 10 percent. The contribution of economic disasters has been recognized in a number of phenomena ranging from those of finance to those of traditional macroeconomic analysis related to investment and output. Using the recently updated and expanded Ćorić (2021) database on economic disasters, this paper re-examines the impact of economic disasters on saving. Early studies suggest that theoretically negative effects are to be expected. However, more recent empirical research by Aizenman and Noy (2015) shows that economic disasters increase the savings rate. This result implies that the predominant effect of uncertainty related to economic disasters is to increase precautionary saving, which is in contrast to previous findings in the literature. The present study therefore aims to investigate this discrepancy in the results by providing new empirical evidence based on the new database on economic disasters. This database covers a much larger number of countries and thus provides new insights into the relationship between economic disasters and saving from a global perspective. Using a sample of 169 countries, both developed and less developed, since 1980, this study finds that economic disasters have a positive effect on saving and that the effect is statistically significant.

Keywords: Saving, Economic disasters, Global evidence
JEL classification: C5, E2, O4

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1. Introduction

In recent literature, economic disasters have shown promising potential to fill some important gaps in empirical research. The contribution of economic disasters has been recognized in a number of phenomena ranging from those of finance to those of traditional macroeconomic analysis related to investment and output. Despite this prominance of economic disasters in the recent literature, the relevance of this phenomenon to saving remains relatively under-researched. Using the recently updated and expanded Ćorić (2021) database on economic disasters, this paper re-examines the impact of economic disasters on saving, making an important contribution to the empirical literature. The early literature on economic disasters suggests that, theoretically, economic disasters are expected to have a negative impact on saving. However, more recent empirical studies show that economic disasters increase the savings rate. This finding implies that the predominant effect of uncertainty associated with economic disasters is to increase precautionary saving, which is in contrast to previous findings in the literature. The present study therefore aims to investigate this discrepancy in the results by providing new empirical evidence based on the new database on economic disasters. This database covers a much larger number of countries and thus offers new insights into the relationship between economic disasters and saving from a global perspective. This global perspective is particularly important as the incidence of economic disasters, which is much higher in less developed countries than in developed

countries after the Second World War, could provide a better understanding of the importance of economic disasters for saving.

This article is structured as follows. Section 2 explains the theoretical background for the link between economic disasters and saving and provides an overview of previous empirical studies. The modelling strategy, data and results of our empirical study are presented in Section 3. Section 4 contains the conclusions.

2. Previous literature and theoretical background

Economic disasters have recently found various applications to explain a range of economic phenomena showing a strong potential to fill gaps in the theoretical and empirical literature. These rare but extremely large economic crises have attracted the interest of researchers from all over the world. The term economic disaster is used in the literature to distinguish particularly large economic crises, defined in Barro and Ursúa (2008, 2012) as a cumulative decline in output or aggregate consumption over one or more years of at least 10 percent. The application of the concept of economic disasters has a long history. One of the first applications dates back to Rietz (1988), who explained the equity premium puzzle by including economic disasters in the analysis. Barro (2006) returned to this theme and showed that by calibrating the probability of economic disasters with 20th century GDP data, the puzzle can indeed be explained empirically. After the 2007/2008 global financial crisis, a number of researchers have built on the findings of Rietz (1988) and Barro (2006) to construct models of asset pricing and macroeconomic dynamics that take into account economic disasters.

The inclusion of economic disasters in the modelling strategy to explain additional phenomena in finance has proven valuable in the recent finance literature (see, e.g., Gabaix, 2012; Watcher, 2013; Barro and Jin, 2018; Gourio, 2013; Farhi and Gabaix, 2016; Barro and Liao, 2016; Seo and Wachter 2019). In addition to these studies focusing on financial phenomena, a growing number of publications indicate that economic disasters can also have a significant impact on the real economy. For example, the effects of economic disasters on business cycles are examined by Gourio (2012) and their significance for explaining debt intolerance by Rebelo et. al. (2022). Barro (2009) shows that economic disasters can have a negative impact on long-term output growth within the framework of the standard AK model of growth. Indeed, Ćorić (2017) confirms this relationship empirically and finds strong negative effects of economic disasters on long-run growth. The effects of economic disasters on savings and investment are examined by Aizenman and Noy (2015) and Ćorić and Šimić (2021). Since the present study focuses on the relationship between saving and economic disasters, we additionally refer to Barro (2009), Aizenman and Noy (2015) and Ćorić and Šimić (2021) to provide a deeper context for our own empirical analysis of the impact of economic disasters on saving.

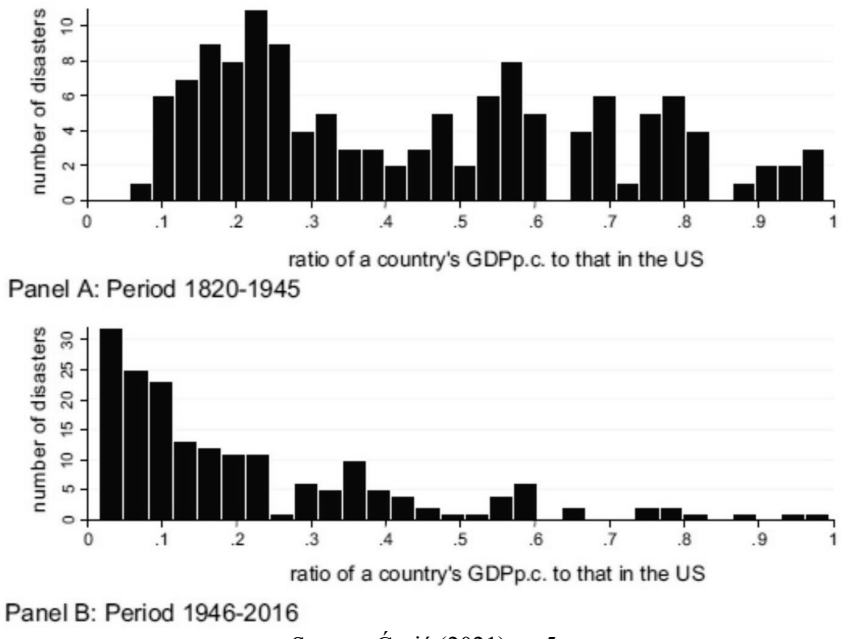
The empirical study by Ćorić and Šimić (2021) shows a significantly negative and economically important long-term effect of economic disasters on aggregate investment after the Second World War. The channel through which this identified relationship could operate is savings and the impact of economic disasters on them. These results (considerations) are consistent with the theoretical macroeconomic model of Barro (2009). Building on the AK type of growth model and focusing on an economic subject trying to maximize expected lifetime utility (by miximizing the intertemporal consumption function), Barro (2009) argues that the effect of uncertainty associated with output volatility (economic disasters) on saving and investment depends on the size of the subject's intertemporal elasticity of substitution for consumption. This leaves open the theoretical possibility that economic disasters have both negative and positive effects on saving and investment. If the intertemporal elasticity of substitution is greater than 1, the uncertainty associated with output volatility primarily has the effect of reducing the risk-adjusted return on capital, which leads to a reduction in savings and therefore investment. If the IES is less than 1, then output volatility increases investment, as the uncertainty in this case primarily causes an increase in precautionary savings and therefore investment. Without going into the very complex details, the standard additive utility function and the widely accepted values of the parameters used (see e.g. Gandelman and Hernandez-Murillo, 2015) would (implicitly) result in a positive influence of output volatility on saving (and investment). However, Barro (2009) argues that a less restricted

version of a utility function can be used instead, and if the recursive version of a utility function is assumed, the impact of output volatility on saving and investment is likely to be negative.

A recent empirical study by Aizenman and Noy (2015) shows that economic disasters increase the savings rate. This result implies that the predominant effect of uncertainty associated with economic disasters is to increase precautionary saving. Consequently, according to the results of Aizenman and Noy (2015), economic disasters should increase rather than decrease saving and investment, as suggested by Barro (2009) and Ćorić and Šimić (2021). Gourio (2012) also comes to the conclusion that an increase in disaster risk leads to more precautionary saving. Nakamura et al. (2013) also find that the persistence of the income shock causes households to increase their savings over a longer period of time. Given these results, the possibility that painful past experiences increase the demand for precautionary saving should be considered.

The alternative theoretical considerations discussed above and the discrepancy found in the empirical results should be further investigated. This paper therefore re-examines the results of Aizenman and Noy (2015) using the new Ćorić (2021) economic disasters dataset. The reason for this is that the study by Aizenman and Noy (2015) is based on a limited sample of 23 high-income countries with a relatively low number of economic disasters. Using the new Ćorić (2021) dataset on economic disasters should allow us to examine the relationship between economic disasters and saving from a global perspective that includes both developed and less developed countries. This is important in view of the fact that the incidence of economic disasters is much higher in less developed countries in the post-World War II period. The importance of this fact can be seen in Figure 1 below, which is taken from Ćorić (2021, p. 5)

Figure 1. Distribution of economic disasters by the level of development



Source: Ćorić (2021), p. 5

Figure 1 (taken from Ćorić, 2021, p. 5) shows a large discrepancy in distribution of economic disasters between countries according to their level of development in the period before and after the Second World War. Panel A is based on the data on economic disasters from Barro and Ursúa (2012) and Panel B is based on the data on economic disasters from Ćorić (2021). Panel A shows that economic disasters were relatively evenly distributed between developed and less developed countries (the level of development is measured in this figure by the ratio of a country's GDP per capita to that of the US), while in Panel B we see that economic disasters are found in less developed countries. Although not shown here, it is also worth noting that Ćorić (2021) additionally reports that almost all economic disasters in the post-World War II period (182) are recorded in non-OECD countries. This suggests that

the impact of economic disasters can best be studied when the less developed countries are considered together with the developed countries. In light of the above considerations, it becomes clearer why the findings of Aizenman and Noy (2015), which focused on the 23 high-income countries, should be reconsidered to include all countries in the world. Focusing only on the developed countries is not very promising, as it has been shown that economic disasters were not frequent there in the post-World War II period. Therefore, this study uses the updated and expanded Ćorić (2021) dataset on economic disasters and focuses on a sample of 169 countries, both developed and less developed, in the empirical analysis below.

3. Empirical investigation - modelling strategy, data and results

3.1. Modelling strategy and data

In light of the literature review in the previous section, we employ the following general panel model to test the relationship between savings and economic disasters.

$$Saving_{i,t} = \beta\ Economic\ disasters_{i,t} + X_{i,t}\theta + \eta_i + \mu_t + \varepsilon_{i,t} \quad (1)$$

where the superscripts i and t stand for country and time period, and Xit is a vector of control variables. η and μ denote unobserved country- and time-specific effects, and ε is the error term. In this model, our main variable of interest is the economic disasters, but in addition, following previous studies, we add a number of control variables to ensure that our savings function is correctly specified.

Our dependent variable, saving, is the share of savings in GDP, and we have taken the data for this variable from the IMF's World Economic Outlook (WEO) database. A number of control variables are included in the analysis. In short, we use the explanatory variables suggested by standard models of the intertemporal allocation of consumption and saving (see, for example, Attanasio and Weber, 2010) and empirical studies on the determinants of saving (examples include: Loayza et al., 2000a; Loayza et al., 2000b; Mason and Kinugasa, 2007; Hufner and Koske, 2010; Horioka and Terada-Hagiwara, A., 2012; Aizenman and Noy, 2015; Bebczuk and Cavallo, 2015; Becerra et al., 2015; Grigolli et al., 2018). Bussollo et al. (2017) point out, in line with the standard life-cycle approach, saving behaviour depends on demography and per capita income growth as well as on additional determinants. These additional determinants in the previous literature include: population under 15 or over 65 (young and old dependency ratios), urbanisation rate, real interest rate, level of real per capita income, government stability index, law-and-order index, corruption index, years of schooling, unemployment rate, income inequality, uncertainty (uncertainty related to output volatility), etc. We also add the lagged dependent variable to allow for partial adjustment of the saving rate and estimate the dynamic version of the model shown in equation 1. The data for included variables are detailed in Table 1 below.

Our econometric estimates of the model shown in equation (1) are performed using different estimators. The linear version of the model is estimated using the standard fixed-effects OLS estimator. To address the potential problem of endogeneity, we will use two GMM estimators, the Arellano-Bond estimator (Arellano and Bond, 1991) and the Blundell-Bond estimator (Blundell and Bond, 1998). These additional estimators are also used to check the robustness of our results.

In terms of data, we used a variety of sources to collect our variables. Some of the sources have already been mentioned above, but in order to systematize them in one place, we give the details in Table 1.

Table 1. Variable description and sources

Variable	Description	Source
Savings	Gross national savings	IMF World Economic Outlook (WEO)
logGDPpc	GDP per capita (current US$), logarithm	World Bank WDI
GDPpcgrowth	GDP per capita growth (annual %)	World Bank WDI
Young dependency ratio	Age dependency ratio, young (% of working-age population), people younger than 15	World Bank WDI
Old dependency ratio	Age dependency ratio, old (% of working-	World Bank WDI

Variable	Description	Source
	age population), people older than 64	
Economic disasters	Economic disasters (1 in year when an economic disaster is identified; 0 otherwise)	Ćorić (2021)
Real interest rate	Real interest rate (%)	World Bank WDI
Inflation rate	Inflation, consumer prices (annual %)	World Bank WDI
Urbanization	Urban population (% of total population)	World Bank WDI
Domestic credit	Domestic credit to private sector (% of GDP)	World Bank WDI
Financial openness	Sum of total financial claims and total financial liabilities to nonresidents (% of GDP)	Lane and Milesi-Ferretti (2018)
Terms of trade (log)	Net barter terms of trade index (2000 = 100), logarithm	World Bank WDI

Our data presented in Table 1 include annual observations for most of the world's economies. We had originally planned to include all countries in the world, but given the typical missing observations and the fact that some countries do not report all the usual statistics, we were able to include as many as 169 countries in our econometric estimates. Considering that our data starts in 1980 and we use panel data estimation techniques, this provides a sizeable number of observations for our estimates.

After presenting our modelling strategy and the data, in the remainder of this paper we conduct our econometric estimations and present the results of our analysis.

3.2. Results

In this subsection we present the most important results of our empirical analysis. The results are presented in three tables that take into account three different estimators used in our panel models: OLS fixed effects model (Table 2), GMM Arellano-Bond estimator (Table 3) and GMM Blundell-Bond estimator (Table 4). We start with the fixed effects OLS model but later also present our results based on the GMM estimators to check robustness and account for possible endogeneity between the variables we use.

Table 2. Savings and economic disasters - OLS

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Savings (t-1)	0.622***	0.629***	0.630***	0.622***	0.543***	0.616***	0.557***	0.533***
	(0.010)	(0.013)	(0.011)	(0.010)	(0.012)	(0.010)	(0.012)	(0.018)
logGDPpc	0.933**	1.482**	1.206***	1.145**	1.018*	0.966**	0.446	1.758*
	(0.466)	(0.643)	(0.482)	(0.491)	(0.581)	(0.474)	(0.594)	(0.958)
GDPpc growth	0.184***	0.245***	0.202***	0.184***	0.156***	0.176***	0.192***	0.256***
	(0.017)	(0.024)	(0.018)	(0.017)	(0.019)	(0.017)	(0.020)	(0.033)
Young dependency ratio	-0.046***	-0.017	-0.038***	-0.053***	-0.082***	-0.047***	-0.042***	0.019
	(0.013)	(0.018)	(0.014)	(0.014)	(0.016)	(0.013)	(0.017)	(0.027)
Old dependency ratio	-0.064	-0.041	-0.049	-0.064	0.047	-0.031	0.044	0.154
	(0.048)	(0.065)	(0.047)	(0.048)	(0.062)	(0.049)	(0.070)	(0.097)
Economic disasters	0.960*	1.851***	1.220**	0.930*	1.624***	0.910	1.240**	2.459***
	(0.570)	(0.722)	(0.592)	(0.570)	(0.616)	(0.572)	(0.636)	(0.864)
Real interest rate		-0.045***						-0.068***
		(0.006)						(0.014)
Inflation			0.000					-0.000
			(0.000)					(0.001)
Urbanization				-0.033				0.002
				(0.024)				(0.041)
Domestic credit					-0.017***			-0.017*

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
					(0.006)			(0.009)
Financial openness						-0.024***		-0.015
						(0.010)		(0.025)
Terms of trade (log)							3.116***	4.419***
							(0.958)	(1.437)
No of countries	169	130	167	169	169	169	168	127
No of observations	5478	3187	5008	5478	4217	5399	4361	2243

Standard errors in parentheses; *** P<0.01, ** P<0.05, * P<0.10 - Source: Authors' calculations

Table 2 contains our empirical results based on the OLS model with fixed effects. A total of 8 models are listed in this table. Common to all models is that they include the typical savings determinants - the income variables and the demographic variables - and we add the economic disasters to arrive at the benchmark model shown in column 1. The lagged dependent variable is also included to account for the strong persistence of saving. Then, in columns 2 to 7, we gradually add other variables that have been shown to be important determinants of saving in previous studies. In column 8, we include all variables together to additionally test whether the effect of economic disasters remains consistent. At the bottom of each column, we report the number of countries and the number of observations included in our estimates. Since Table 2 contains a lot of information about our models and variables, we will try to simplify the interpretation of our results by focusing on the benchmark model in column 1 and later provide a general comment on the estimated signs and statistical significance of the variables in all models (columns). In particular, we will consider the economic disasters variable and check its consistency in the different models.

In our benchmark model in column 1, we see that the lagged dependent variable, savings, is estimated to be positive and statistically significant, indicating strong persistence in our dependent variable. The income variables, both logGDPpc and GDPpc growth, are positive and statistically significant, and these variables appear to positively influence saving, which is consistent with previous studies. The demographic variables, the young and old dependency ratios, are both estimated to be negative, but only the coefficient of the young dependency ratio is statistically significant. Typically, both ratios are estimated to have a negative and statistically significant impact, but in our case this is only the case for the young dependency ratio. This brings us to our main variable, namely economic disasters. As we can see, the coefficient for economic disasters in our benchmark model is positive and statistically significant at the 10 percent level of statistical significance. We do not make much of this first result, but simply note that economic disasters appear to have the potential to explain savings and that the effect is positive albeit only marginally significant. Perhaps, as noted by Aizenman and Noy (2015), economic disasters do indeed lead to an increase in precautionary saving.

As indicated above, we add additional determinants to the savings function in models 2 to 7, where the real interest rate, domestic credit, financial openness and the terms of trade are statistically significant, while inflation and urbanization are not. The signs and statistical significance of the variables included in the benchmark model (column 1) remain virtually unchanged. Of the particular interest is the variable economic disasters, which is positively estimated and statistically significant in all but one model (column 6). If we include all variables simultaneously and not individually (column 8), we can see that economic disasters are still positive and strongly statistically significant. Since economic disasters are statistically significant in 7 out of 8 models in Table 2, we can conclude that economic disasters have a consistently positive effect on saving, which supports the studies that argue that the effect of economic disasters is to increase saving.

This initial finding is further investigated with two additional estimators. Table 3 presents the results based on the Arellano-Bond GMM estimator.

Table 3. Savings and economic disasters - GMM Arellano Bond

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)

Savings (t-1)	0. 561***	0. 430***	0.525***	0.560***	0.432***	0.543***	0.465***	0.377***
	(0. 066)	(0. 077)	(0.088)	(0.067)	(0.063)	(0.069)	(0.075)	(0.097)
logGDPpc	1.039	0.359	2.351*	2.121	-0.042	1.553	-0.315	0.627
	(1.359)	(1.977)	(1.348)	(1.847)	(1.382)	(1.397)	(1.680)	(2.544)
GDPpc growth	0. 159***	0.245***	0.186***	0.155***	0.133***	0.150***	0.165***	0.250***
	(0. 033)	(0.065)	(0.041)	(0.033)	(0.035)	(0.031)	(0.041)	(0.070)
Young dependency ratio	-0. 032	-0. 003	0.051	-0.087*	-0.167***	-0.026	0.004	-0.001
	(0. 045)	(0.061)	(0.048)	(0.046)	(0.043)	(0.047)	(0.059)	(0.102)
Old dependency ratio	0. 022	0.114	0.097	-0.002	0.083	0.158	0.129	0.171
	(0. 125)	(0.141)	(0.124)	(0.128)	(0.104)	(0.136)	(0.130)	(0.183)
Economic disasters	1.905*	2.332***	2.062*	1.813*	2.442**	1.668	1.882	2.210***
	(1.044)	(0.820)	(1.227)	(1.022)	(1.262)	(1.061)	(0.122)	(0.863)
Real interest rate		-0.059**						-0.090***
		(0.027)						(0.030)
Inflation			0.000					-0.001
			(0.000)					(0.001)
Urbanization				-0.163				-0.077
				(0.112)				(0.144)
Domestic credit					-0.072***			-0.012
					(0.022)			(0.028)
Financial openness						-0.120		0.026
						(0.084)		(0.069)
Terms of trade (log)							8.081**	7.613***
							(3.663)	(3.255)
No of countries	169	130	167	169	169	169	168	127
No of observations	5309	3049	4837	5309	4037	5230	4190	2107

Standard errors in parentheses; *** P<0.01, ** P<0.05, * P<0.10 - Source: Authors' calculations

Table 3 contains the econometric estimates using the Arellano-Bond GMM system estimator. We estimate the same models as in Table 2, but instead of the OLS estimates in Table 3, we perform our estimates using the aforementioned Arellano-Bond system estimator. The use of this estimator is important for two reasons. First, it reduces the problem of potential endogeneity in our model, and second, it allows us to check the robustness of our results. As in Table 2, we are primarily interested in our main variable, economic disasters, but we will also examine other variables. Again, a total of 8 models were estimated. In all models, the coefficients for economic disasters are estimated as positive and are statistically significant in 6 out of 8 models. Economic disasters are not statistically significant in models (columns) 6 and 7, in which financial openness and the terms of trade were included as additional control variables. The fact that economic disasters remain positive and statistically significant in a large majority of the models suggests that economic disasters are an important determinant of saving, which further supports the studies showing a positive impact of economic disasters on saving. Our analysis so far suggests that this positive influence is robust and consistent. As for the other variables, the lagged dependent variable is positive and statistically significant in all models, again indicating a strong persistence of saving. GDP growth is also statistically significant and positive in all models, while GDP per capita (logarithm) loses significance in most models. As in Table 2, the old dependency ratio remains statistically insignificant, while the young dependency ratio is estimated to be negative in most models, but is statistically significant in only two models. As for the

remaining variables, the real interest rate, domestic credit and the terms of trade are statistically significant as in Table 2, while inflation, urbanization and financial openness are not significant. Overall, the results in Table 3 are largely consistent with those in Table 2 and suggest that we can draw stronger conclusions about the consistency of our results. This is particularly true for economic disasters, which turn out to be consistently positive and statistically significant. The final check on the robustness of our empirical results is in Table 4, which uses an alternative GMM estimator: the Blundell-Bond estimator.

Table 4. Savings and economic disasters - GMM Blundell Bond

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Savings (t-1)	0. 551***	0. 434***	0.507***	0.554***	0.424***	0.542***	0.466***	0.376***
	(0. 075)	(0. 097)	(0.098)	(0.074)	(0.074)	(0.077)	(0.083)	(0.118)
logGDPpc	2.341	0.883	3.591*	2.596	1.524	3.046*	0.204	0.093
	(1.762)	(1.928)	(1.946)	(2.116)	(1.717)	(1.730)	(2.024)	(2.561)
GDPpc growth	0. 167***	0.265***	0.184***	0.166***	0.140***	0.161***	0.184***	0.260***
	(0. 042)	(0.066)	(0.050)	(0.042)	(0.045)	(0.041)	(0.051)	(0.068)
Young dependency ratio	-0. 005	-0. 029	0.079	-0.017	-0.105*	0.007	0.003	0.021
	(0. 059)	(0.076)	(0.074)	(0.051)	(0.063)	(0.059)	(0.072)	(0.138)
Old dependency ratio	-0. 104	-0.093	-0.067	-0.127	-0.147	-0.038	-0.011	-0.028
	(0. 122)	(0.196)	(0.139)	(0.122)	(0.161)	(0.131)	(0.165)	(0.185)
Economic disasters	2.615*	2.453***	2.505	2.590*	3.262*	2.459	3.213	2.197**
	(1.591)	(0.859)	(1.787)	(1.572)	(1.960)	(1.661)	(2.239)	(0.923)
Real interest rate		-0.062**						-0.094***
		(0.029)						(0.028)
Inflation			-0.000					-0.001
			(0.000)					(0.001)
Urbanization				-0.027				0.070
				(0.057)				(0.057)
Domestic credit					-0.067***			-0.021
					(0.026)			(0.037)
Financial openness						-0.091		0.064
						(0.063)		(0.072)
Terms of trade (log)							8.130**	9.575*
							(4.216)	(5.154)
No of countries	169	130	167	169	169	169	168	127
No of observations	5478	3187	5008	5478	4217	5399	4361	2243

Standard errors in parentheses; *** P<0.01, ** P<0.05, * P<0.10 - Source: Authors' calculations

Table 4 contains our final results and provides a valuable additional test of robustness. In this table, the Blundell-Bond GMM system estimator is used to provide econometric estimates for the same models as reported in Table 2 and Table 3. To simplify interpretation and avoid repetition, only the main variable is discussed: economic disasters, while the other variables are only commented on in passing. Table 4 again shows that the estimated coefficients for economic disasters are consistently positive and statistically significant in 5 out of 8 models. This is slightly less than for the Arellano-Bond estimator in Table 3, but still strongly suggests that economic disasters are an important determinant of saving. The

estimated effect is statistically significant and positive. Together with the results in Tables 2 and 3, these results in Table 4 indicate that economic disasters do indeed increase saving. As for the other variables, the results are similar to those in Tables 2 and 3, with one important exception. The young dependency ratio is only rarely statistically significant, namely in only one of the 8 models estimated in Table 4.

Summarizing the results of our empirical analysis in Tables 2, 3 and 4, we find that economic disasters are statistically significant and positive in most models. These results confirm the findings of Aizenman and Noy (2015) on the positive impact of economic disasters on saving. However, compared to Aizenaman and Noy (2015), our study goes further as it covers most of the world's economies and not only high-income countries. Therefore, our study makes an important and consistent contribution to the empirical literature on the impact of economic disasters on saving. When we compare our results on the additional determinants of saving, they are broadly consistent with the previous literature on the determinants of saving. As a good representative of this literature, we take the recent study by Grigoli et al. (2018), which empirically investigated the determinants of saving in the world, but without considering economic disasters. The comparison with their results shows that our study is consistent with the typical findings on the importance of income variables, especially income growth, and additionally with the availability of credit, and the terms of trade. As for the dependency ratio, we partially confirm the negative impact of the young dependency ratio, but not for the old dependency ratio, which is not statistically significant in our case. Our results also do not seem to confirm the importance of inflation, urbanization and financial openness, as they are mostly not statistically significant. Notwithstanding these differences, our study makes an important contribution to the empirical literature as it provides new insights into the importance of economic disasters for saving.

4. Conclusions

This paper investigated the effects of economic disasters on saving. With a comprehensive empirical investigation using the new database on economic disasters and linking it to the savings function, the paper makes a valuable contribution to the empirical literature.

In this study, we used the new and expanded database on economic disasters, which covers a much larger number of countries compared to previous studies. This allowed us to empirically assess the impact of economic disasters from a global perspective, including both developed and less developed countries. In the empirical analysis, we used a broad panel data model and the results were obtained using three different estimators. As a starting point, we estimated the OLS model with fixed effects, but also ran our estimates with two GMM system estimators: the Arellano-Bond and Blundell-Bond estimators. The use of GMM estimators helps to reduce the potential endogeneity issues that can arise in models as large as ours. It also increases the reliability of our results and provides a good robustness check.

The results of our empirical analysis generally support the previous literature on the standard determinants of saving. Regarding the main variable of interest, we find that economic disasters are statistically significant and positive. These results confirm the findings of Aizenman and Noy (2015) on the positive impact of economic disasters on saving, but with the important difference that our study includes most of the world's economies and not only high-income countries, as was the case in Aizenman and Noy's (2015) study. Therefore, by including a broader sample of countries and applying the new dataset on economic disasters, our study makes an important and consistent contribution to the empirical literature on the impact of economic disasters on saving.

Although the present study provides new and important insights, it could be extended in future research by including additional determinants of saving, such as institutional variables. Another promising avenue for future research could include alternative aspects of economic disasters, such as examining how the magnitude of economic disasters affects saving.

5. References

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