Does Frugality Influence Firm Behavior? Evidence from Natural Disasters

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Abstract

Across 42 countries, I show that nonfinancial firms in more frugal countries tend to have shorter debt maturity, and when large natural disasters occur, they raise debt with a much shorter maturity structure and smaller amounts of equity. Additionally, firms in more frugal countries are more likely to tap global capital markets the year after the disasters, not before. Lastly, while firms in thriftier countries reduce corporate investments at higher rates when disasters occur, those that have foreign assets and foreign income do not, as would be expected if residents' frugality can intensify frictions on firms' local capital supply.

Keywords: Debt Maturity, Frugality, Natural Disasters, Capital Supply

JEL Classification: F3, G15, G3, G41, Z1

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Frugality has a long-standing tradition of being championed by economists.[1] In *The Wealth of Nations*, Adam Smith (1776) argued, "Every prodigal appears to be a public enemy, and every frugal [person] a public benefactor." At the heart of Smith's assertion was the insight that because people are prone to invest locally (Lewis, 2011), the thriftiness of individuals within a society can affect the capital supplied to markets. Consistent with this view, Guiso, Sapienza, and Zingales (2006; GSZ hereafter) show that even after controlling for standard macroeconomic life-cycle variables, differences in the value that countries place on teaching thriftiness to children help to explain differences in actual national savings rates.

In this paper, I show that residents' frugal tendencies can also intensify firms' financing frictions. I document that firms in less thrifty countries tend to have longer debt maturity, defined as the ratio of a firm's long-term debt to the sum of long-term and short-term debt. To identify how residents' frugality affects firms' financing decisions, I exploit the timing and location of large natural disasters around the world. I show that when large disasters occur, firms in thriftier countries raise shorter maturity debt, smaller amounts of equity, and are more likely to tap global capital markets. While firms in thriftier countries reduce investment at higher rates during large disaster years, those that have foreign assets and foreign income do not, as would be expected if residents' thriftiness can intensify frictions on firms' local capital supply.

The main motivation for this paper can be captured in Figure 1. Figure 1 plots the median debt maturity and the average frugality for each of the 42 countries in my sample from 1990 to 2013. To measure thrift, I follow GSZ (2006) and use the World Value Survey (WVS) to create the country-level frugality measure. The strikingly negative cross-country correlation (-0.645) reveals that in countries where people are more prone to encourage thrift, firms tend to have shorter debt maturity. To provide perspective, over my sample period, the cross-country correlation between the median debt maturity and the median firm leverage, defined as the ratio of a firm's long-term debt to lagged total assets, is 0.669. To my knowledge,

[1]One *Wall Street Journal* article notes that "Some of the world's most famous economists were famously frugal. After a dinner thrown by the British economic giant John Maynard Keynes, writer Virginia Woolf complained that the guests had to pick 'the bones of Maynard's grouse of which there were three to eleven people.' Milton Friedman, the late Nobel laureate, routinely returned reporters' calls collect."
(http://www.wsj.com/articles/SB126238854939012923)

the negative relation between corporate maturity and thriftiness is new to the literature.

Why would corporate maturity be so closely associated with residents' thrift? There are many well-known theories of debt maturity, but these theories are difficult to reconcile with the cross-country variation documented in this paper. First, theories of agency conflicts (Jensen, 1986; Stulz, 1990), rollover risk (Diamond, 1991), and maturity matching (Myers 1977; Hart and Moore, 1995) suggest that differences in financial contracting environments would explain differences in residents' thrift. However, they do not. That is, cross-country differences in frugality are not fully explained by cross-country differences in trust and uncertainty avoidance (R-sq, 0.003), religious affiliations (R-sq, 0.388), legal origins (R-sq, 0.231), or shareholder and creditor enforcements (R-sq of 0.025; see, Appendix Table A.1). Alternatively, theories of changing market conditions impacting firms' maturity decisions (see, for example, Faulkender, 2005; Chernenko and Faulkender, 2011; Baker, Greenwood, and Wurlger, 2003) suggest that as market conditions change, the cross-country relation between corporate maturity and residents' frugality would also change. But the cross-country correlation between the median corporate maturity and thrift was roughly the same in the year 1995 (-0.761) as it was in the years 2000 (-0.807) and 2010 (-0.809).

This study explores a new idea. That is, I investigate whether frugality itself helps to explain why firms in thriftier countries tend to have shorter debt maturity. The main intuition is that, in addition to affecting how *much* residents save (GSZ, 2006), thrift may influence *how* residents save. I hypothesize that, because across most economies, firms' investors and insiders (i.e., managers or large shareholders) tend to be locals, residents' thrift can potentially intensify firms' financing frictions. For example, the thrifty often emphasize the importance of 'penny-pinching' (Garon, 2012) or curbing short-term expenditures to achieve idiosyncratic long-term goals (Lastovicka et al., 1999).[2] While these tendencies can increase savings (GSZ, 2006), for fourteen countries in my sample, the cross-country correlation between residents' thrift and locals' stock market participation (as reported in Giannetti and Koskinen, 2010) is -0.494, suggesting that

[2]In *Thrift,* Andrew L. Yarrow (2014) notes that during mid-1920s, "Thrift proponents juxtaposed 'unnecessary' spending on luxuries and short-term pleasures with 'wise' spending on basic needs and goods serves that would make one's life better in the future."

thrift does not directly imply that residents are willing to provide firms capital on favorable terms. Another manner in which thrift can disrupt firms' financing decisions may be through the maturity preferences of investors. Maturity is one non-price term that suppliers of capital commonly use to limit their risk (Strahan, 1999; Qian and Strahan, 2007). In this sense, investors' demand to supply firms capital at different maturities might be less elastic in more frugal countries (see, for example, Greenwood, Hanson, and Stein, 2015). Lastly, the thrifty predispositions of firms' insiders may lead firms to take some financing cards off the table (see, for example, "Great-Depression-Era birth-cohorts" avoiding issuing equity or long-term debt, in Malmendier, Tate, and Yan, 2011).

In all the above cases, residents' thrift can gum up firms' financing decisions. Moreover, given that capital supply frictions can affect firms' investment decisions, when financing grows turbulent, these thrifty tendencies can have real effects on economies.[3] The notion that thrift can make bad times worse is not new (see, for example, Keynes, 1936); what is new is the insight that, because capital markets are partially segmented, the thrifty tendencies of individuals within a society can potentially make it harder for firms to readjust to a capital supply shock.

Empirically, identifying how residents' frugality affects firms' financing decisions can be challenging for a number of reasons. First, because firms may face costs associated with financial distress (Diamond, 1991), the choice of corporate maturity structures can be closely tied to firms' leverage targets. Second, isolating the incremental impact of thriftiness on firms' maturity decisions requires identifying incremental changes in firms' maturity structure. Third, firms' maturity targets may be optimal, given how they invest. For example, if firms in thriftier countries are more inclined to invest in assets in place versus growth options, financing the firm with short-term debt may be ideal (Myers, 1977; Hart and Moore, 1995).

To address these challenges, I focus on periods when firms' need to raise capital from investors would unexpectedly rise, but investors' willingness to supply external capital to firms is likely to fall.

[3]See, for example, the 2007–2009 Financial Crisis, as studied by Duchin, Ozbas, and Sensoy (2010), and Campello, et al. (2011), and many others.

Specifically, I use large natural disasters across 42 countries from 1990 to 2013 to study whether differences in thrift lead to incremental differences in firms' issuance and investment decisions. I create a panel of the largest natural disasters (i.e., the deadliest disaster events) for each country-year, and I compare corporate issuance and investment during the years in which a country experiences its largest disasters to the years in which a country does not. Namely, I examine whether frugality impacts the likelihood that firms issue new debt or engage in secondary stock offerings, the quantity and maturity of firms' issuances, the currency of firms' issuances (USD vs. non-USD), and firms' investment tendencies (total investment, investment vs. cash, research and development vs. capital expenditure).

Natural disasters are good instruments for my experiment for three reasons. First, natural disasters are unexpected, exogenous, local shocks. Second, GSZ (2003) document that people's views towards frugality are informed, in part, by their health and wealth. Building on their work, I use the individual-level WVS to establish that people's views towards frugality are negatively associated with their health, wealth, and happiness (see Appendix Table A.2), all of which we would expect to be adversely affected by large natural disasters.[4] Third, many papers find that natural disasters can have positive effects on economic growth (see, for example, Albala-Betrand, 1993; Leiter et al., 2009; Skidmore and Toya, 2002) and many find evidence of the opposite (Raddatz, 2007; Noy, 2009; Hochrainer, 2009). Within the context of firms' capital-raising behavior, a natural disaster being a tragic event for a country is distinct from a disaster bringing better or worse opportunities for an individual firm. To the extent that some of this information may be captured in firms' market returns, all my regressions control for disaster-specific cumulative abnormal returns (CARs) and employ country, industry, or firm-fixed effects.

My hypothesis, that residents' frugality can intensify firms' financing frictions, has three main implications, all of which are supported in the data. First, lower corporate maturity means that more of the firms' debt will be due sooner, and vice versa. Given the negative relation between corporate maturity and

[4]The American Psychological Association notes natural disasters can be unexpected and emotionally overwhelming events and that shared social ties and news media can induce post-traumatic stress disorder even for people who are not directly affected by an unexpected disaster (see http://www.apa.org/helpcenter/recovering-disasters.aspx).

residents' frugality, we might expect that during large disaster years, firms in thriftier countries would attempt to raise less debt and more equity, and try to extend their maturity structure. However, corporate issuers in thriftier countries do the opposite. Using a panel of public, nonfinancial firms' new bond and seasoned stock issuances, I find that firms in thriftier countries are more likely to issue bonds and not more likely to issue stocks during the large disaster years. Notably, I find that during disaster periods, corporate issuers in thriftier countries raise more debt and less equity, and issue bonds with shorter maturity. I use difference in differences tests to show that the quantity and maturity of firms' issuances are not different the year before the disasters, suggesting that corporate issuers in thriftier countries followed parallel trends prior to the disaster periods.

The results are surprising, because as Myers (2001, p. 82) notes, "These companies have the broadest menu of financing choices and can adjust their capital structures at relatively low cost." So why might firms behave this way? First, I show that all the results are robust to controls for real GDP growth and stock market to GDP ratios, suggesting that the behavior is not driven by corporate issuers in thriftier countries facing drastically different economic and financial conditions. Moreover, I find that during disaster years, corporate issuers in thriftier countries have higher disaster-specific CARs, comparable levels of sales growth, and higher future percentage changes in I/B/E/S reported earnings per share, suggesting that the findings are not due to residents' thrifty tendencies lowering corporate issuers' growth prospects during these periods (Keynes, 1936; Mechler, 2009; see, Appendix Table A.3). Altogether, the issuance and maturity results suggest that residents' frugality can swell firms' financing frictions during disaster periods.

Second, if during disaster periods, residents' thrift intensifies financing frictions on firms' local capital supply, we would expect firms in thriftier countries to attempt to tap global capital markets in response to the disaster events. To test this hypothesis, I focus on both the currency and the timing of firms' issuances to identify when firms access global capital markets. I employ a main framework similar to Bruno and Shin (2017), with the important distinction that I investigate both bond and stock issuances.

Specifically, each year I total the proceeds of non-U.S. firms' bond issuances by currency of issuance. Using a panel of non-U.S. firms' currency-denominated issuances, I estimate the effects of frugality on the likelihood that most of a non-U.S. firm's bond proceeds are in USD or non-USD in response to large natural disasters. I also do the same with stock proceeds. I find that thrift is strongly associated with the likelihood that firms issue USD-denominated bonds and stocks the year after large natural disasters, and not the year before. While firms can access global capital markets for many reasons, I interpret the distinct pattern in the timing of firms' USD-denominated issuances as being consistent with residents' thrift intensifying firms' financing frictions during disaster periods.

Third, if frugality intensifies firms' financing frictions, we would expect firms in thriftier countries to reduce their investment at higher rates during disaster years. To test this hypothesis, I use firm-fixed effects and compare whether differences in thrift lead to differences in firms' total investment (the sum of capital expenditure and research development expense, relative to lagged total assets), total investment share (the sum of capital expenditure and research development expense, relative to their sum plus cash and cash equivalents), and R&D share (research and development expense, relative the sum of capital expenditure and research development expense). The main idea for the total investment share is that one manner in which firms can save is by reallocating from investment to cash and cash equivalents (Bernanke, 1983; McDonald and Siegel, 1986; Bloom, Bond, and Van Reen, 2007). The main idea for the R&D share is that maturity-matching would predict that firms in thriftier countries reduce their R&D share – that is, shift resources from growth options to assets in place (Myers 1977; Hart and Moore, 1995). However, if thrift leads individuals to engage in short-term sacrifice to fulfill idiosyncratic long-term goals (Lastovicka et al., 1999), firms in thriftier countries might increase their R&D share. Consistent with my hypothesis, I find that firms in thriftier countries cut their total investment (-7.07%, t-stat -3.16) and total investment share at higher rates (-25.43%, t-stat -2.93) and increase their R&D share during disaster years.

One potential challenge with relating firms' financing and investment decisions is that firms' financing choices are (clearly) not random. To address this concern, I match firms by their propensity to

issue securities (i.e. bonds and stocks). Importantly, among matched firms, I do not find that any of the investment behaviors are significantly different the year before the natural disasters. The investment results suggest that residents' thrift leads firms with comparable financing behaviors to adopt drastically different investment policies when large disasters occur. To pin down this point, I exploit firms' reporting of foreign sales, assets, or income the year prior to the disasters. I use the foreign-active firms to tests if firms with better access to non-local capital markets are less affected by residents' thrift. For foreign sales, the identifying assumption is that non-local suppliers of capital may be more familiar with firms that engage in foreign sales (Kang and Stulz, 1997). Because it can be difficult to enforce bankruptcy laws across international borders, we would expect firms with foreign assets or foreign operations to have better access to non-local capital. Consistent with residents' frugality intensifying frictions on firms' local capital supply, I find that firms in thriftier countries that report foreign assets or income the year before the disasters do not significantly reduce their total investment when the disasters occur.

All in all, my findings show how residents' frugality can amplify firms' financing frictions during disaster periods. I perform placebo tests to show that residents' thrift does not randomly lead to firms raising more debt, issuing less equity, reducing their maturity, or investing differently. The placebo results suggest that as residents respond to disasters, their thrift can influence firms' issuance and investment behaviors. To expand this point, I use the occurrence of a country's deadliest transportation disasters to show that many of the behaviors that I document occur in an alternative setting. During large transportation disaster years, firms in thriftier countries are less likely to issue stocks, raise larger debt proceeds, and reduce their total investment at higher rates. Strikingly, firms in thriftier countries that report foreign assets or income prior to the alternative disaster periods do not reduce their total investment during these periods too.

My paper presents a distinct contribution to the literature. In addition to documenting how residents' perception towards thrift strongly relates to corporate maturity around the world, I identify a unique setting to quantify how these thrifty tendencies influence firms' ability to access the capital market and I show how this influence leads to systematic patterns in firms' investment behavior. I build on a deep

empirical literature that studies frugality (Knowles and Postlewaite, 2004; GSZ, 2003, 2006; Malmendier, Tate, and Yan, 2011; Schoar and Zuo, 2016; Cronqvist and Siegel, 2015) and growing literatures that examine the microeconomic impact of natural disasters (Bloom and Davis, 2013; Stromberg, 2007; and Cavallo, Cavallo, and Rigobon, 2014).

The remainder of the paper is as follows: Section 2 describes the data and reports summary statistics. Section 3 outlines my empirical design. Section 4 presents the results. Section 5 details robustness checks. I conclude in Section 6.

Section 2. Data and Summary Statistics

This study relies on five main sources of data: The World Values Survey (WVS) to measure frugality across countries; the Centre for Research on the Epidemiology of Disasters (CRED) to identify natural disasters; Worldscope and Datastream to measure accounting and return data; SDC to identify firm-level bond and stock issuance; and the World Bank to measure economic and financial development. In this section, I describe these data sources and provide summary characteristics by country, year, and for the full sample in Table 1, Panels A, B, and C, respectively. Further details on all variables are provided in the data appendix.

Section 2.1 Frugality data

I follow the methodology discussed in GSZ (2006) to measure frugality across countries. I obtain responses to the WVS question A2: "Here is a list of qualities that children can be encouraged to learn at home. Which, if any, do you consider to be especially important?"[5] The survey allows respondents to choose from several responses; I code the response variable as "1," if the respondent lists as important "thrift, saving money and things." As in GSZ (2006), I take $Frugality_J$, the country average, to measure

[5]The World Value Surveys are conducted in 5-year waves that begin in 1981 and conclude in 2014. The data are discussed in detail in GSZ (2003; 2006) and publicly available at http://www.worldvaluessurvey.org/wvs.jsp.

frugality as the propensity for individuals within each country to encourage thrift and savings among children.

To construct my sample, I focus on the countries with the larger equity markets. I start with the 50 countries that, according to the S&P Global Fact, had the largest year-end stock market capitalization in the year 2000, roughly the midpoint of my sample period. My final sample contains 42 countries. The countries in my sample include: Argentina, Australia, Brazil, Bulgaria, Canada, Chile, China, Colombia, Cyprus, the Czech Republic, Egypt, Finland, France, Hungary, India, Indonesia, Israel, Italy, Japan, Malaysia, Mexico, the Netherlands, New Zealand, Norway, Pakistan, Peru, the Philippines, Poland, Romania, the Russian Federation, Singapore, South Africa, South Korea, Spain, Sweden, Switzerland, Taiwan, Thailand, Turkey, the United Kingdom, the United States, and Venezuela. The cross-country average of $Frugality_J$ in my sample is 37.9%, meaning, for the average country in my sample, nearly one in three of the people surveyed consider it particularly important to encourage thrift and savings among children. The propensity to encourage thriftiness varies widely across my sample of countries, ranging from 59.8% in South Korea to 13.6% in Norway.

As discussed in the introduction, we may expect that differences in financial contracting environments explain differences in thrift. To see if this is the case, Appendix Table A1 reports ordinary least squares (OLS) regression results of $Frugality_J$, the country averages for frugality, on different country-level proxies of contracting environments. Model (1) includes trust (GSZ, 2006) and the Geert Hofstede uncertainty avoidance index; following, Stulz and Williamson (2001) Model (2) consists of shares of religious affiliations in 1995 obtained from the World Religion Database of Religious Affiliations (as in GSZ, 2006); Model (3) contains indicator variables for a country's legal origin (as in La Porta et al., 2008); and Model (4) has the anti-self-dealing index (as reported in La Porta et al., 2006), creditor rights (as reported in Djankov et al., 2008), and the case-efficiency score (as in Djankov et al., 2006). All standard errors are robust to heteroscedasticity. The key finding from Appendix Table A1 is that the R-sq of the models are low, ranging from 0.003 for trust and uncertainty avoidance to 0.388 for the shares of religious

affiliations, suggesting that differences in financial contracting environments do not fully explain differences in thrift.

Also discussed earlier, we may expect some individuals to be thriftier than others. As a sanity check, I test whether this is true in my data. Building on GSZ (2003), the Appendix Table A2 reports individual-level WVS OLS regression results of thrift on health and indicator variables for subjective levels of happiness and wealth. As before, I code $Frugality_{i,j,t}$ as "1" if person i in country j in survey-year t identifies "thrift, saving money, and things" as especially important to encourage among children. All models include standard demographic controls, i.e. age, age squared, gender, marital status, having children, trust, education, survey-year fixed effects, and fixed effects for either their country (Model 1 and 2) or religion (Model 3 and 4). As before, all standard errors are adjusted for heteroscedasticity. The most important result from Appendix Table A2 is that across all models, frugality is negatively associated with health, happiness, and wealth, all of which we would expect to be impacted by natural disasters.

Section 2.2 Natural disasters data

I collect publicly available data on all natural disasters from January of 1990 to December of 2013 from the Emergency Events Database (EM-DAT) produced by the Centre for Research on Epidemiology of Disasters (CRED) at the Catholic University of Louvain, Belgium.[6] The EM-DAT identifies natural disasters by their approximate start date, location, and disaster type, that is, droughts, earthquakes, fires, floods, mudslides, volcanoes, and so forth. The EM-DATA also includes detailed information on the direct damages of each disaster, that is, total deaths, total damages, and the estimated economic costs associated with each natural disaster. I use the total deaths and the approximate disaster start dates to identify the deadliest disaster events for each country-year. When disasters occur within the same month, I total the

[6]The EM-DAT have been used widely within economics (for reviews of the economics of natural disasters, see Stromberg, 2007 and Cavallo and Noy, 2010) As Bloom and Davis (2013) discuss, the EM-DAT are provided by the CRED in an effort to produce standardized and comprehensive coverage of large-scale disasters; the data are available at http://www.emdat.be/advanced_search/index.html.

deaths for the month and treat the event as one disaster event. I construct a panel of the largest disaster events that occurred each country-year, starting in 1990 and rolling through the end of the sample period. Using the disaster panel, I create $Disaster_{J,t}$, which takes a value of 1 during the month in which country *j* experiences its largest natural disasters to date. Across countries, there are 119 $Disaster_{J,t}$ events, ranging from none for Singapore to seven for New Zealand. The mortalities caused by the largest $Disaster_{J,t}$ events vary widely as well, ranging from zero deaths in Finland and Singapore to 165,708 in Indonesia. The total incidence of largest-to-date natural $Disaster_{J,t}$ events is highest in the baseline year, 1990 (17 events), and lowest in 2000 (zero events) and 2002 (zero events).

Section 2.3 Accounting, return, and earnings data

I collect annual accounting data in USD on all firms from the countries in the sample in the Worldscope database from 1990 to 2013. I exclude financial firms, identified by Worldscope as primary SIC code starting with "6," and I require that total assets, price-to-book, and year-end stock market capitalization data be available the previous year. To minimize the effect of outliers, I winsorize all accounting variables at the 1% level. I consider the firm's country to be the country of its primary geographic segment as reported to Datastream. The final sample contains 442,554 firm-year observations. I label firm years in which firm *i* in country *j* experiences a $Disaster_{J,t}$ event as "treated" disaster years. Of these firm-year observations, 43,605, or roughly one-tenth of the observations, are "treated" large-disaster years. The three largest countries in my sample (by firm-year observations) have the most "treated" large-disaster years (the United States, 12,915; Japan, 9,563; the United Kingdom, 5,401). For Cyprus, Egypt, Romania, and Singapore, "treated" large-disaster years equals zero; Singapore has no natural disasters, and, in the cases of Cyprus, Egypt, and Romania, the largest disaster events predate the availability of the accounting data.[7] As mentioned earlier, no countries in the sample experienced their largest disasters in the

[7]The sparsity of large natural disasters in my sample is consistent with the natural disasters literature. In their review of the effects of natural disasters on economic outcomes, Cavallo and Noy (2010) use the EM-DAT and report that,

years 2000 and 2002; therefore, there are no "treated" large-disaster years during those years.

Lastly, I also collect weekly stock returns in USD for each firm, country, and the world market portfolio from Datastream from 1990 to 2013. To measure the market-implied impact of a $Disaster_{J,t}$ event for firm *i* in country *j* in year *t,* I estimate $Disaster_{J,t}$ cumulative abnormal returns ($DisasterCARs_{i,j,t}$). Specifically, each calendar-year, I take weekly stock returns and estimate the following international market model:

$$R_{i,j,t} = a_i + B_{m,i}R_{j,t} + B_{w,i}R_{w,t} + \delta_{i,j,t}Disaster_{J,t} + e_{i,t} \quad \text{(Eq 1)}$$

where $R_{i,j,t}$ is the weekly return on firm *i,* while $R_{j,t}$ and $R_{w,t}$ are the weekly returns on the local and global market portfolios, respectively. To calculate $DisasterCARs_{i,j,t}$, I use $\delta_{i,j,t}$, the estimated coefficient of the $Disaster_{J,t}$ indicator. Since $Disaster_{J,t}$ only equals 1 during the month in which country *j* experiences its largest disaster to date, and 0 otherwise, $\delta_{i,j,t}$ produces DisasterCARs for each firm year in which a firm is in a "treated" country. Across the firms in the sample, the mean and median DisasterCARs are 0.130% and -0.013%, respectively.

Section 2.4 Bond and stock issuance data

I collect new debt issuance and secondary stock offerings data from January 1990 to December 2013 from the SDC Platinum database provided by Thomson Reuters. For each country in the sample, I match bond and stock issuances to the balance sheet data from Worldscope by the ultimate parent's CUSIP, SEDOL, and ISIN. I identify firms' issuances at the ultimate parent level to account for firms' potential use of offshore subsidiaries (see, for example, Bruno and Shin, 2017).

For the bond data, I use the SDC Platinum New Debt Issues database; the database identifies each debt issue's maturity date, issue date, proceeds, and currency of issuance (i.e., USD, local currency, etc.). Using the database, I aggregate firms' total bond proceeds and calculate the value-weighted years to

across all regions, the average number of natural disaster events per country has been growing from 1970 to 2008; yet, truly large natural disasters, identified by the loss of life, continue to be rare events.

maturity of each calendar year to measure the quantity and maturity structure of each firms' new-debt-issuance year, that is, the calendar years in which firms issue new debt. For my sample, I am able to match 18,342 total new-debt-issuance years. My measure of incremental changes in firms' maturity structure, the value-weighted years-to-maturity of the debt issues, has a median value of 6.4 years.

The seasoned equity offerings data are from the SDC Platinum All Public and Private Common Stock database. The database provides the filling date, issuance date, and the currency of each stock issue. For stock issuances, I repeat the previous steps outlined. I have 27,017 total stock-issuance years matched to the firms in my sample.

Lastly, using the currency data of each firm's bond proceeds, I categorize the firm's bond-issuance year as being in USD, if over 50% of the years' bond proceeds are raised in USD. Similarly, I label stock-issuance years as being in USD, if over 50% of the years' proceeds are raised in USD.

Section 2.5 Economic and financial development data

As measures of macroeconomic and financial development, I obtain real GDP growth and the ratio of each country's stock market capitalization to GDP from the World Bank. The GDP growth data are in USD year 2005 constant-dollars.

Section 3. Empirical Design

The main goal of this paper is to identify frugality's effect on how firms raise capital from investors. My hypothesis is that residents' thrift can intensify firms' financing frictions during disaster years. As detailed in the introduction, I document that firms' in thriftier countries tend to have shorter corporate maturity. Shorter corporate maturity, combined with attempting to raise more debt and not more equity would potentially increase the likelihood that firms encounter the costs associated with financial distress; therefore, I associate those behaviors as consistent with residents' frugality amplifying firms' financing frictions during disaster periods.

The capital-raising dependent variables of interest are indicator variables that identify firms' issuance years for new debt issues and seasoned equity offerings. I use both to account for incremental changes in firms' financing decisions and the conditions mentioned above.

To test my hypothesis, I estimate a multinomial logit panel regression. Specifically, I exploit the location and timing of the $Disaster_{J,t}$ events to quantify the effect of residents' thrift on the likelihood that firms in disaster-"treated" countries issue new bonds or engage in seasoned equity offerings:

$$\textit{None}|\textit{New-Debt}|\textit{SEO}_{i,j,k,t} = a + B_1 * Disaster_{J,t} * Frugality_J + B_2 * Disaster_{J,t} + B_3 * DisasterCAR_{i,j,t} + X_{i,j,t} + b_j + c_k + d_t + e_{j,t} \quad \text{(Eq 2)}$$

where the dependent variable $Issuance_{i,j,k,t}$ categorizes the issuance year of firm *i* of country *j* in industry *k* in year *t* into one of the three outcomes: (1) *New-Debt* when firm *i* issues bonds, (2) *SEO* when firm *i* issues stocks, (3) *None* when firm *i* issues no bonds or stocks (the base case). Here, $Disaster_{J,t}$ identifies "treated" firm years; $Frugality_J$ and $DisasterCAR_{i,j,t}$ are both previously defined. $X_{i,j,t}$ denotes time-varying control variables that I specify below. All the regression models include country, industry, and year-fixed effects denoted by the variables b, c, and d, respectively. The industry index, *k*, identifies the 38 industries that reflect the Global Industry Classification Standard (GICS) used by Datastream. All standard errors are clustered by country-year.

To account for time-varying firm and market-level characteristics that can also affect firms' capital-raising behavior, I include the following control variables: $Q_{i,j,t-1}$, $Cashflow_{i,j,t-1}$, the natural log of firms' total assets in USD millions ($lnTA_{i,j,t-1}$), $PPE_{i,j,t-1}$, the natural log of firms' age ($lnFirmAge_{i,j,t}$), $Leverage_{i,j,t-1}$, $GdpGrowth_{j,t-1}$, and $MktCapGdp_{j,t-1}$, all of which are lagged by one year to reduce endogeneity and are defined in the data appendix. The controls are intended to reflect a robust set of variables that have been shown to impact firms' capital-raising activities (see, Parsons and Titman, 2008).

The main coefficient of interest in Equation (2) is B_1, the interaction between $Frugality_J$, the frugal tendencies of individuals in country *j*, and $Disaster_{J,t}$, the occurrence of a large natural disaster striking country *j* in year *t*. Since the baseline regressions include country, industry, and year-fixed effects, B_1 can

be interpreted as identifying whether "treated" firms in thriftier countries raise capital differently. Because issuing no securities during the year (outcome 3) is the base case, the estimated coefficient on each variable in Equation (2) can be interpreted as the marginal impact of that variable on the likelihood that firms issue bonds (outcome 1) or stocks (outcome 2), compared to issuing no securities. Within my empirical specification, a positive (negative) sign on B_1 for *New-Debt* would indicate that when large natural disasters occur, firms in more frugal countries are more (less) likely to issue bonds relative to issuing no securities. The same interpretation would apply to the sign of B_1 for *SEO*, that is, a positive (negative) sign on B_1 indicating that during disaster years firms in thriftier countries are more (less) likely to issue stocks relative to issuing no securities.

Section 4. Empirical Findings

Section 4.1 Does frugality influence how firms raise external capital from investors?

Table 2 contains the multinomial logit regression results. Each column labels the corresponding issuance outcome, i.e. *New-Debt* (outcome 1) or *SEO* (outcome 2). Model (1) shows the baseline results. Model (2) adds the time-varying firm and macroeconomic controls. Model (3) interacts Frugality_J with pre- and post-$\text{Disaster}_{J,t}$ indicator variables and adds both the interaction terms and the pre- and post-$\text{Disaster}_{J,t}$ indicator variables into the regression. Model (4) excludes firms from the United States, Japan, and the United Kingdom, the largest countries in my sample.

The table shows that during large disaster years firms in more frugal countries are more likely to issue bonds and not more likely to issue stocks. In the *New-Debt* equations, the estimated coefficient for the $\text{Disaster}_{J,t}$*Frugality_J interaction variable on all four models is positive and significant (Models 1, 2, 3, 4); in none of the *SEO* equations are the estimated coefficients on the $\text{Disaster}_{J,t}$*Frugality_J interaction term significantly different from zero. Controlling for time-varying firm and country characteristics, the estimated coefficients for the *New-Debt* column in Model (2) imply that during disaster years, if a firm is in the United States (Frugality_J = 29.3%) or Japan (Frugality_J =44.5%), the odds that it will issue a bond

relative to issuing no securities (4.628 = ($e^{[1.5321]}$)) , would be 4.628 ($e^{[1.5321]}$) *(29.3%) = 1.2482 and ($e^{[1.5321]}$) *(44.5%) = 1.8957 times greater, respectively. In terms of economic magnitude, the coefficient estimates in the *New-Debt* column in Model (2) suggest that when natural disasters strike, a one standard deviation increase in $Frugality_J$ (0.1161) is associated with an increase in log of the odds ratio that a firm issues a bond of (1.5321)*(0.1161) = 17.79 percentage points. To provide perspective, the *New-Debt* column's coefficient estimates imply that a one standard deviation increase in $Leverage_{i,j,t-1}$ (0.2091) and $GdpGrowth_{j,t-1}$ (0.0313) are associated with an increase in the log of the odds ratio that a firm issues a bond of (1.3172)*(0.2091) = 27.54 and (3.5447)*(0.0313) = 11.09 percentage points, respectively.

Also of note, the *New-Debt* column in Model (3) shows that the estimated coefficients on the $Disaster_{J,t}$*$Frugality_J$ interactions variables and the pre- and post-$Disaster_{J,t}$ interactions variables are all positive and significant, and the *SEO* column shows that the estimated coefficients on all the $Disaster_{J,t}$*$Frugality_J$ interactions remain insignificant. The results suggest that, for my sample, in the year before the disasters firms in more frugal countries were more likely to issue bonds, and not more likely to issue stocks, and that this tendency persisted during the disaster events. Moreover, when I exclude firms from the United States, Japan, and the United Kingdom, the largest countries in my sample (Model 4), I find that the tendency for firms in thriftier countries to not issue stocks during the disasters is not solely driven by firms from the largest capital markets. Importantly, the coefficient estimates on the control variables in the models that use the full sample (Models 2 and 3) suggest that these results are not driven by the tests lacking power to differentiate firms' financing needs. Consistent with the capital-raising literature, the control variables' coefficient estimates imply that the firms in my sample that are older (younger), with higher (lower) $Cashflow_{i,j,t-1}$, are more likely to issue bonds (stocks), relative to issuing no securities.

Overall, the results reported in Table 2 suggest that firms in more frugal countries are more likely to issue bonds and not more likely to issue stocks when large natural disasters occur. Given that firms in thriftier countries tend to have shorter debt maturity, their inclination to issue more debt and not issue equity

would potentially increase the likelihood that firms in thriftier countries face the costs associated with financial distress during disaster periods.

Section 4.2 Does frugality influence the quantity and maturity of the capital that firms raise?

In this section, I use disasters to quantify frugality's incremental effect on the quantity and maturity of the capital that firms raise. The capital-raising dependent variables of interest are the natural log of firms' bond and stock proceeds and the value-weighted years-to-maturity of firms' new debt issues. Within this experimental framework, my hypothesis predicts that if residents' thrift intensifies firms' financing frictions, firms in thriftier countries will raise larger bond proceeds, smaller stock proceeds, and issue new debt with a relatively shorter maturity structure during disaster years.

To test this hypothesis, I estimate various forms of the following OLS panel regressions:

$$ln(Bond\ Proceeds)_{i,j,k,t} = a + B_1 * Disaster_{J,t} * Frugality_J + B_2 * Disaster_{J,t} + B_3 * DisasterCAR_{i,j,t} + X_{i,j,t} + b_j + c_k + d_t + e_{j,t} \quad \text{(Eq 3)}$$

where the dependent variable is the natural log of the total proceeds of new debt issues of firm *i* of country *j* in industry *k* in year *t*; all the other variables in Equation (3) are previously defined. Table 3 reports the estimated coefficients for each equation. As before, each column labels the dependent variable of interest; the columns report baseline results (Columns 1, 4, 6), add the time-varying controls (2, 5, 8), and the pre and post-$Disaster_{J,t}$ interactions terms into the regression models (Columns 3, 6, 9). All models contain country, industry, and year-fixed effects; all standard errors are clustered by country-year.

The table shows that when large natural disasters occur, corporate issuers in thriftier countries raise larger amounts of debt, smaller amounts of equity, and issue shorter maturity bonds. First, the estimated coefficient for the $Disaster_{J,t}$*$Frugality_J$ interaction variable is significantly positive in all the bond proceeds equations (Columns 1, 2, 3) and significantly negative in the stock proceeds equations that include the time-varying controls (Columns 5, 6). The estimated coefficients in Columns (3, 6) imply that when a country experiences a large natural disaster, a one standard deviation increase in $Frugality_J$ (0.1161) is associated

with firms in that country raising bond proceeds (1.3084) that are (1.3084)*(0.1161) = 15.19 percentage points greater and stock proceeds (-0.8483) that are (-0.8483)*(0.1161) = -9.85 percentage points smaller. Second, in each maturity equation, the estimated coefficients on the $Disaster_{J,t}$*$Frugality_J$ interaction variables are negative and significant (Columns 7, 8, 9), indicating that firms in thriftier countries issue bonds with a significantly shorter maturity during large disaster years. In Column (9), the coefficient estimates imply that when large natural disasters strike, a one standard deviation increase in $Frugality_J$ leads to firms issuing bonds with maturity that is (-7.6789)*(0.1161) = -0.8915 years shorter.

Figures 2 and 3 plot the point estimates and the 95% confidence intervals of $Disaster_{J,t}$*$Frugality_J$ and the pre and post-$Disaster_{J,t}$ interactions terms for the quantity and maturity equations estimated in Columns (3, 6) and (9), respectively. The plots show that for the quantity and maturity equations, the estimated coefficients on the pre-$Disaster_{J,t}$*$Frugality_J$ interaction terms are not distinguishable from zero (Columns 3, 6, 9), indicating that prior to the disasters, corporate issuers in thriftier countries followed parallel trends. The findings suggest that differences in residents' thrift lead to differences in the quantity and maturity of the capital that firms raise during the disaster periods.

Economically, these differences can be large. To provide context, we can compare what the estimates imply for the typical firm in my sample that is located in a country where the residents are the least frugal, Norway ($Frugality_J$ = 13.6%), and the most, South Korea ($Frugality_J$ = 59.8%). For each country, we can multiply the median firms' bond and stock proceeds by residents' thrift, and then multiply that product by the coefficients estimated in Columns (3, 6). From Table 1, Panel A, we can observe that for Norway, the median firms' bond and stock proceeds are USD 140 million and USD 23.6 million, respectively. If we tally the estimates for Norway, they imply that during a large disaster year, the typical firms' bond and stock proceeds would be USD 24.9 million larger and USD -2.7 million smaller, respectively. In South Korea, the median firms' bond and stock proceeds are USD 78 million and USD 9 million, respectively. Applying the same methodology to South Korea, the estimates correspond to the typical firms' bond and stock proceeds being USD 61 million larger and USD -4.9 million smaller during

a large disaster year. For the maturity results, the point estimates in Column (9) imply that during a large disaster year, if we were able to pick up a firm in Norway ($Frugality_J$ = 13.6%) and drop it in South Korea ($Frugality_J$ = 59.8%), its bonds would be due (-7.6789)*(0.598 – 0.136) = -3.5477 years sooner. To place this in context, in my sample, the median value-weighted years-to-maturity is roughly 6.4 years.

One explanation for the results might be that corporate issuers in thriftier countries face lower growth prospects during the disaster periods. As discussed earlier, individuals that self-identify as happy, healthier, and wealthier tend to be less frugal. Given this relation, it seems reasonable to consider that residents that are thriftier might lower firms' growth prospects during large disaster years. To test this alternative hypothesis, in Appendix Table A.3, I regress three different measures of issuing firms' growth prospects on the models used in Table 3. Using DisasterCARs, sales growth, and firms' future earnings growth, I find that the coefficient estimate on the $Disaster_{J,t}$*$Frugality_J$ interaction variable is either significantly positive or indistinguishable from zero, suggesting that issuers in more frugal countries do not experience lower growth prospects during the disaster periods.[8]

Collectively, the quantity and maturity findings in Table 3 suggest that during large disaster years, firms in thriftier countries raise larger amounts of debt and smaller amounts of equity, and that, on an incremental basis, the negative relation between corporate maturity and residents' frugality worsens during these periods. I interpret the findings as consistent with the view that residents' thrift can lead to firms facing a more difficult financing environment during large disasters periods.

Section 4.3 Does frugality influence how firms raise capital globally?

Next, I examine whether residents' thrift leads firms to raise capital globally in response to disaster

[8]One potential explanation for the maturity results might be that differences in governments' financing needs influence firms' maturity decisions (Greenwood, Hanson, and Stein, 2010). To address this concern, in untabulated results, I augment the maturity equation estimated in Column (9) with government debt to GDP ratios, inflation rates, and national savings rates, all obtained from the World Bank. Within this reduced sample size, I remove the country fixed-effects from the model and find the significantly negative relation holds, suggesting differences in governments' financing needs do not entirely drive the maturity findings.

events. As mentioned earlier, the main idea is that when firms face a local capital supply shock, we would expect to observe that they attempt to tap capital markets globally. One manner in which firms can raise capital globally is by choosing to issue securities that are denominated in USD, instead of in their local currency. Within this context, my hypothesis predicts that when large natural disasters occur, firms in more frugal countries will be more likely to sell USD-denominated securities.

To test this hypothesis, I implement a framework similar to Bruno and Shin (2017). I use a multinomial logit to test whether residents' frugality increases the likelihood that the majority of non-U.S. firms' bond or stock proceeds in disaster-"treated" countries are in USD:

$$\textit{None}|\ \textit{LCL}|\ \textit{USD}_{i,j,k,t} = a + B_1*\text{Disaster}_{J,t}*\text{Frugality}_J + B_2*\text{Disaster}_{J,t} + B_3*\text{DisasterCAR}_{i,j,t} \quad \text{(Eq 4)}$$
$$+\text{X}_{i,j,t} + b_j + c_k + d_t + e_{j,t}$$

where the dependent variable Issuance-Currency$_{i,j,k,t}$ categorizes the issuance year of firm *i* of country *j* in industry *k* in year *t* into one of the three outcomes: (1) *LCL* (*Local Currency*) when the majority of firm *i*'s issuance proceeds are not in USD, (2) *USD* when the majority of firm *i*'s issuance proceeds are in USD, (3) *None* when firm *i* issues no securities (the base case). All the other variables in Equation (4) are previously defined.

Table 4 reports the multinomial logit regression results. Panel A contains the currency results for firms' bond issuances; Panel B contains the currency results for firms' stocks issuances. As before, each column labels the corresponding issuance outcome, i.e. *LCL* (outcome 1) or *USD* (outcome 2), relative to no issuance (the base case). Models (1, 2, 3) report baseline results, results with time-varying controls, and the pre- and post-Disaster$_{J,t}$ indicator variables, respectively. All models contain country, industry, and year-fixed effects, and all standard errors are clustered by country-year.

The key takeaway from Table 4 is that in the *USD* equations, the estimated coefficient on the post-Disaster$_{J,t}$*Frugality$_J$ interaction terms are positive and significant for firms' bond and stock issuances (Panel A, Model 3; Panel B, Model 3). The results suggest that when a country experiences a large natural disaster, residents' frugality is strongly associated with the likelihood that non-U.S. firms issue USD-

denominated bonds and stocks in the year after the large disaster occurs. To quantify the economic magnitude of residents' thrift on non-U.S. firms' currency choices during the disaster periods, we can apply the non-U.S. sample statistics provided in Table 1, Panel C, to the point estimates in the table. For the bond equations, the coefficient estimates in the *USD Bond* column of Panel A Model (3) imply that, in the year following a large natural disaster, a one standard deviation increase in Frugality_J (0.1202) increases the log of the odds ratio that firms issue USD bonds (2.7205) by (2.7205)*(0.1202) = 32.70 percentage points. To provide perspective, the *USD Bond* column's coefficient estimates imply that a one standard deviation increase in $\text{Leverage}_{i,j,t-1}$ (0.1835) and $\text{GdpGrowth}_{j,t-1}$ (0.0352) are associated with an increase in the log of the odds ratio that a non-U.S. firm issues USD-denominated bonds of (1.4039)*(0.1835) = 25.76 and (6.7980)*(0.0352) = 23.93 percentage points, respectively.

The coefficient estimates in the *USD SEO* column of Panel B Model (3) show an identical pattern in the timing of the USD-denominated stocks issuances made by non-U.S. firms in thriftier countries. The significantly positive estimated coefficient on the $\text{post-Disaster}_{J,t}$*$\text{Frugality}_J$ interaction term implies that a one standard deviation increase in Frugality_J (0.1202) is associated with an increase in the log of the odds ratio that firms issue USD stocks (5.1454) by (5.1454)*(0.1202) = 61.85 percentage points; the column's coefficient estimates imply that a one standard deviation increase in $\text{Leverage}_{i,j,t-1}$ (0.1835) and $\text{GdpGrowth}_{j,t-1}$ (0.0352) would correspond with an increase in the log of the odds ratio that a non-U.S. firm issues USD-denominated stocks of (0.6499)*(0.1835) = 11.93 and (6.2770)*(0.0352) = 22.10 percentage points, respectively.

Strikingly, the table shows that for the *USD* columns, the estimated coefficients on the $\text{pre-Disaster}_{J,t}$*$\text{Frugality}_J$ interaction terms are not distinguishable from zero in both panels (Panel A, Model 3; Panel B, Model 3). The results suggest that non-U.S. firms in thriftier countries are more likely to raise USD-denominated bonds and stocks after the disasters, and not before.[9] Also of note, the *USD SEO* columns

[9]One potential explanation for the currency-timing results might be that differences in inflation rates can also influence firms' currency choices (Bruno and Shin, 2017). To examine this concern, in untabulated results, I augment Model (3) of Panels A and B with inflation rates obtained from the World Bank. Within the reduced sample, I estimate

are the only stock issuance equations in which I find that the estimated coefficients on the DisasterCARs are positive and significant (Panel B, Models 1, 2, 3), suggesting that non-U.S. firms with relatively higher disaster-specific CARS are more likely to raise equity globally, and not locally.

Altogether, the findings in Table 4 highlights the effect of residents' thrift on firms' capital-raising. While firms can issue USD-denominated securities for many reasons, the distinct pattern in the timing of how non-U.S. firms are more likely to issue USD-denominated bonds and stocks in the year after a large natural disaster occurs, and not the year before, support the hypothesis that residents' frugal tendencies can intensify firms' financing frictions when natural disasters occur.

Section 4.4 Does frugality influence how firms invest?

The approach in the previous sections studied the impact of residents' thrift on firms' ability to readjust to capital supply shocks (i.e., coefficient estimates on $Disaster_{J,t}$*$Frugality_J$ capture the incremental impact of residents' thrift on firms' capital-raising decisions during large disaster years). This section studies whether the financing frictions lead to systematic patterns in how firms invest. As discussed previously, I hypothesize that as residents' frugality amplifies firms' financing frictions during disaster years, firms in thriftier countries will reduce their total investment and investment shares and increase their R&D shares at higher rates.

Table 5 presents OLS panel regressions results that test this hypothesis. The dependent variables are firms' total investment, investment share, and R&D share. The regression models replace the country and industry-fixed effects in Equation (3) with firm-fixed effects. In this empirical specification, the identification comes from variation *within* firms' investment behaviors, that is, coefficient estimates on $Disaster_{J,t}$*$Frugality_J$ capture how firms in more frugal countries invest differently when large disasters occur. As before, each column labels the dependent variable of interest; the columns report baseline results

individual logit regressions and find that the significantly positive relation holds for both equations, suggesting that the documented patterns in firms' currency-timing are not totally driven by differences in inflation rates.

(Columns 1, 4, 6), time-varying controls (Columns 2, 5, 8), and the pre- and post-Disaster$_{J,t}$ interaction terms (Columns 3, 6, 9). All the regression models include firm and year-fixed effects and cluster standard errors by country-year.

The table shows that firms in thriftier countries tend to reduce their total investment and investment share and increase their R&D share at higher rates when large natural disasters strike. In every equation, the estimated coefficients on the Disaster$_{J,t}$*Frugality$_J$ interaction terms have their predicted signs and are economically significant. First, the coefficient estimates in Columns (3) suggest that during disaster years, a one standard deviation increase in Frugality$_J$ (0.1161) leads to firms reducing their total investment by (-0.0707)*(0.1161) = -0.8208 percentage points that year, and (-0.0382)*(0.1161) = -0.4435 percentage points the year following. Second, the point estimates in Column (6) imply that an equal increase in residents' frugality would lead to firms reducing their investment share by (-0.2543)*(0.1161) = -2.9524 percentage points during the disaster year, and by (-0.1751)*(0.1161) = -2.0329 percentage points the year after. The investment reductions are large when compared to the median total investment rate and investment share for the firms in my sample, which is 3.28% and 28.39%, respectively. Surprisingly, in both investment models the pre-Disaster$_{J,t}$*Frugality$_J$ interactions terms are not distinguishable from zero (Columns 3, 6), indicating that the firms in my sample exhibited comparable investment rates the year prior to the disasters. The results suggest that differences in residents' thrift leads to firms' adopting drastically investment policies during disaster periods.

Noticeably, the R&D share equations in Columns (7, 8, 9) show that while residents' thrift is associated with firms cutting their total investment during disaster years, firms in more frugal countries reallocate from CAPEX to RDX at much higher rates during these periods. The estimated coefficients on both the pre-Disaster$_{J,t}$*Frugality$_J$ and post-Disaster$_{J,t}$*Frugality$_J$ interactions terms in Column (9) are significantly positive, indicating that firms in thriftier countries allocated larger shares of their investment

capital to R&D in the year before the disasters, and continued to do so through the disaster periods.[10]

Taken together, I interpret the patterns in the investment tendencies of firms in thriftier countries as supporting my hypothesis. One potential concern with the investment results is that firms' financing choices are not completely random. In this sense, even if residents' thrift intensifies firms' financing frictions, the impact of those frictions may not be comparable across firms. To address this concern, in Table 5, Panel B, I match firms by their propensity to issue securities. The main idea is to generate two samples of firms with comparable capital-raising behavior and to conduct the experiment within this matched sample. Column (1) reports the logit regression results; the dependent variable takes a value of "1," if the firm issues bonds or stocks during year *t*. The independent variables include the time-varying controls and country, industry, and year-fixed effects. Using the full sample of data, I find that firms that are younger, with higher $Q_{i,j,t-1}$, lower $Cashflow_{i,j,t-1}$, larger $lnTA_{i,j,t-1}$, higher $PPE_{i,j,t-1}$, higher $Leverage_{i,j,t-1}$, and that are in countries with higher GDP growth are more likely to issue securities. The control group is matched to the "treated" observations using the nearest-neighbor matching with replacement, when the absolute difference in propensity scores between the matched observations is less than or equal to 0.01.

Columns (2) through (10) of Panel B show that the findings of Panel A hold within the matched sample. The size and sign of the estimated coefficients on the $Disaster_{J,t}$*$Frugality_J$ interaction terms and the post-$Disaster_{J,t}$*$Frugality_J$ interaction terms are consistent with those in Panel A. Figure 4 plots the point estimates and the 95% confidence intervals of $Disaster_{J,t}$*$Frugality_J$ and the pre and post-$Disaster_{J,t}$ interactions terms for the coefficients in Column (4, 7, 10). The coefficient estimates indicate that residents' frugality is strongly associated with firms reducing their total investment and investment shares and increasing their R&D shares during large disaster years, and continuing all three behaviors in the year that follows. Remarkably, none of the estimated coefficients on the pre-$Disaster_{J,t}$*$Frugality_J$ interaction terms

[10]One concern with the R&D share might be the inconsistency with which CAPEX and RDX are reported across countries. To address this concern, in untabulated results I restrict the sample to firms that report positive CAPEX and RDX this year and the year prior; within this sample, the R&D share results hold, suggesting that the inconsistency of CAPEX and RDX reporting does not fully drive the R&D share results.

are distinguishable from zero, suggesting that the firms in the matched sample follow parallel trends prior to the disaster events.

Panel C of Table 5 reports the results for the differences between the "treated" and control groups before and after matching. The table shows the importance of matching. Among matched firms, "treated" firms tend to exhibit lower DisasterCARs and $Cashflow_{i,j,t-1}$, higher $PPE_{i,j,t-1}$ and $ln(FimAge)_{i,j,t-1}$, and are from countries with slightly lower $Frugality_J$. Importantly, the economic significance of all these differences between the groups becomes much smaller after the matching. Moreover, the differences in $ln(TA)_{i,j,t-1}$, $Leverage_{i,j,t-1}$, GDP growth, market capitalization to GDP ratios, and $Disaster_{J,t}$ frequencies are not distinguishable between the "treated" and matched firms.

Overall, the investment findings bring to light how residents' frugality can intensify firms' financing frictions when large disasters occur. The results suggest that firms in thriftier countries tend to reduce their total investment and investment shares, and increase their R&D shares at higher rates when large natural disasters occur.

Section 4.5 Are firms with better access to non-local capital markets less affected by frugality?

I now examine whether firms with better access to non-local capital markets are less affected by residents' frugality when large natural disasters occur. As discussed in the introduction, to identify these firms, I focus on firms' that reported foreign sales, assets, or income the year prior to the large disasters. The main prediction is that as residents' thrift intensifies firms' financing frictions, these firms' total investment will be less impacted during the disaster years.

Table 6 reports OLS panel regression models that test this hypothesis; the models follow the same format of Table 5, Panel A, Column (3). The dependent variable is firms' total investment. The independent variables are the $Disaster_{J,t}$*$Frugality_J$ interaction, the time-varying controls, and the pre- and post-$Disaster_{J,t}$ interaction terms. Panel A reports findings for all firms; Panel B reports findings for firms matched in the manner detailed in the previous section. Columns label the lagged foreign characteristics of

interest; I test the total investment models separately for firms that have lagged foreign sales, assets, or income, and firms that do not. As before, all models include firm and year-fixed effects and cluster errors by country-year.

The table shows that firms in more frugal countries with foreign assets or operations do not significantly reduce their total investment when large disasters occur. First, the models that separate firms by lagged foreign sales (Columns 1, 2) show that both groups significantly reduce their total investment during disaster years. While the negative relation between residents' thrift and the total investment for the foreign sales subsample does not support my hypothesis, the foreign assets and income subsamples reveal a different story (Columns 3, 5). Columns (3, 5) show that the total investment made by firms in thriftier countries that report foreign assets or income the year before the disasters exhibits no significant association with residents' thrifty tendencies during the disaster years. For both subsamples, the estimated coefficients on the $Disaster_{J,t}$*$Frugality_{J}$ interactions are not distinguishable from zero and the results hold in both the full and matched sample of firms. Similarly, we would expect firms with less access to non-local capital to reduce investment at higher rates during the disaster periods. Consistent with this intuition, Columns (2, 4, 6) show that firms in thriftier countries that report no foreign sales, assets, or income the year prior to the disasters reduce their total investment at higher rates when the disasters occur.

The investment results from Table 6 show that firms in thriftier countries that have foreign assets or foreign income in the year prior to the large natural disasters do not significantly reduce their total investment during disaster years. The findings suggest that firms with better access to non-local capital markets prior to the large natural disasters are less affected by residents' frugality during the disaster years.

Section 5. Robustness

Section 5.1 Placebo Tests

Table 7 reports placebo tests intended to examine whether firms in more frugal countries raise capital and invest differently during random periods. The main idea is that if residents' thrift generally leads

firms to raise more debt, issue less equity, reduce their corporate maturity, and invest differently, then we would expect to observe the behaviors that I document in this paper during these random periods as well.

To test this hypothesis, I use the EM-DAT to reassign the deadliest natural disasters across all country-years in the sample period. With the randomly assigned disasters, I estimate disaster-specific CARs and retest the capital-raising and investment results. Columns (1, 2, 3) examine issuance characteristics; the dependent variables are the natural log of firms' bond and stock proceeds and the value-weighted years-to-maturity of firms' new debt issues; the equations repeat to the issuance models estimated in Table 3, Columns (3, 6, 9). Columns (4, 5, 6) investigate firms' investment behaviors; the dependent variables are firms' total investment, investment share, and R&D share; the models correspond to the regression estimated in Table 5, Panel A, Columns (3, 6, 9). As before, all the issuance regressions include country, industry, and year-fixed effects; the investment regressions include firm and year-fixed effects; all standard errors are clustered by country-year.

The table shows that during the random periods, firms in thriftier countries do not behave as if residents' thrift intensifies their financing frictions. Using the placebo treatments, I find no significant association between residents' thrift and the quantity of the debt or equity that firms raise (Columns 1, 2) or the investment behaviors that firms adopt (Columns 4, 5, 6). Interestingly, I find a positive association between corporate maturity and residents' thrifty tendencies during the placebo periods (Column 3), suggesting that firms in thriftier countries issue debt with a longer maturity structure during these random periods.

On the whole, the placebo tests show that during random periods, residents' thrift is not associated with firms raising more debt, issuing less equity, reducing their corporate maturity, and investing differently. The results suggest that the documented behaviors are in response to the large natural disasters.

Section 5.2 Alternative Treatment Tests

In Table 8, I use the EM-DAT to identify the deadliest transportation disasters as alternative

"treated" large-disaster years. The main idea is to examine the effect of residents' thrifty tendencies on firms' capital-raising and investment decisions during additional disaster periods. Similar to before, I use the annual deaths due to transportation disasters that are provided by the EM-DAT. Starting in 1990, I define $\text{Transport}_{J,t}$, which takes a value of 1 during the years in which country *j* experiences its deadliest transportation disasters to date. Because the transportation disaster data are at annual frequency I do not estimate disaster-specific CARs. As before, all regressions include country, industry, or firm-fixed effects; all models include year-fixed effects, and all standard errors are clustered by country-year.

Panel A reports results for the likelihood that firms issue new debt or engage in secondary stock offerings (Columns 1) and the quantity and maturity of firms' issuances (Columns 2, 3, 4); the models follow the specifications estimated in Table 2, Model (3), and Table 3, Columns (3, 6, 9), respectively. The table shows that during the alternative "treated" large-disaster years, firms in thriftier countries are significantly less likely to issue stocks and tend to raise larger debt proceeds. I find no association between residents' thrift and the maturity structure of firms' issuances during the alternative disaster periods.

Panel B reports results for firms' total investment, investment share, and R&D share (Columns 1, 2, 3) and the total investment of firm subsamples that report foreign assets or income (Columns 4, 6) and firms that do not (Column 5, 7); the models repeat the specifications estimated in Table 5, Panel A, Columns (3, 6, 9) and Table 6, Panel A, Columns (3, 4, 5, 6), respectively. The table shows that during the alternative "treated" large-disaster years, firms in thriftier countries reduce their total investment and investment share and increase their R&D share at significantly higher rates. While firms in thriftier countries reduce their total investment during the deadliest transportation disaster years, those with foreign assets or income the year before do not.

Taken together, the transportation disaster findings support my hypothesis that residents' thrift can intensify firms' financing frictions during disaster periods. In an alternative disaster setting, the results show how residents' thrifty tendencies can influence firms' capital-raising and investment decisions.

Section 5.3 Industry Structure, Size, Leverage

A potential alternative explanation for the investment results might be that differences in industry structure and adjustment costs may also be driving how firms invest during the disaster periods. I test this alternative hypothesis in Appendix Table A.4. The table repeats the total investment equations of Table 5, Panel A, Column (3) and Panel B, Column (4). I follow Bekaert et al. (2007) to group firms by industry structure (i.e., tradeable vs. non-tradeable, regulated vs. non-regulated). To form groups with comparable adjustment costs, I follow the standard practice of splitting firms by their lagged total assets (i.e., small vs. big) and lagged leverage (i.e. low vs. high) relative to their country-year median. The table shows that the total investment of firms in regulated industries exhibits no significant association with residents' frugality during large disaster years. Shockingly, in all the other subsamples, I find that residents' thrift is significantly associated with firms reducing their total investment during the disaster years or the year that follows, suggesting that differences in industry structure or adjustment costs approximated by firms' relative size or leverage do not fully drive the results.

Section 6. Conclusion

Using the country-level frugality measure of GSZ (2006), I documented that firms in more frugal countries tend to have shorter corporate maturity. Using large natural disasters to identify shocks across countries, I found that residents' frugality can influence how firms issue new-debt, engage in secondary stock offerings, and invest. I showed that during the disaster periods, as corporate issuers in thriftier countries raised larger amounts of debt and smaller amounts of equity, the negative relation between residents' thriftiness and corporate maturity worsened on an incremental basis. I found that firms in thriftier countries are more likely to attempt to access the global capital market after the large natural disasters occur, and not before.

I found strong evidence that residents' frugality could have real effects on firms' investment decisions during disaster periods. I showed that while firms in more frugal countries tend to cut their total

investment at relatively higher rates when large natural disasters occur, those that had foreign assets and foreign income the year prior to the disasters did not. I found that in an alternative disaster setting, residents' thrift seemed to influence firms' capital-raising and investment behaviors in a similar manner. Altogether, the findings suggest that during large disaster periods, as financing grows turbulent, residents' frugality can intensify frictions on firms' local capital supply.

Data Appendix Table. Variable definitions and Sources

Frugality$_J$. I follow Guiso, Sapienza, and Zingales (2006) and from the World Values Survey (WVS), I take the average tendency for individuals in each country to identify teaching children "thrift, saving money and things" as important. (Source, WVS)

Disaster$_{J,t}$. Disaster identifies country-years in which a country experiences the largest natural disaster to date, starting in January of 1990 and rolling through the end of the sample period. (Source, Centre for Research on the Epidemiology of Disasters)

DisasterCAR$_{i,j,t}$. *DisasterCAR*$_{i,j,t}$ labels the cumulative abnormal return during the disaster-month for firm *i* in country *j* at time *t*. Each year, I estimate $R_{i,j,t} = a_i + B_{m,i}R_{j,t} + B_{w,i}R_{w,t} + \delta_{i,j,t}Disaster_{J,t} + e_{i,t}$, where $R_{i,j,t}$ is the weekly return on firm *i*, while $R_{j,t}$ and $R_{w,t}$ are the weekly returns on the local and global market portfolios, respectively. To calculate DisasterCARs, I use the estimated coefficient of the indicator, *Disaster*$_{J,t\ t}$, which is equal to 1 during the month in which country *j* experiences its largest disaster to date, and 0 otherwise. All returns are in USD. (Source, Datastream)

New-Debt Issue$_{i,j,t}$. *New-Debt Issue* is the reported bond issuance-year matched at the ultimate-parent level to each firm in the sample. (Source, SDC Platinum Database)

Years-to-Maturity$_{i,j,t}$. *Years-to-Maturity* is the value-weighted years-to-maturity of the new debt issuance matched at the ultimate-parent level to each firm in the sample. Proceeds are in USD millions. (Source, SDC Platinum Database)

Seasoned Equity Offering$_{i,j,t}$. *SEO* is the reported stock issuance-year matched at the ultimate-parent level to each firm in the sample. (Source, SDC Platinum Database)

$Q_{i,j,t-1}$. *Q* is defined as the ratio of total assets less book equity plus year-end stock market capitalization relative to the book value of total assets. (Source, Worldscope and Datastream)

Cashflow$_{i,j,t-1}$. *Cashflow* is defined as earnings before interest, taxes, depreciation and amortization scaled by the lagged book value of total assets. (Source, Worldscope)

lnTA$_{i,j,t-1}$. *lnTA* is the natural log the lagged book value of total assets in USD millions. (Source, Worldscope)

PPE$_{i,j,t-1}$. *PPE* is defined as the ratio of property, plant, and equipment scaled by the lagged book value of total assets. (Source, Worldscope)

lnFirmAge$_{i,j,t}$. *lnFirmAge* is defined as the natural log of the difference between the firm's start date (Bdate) and year *t*. (Source, Datastream)

Leverage$_{i,j,t-1}$. *Leverage* is defined as the ratio of long-term debt scaled by the lagged book value of total assets. (Source, Worldscope)

DebtMaturity$_{i,j,t-1}$. *DebtMaturity* is defined as the ratio of long-term debt to the sum of long-term and short-term debt. (Source, Worldscope)

Investement$_{i,j,t}$. *Investement* is defined as the ratio of CAPEX and R&D expense scaled by the lagged book value of total assets. (Source, Worldscope)

InvestementShare$_{i,j,t}$. *InvestementShare* is defined as the ratio of CAPEX and R&D expense to the sum of CAPEX, R&D expense, and cash and cash equivalents. (Source, Worldscope)

R&DShare$_{i,j,t}$. *R&D share* is defined as the ratio of R&D expense to the sum of CAPEX and R&D expense. (Source, Worldscope)

$GdpGrowth_{j,t-1}$. *GdpGrowth* labels the annual percentage growth rate of GDP using market prices based on constant local currency in 2005 U.S. dollars. (Source, World Bank)

$MarketCapGdp_{j,t-1}$. *MarketCapGdp* labels the ratio of stock market capitalization to GDP. (Source, World Bank)

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Table 1. Summary Statistics and Characteristics by Country and Year

For each of the 42 countries in the sample, I report country-level and firm-level summary statistics from 1990 to 2013. Panel A reports summary statistics by country; Panel B reports summary statistics by year; Panel C reports summary statistics across all countries and years. **Frugality** reports the country average to the World Value Survey question "Do you consider it important to encourage children to learn thrift and savings?". Following Guiso, Sapienza, and Zingales (2006), I code the variable as 1 if the respondent lists as important "Thrift, saving money and things" and take the country's average response over the World Value Surveys. **Disaster**$_{J,t}$ identifies country-years in which a country experiences the largest natural disaster to date, starting in January of 1990 and rolling through the end of the sample period. **Disaster Deaths** reports the total number of deaths that were recorded for the largest natural disaster for each country over the sample period. Natural disasters are obtained from the Centre for Research on the Epidemiology of Disasters. **Firm-years** reports the number of firm-years for which total assets are available. I exclude all financial firms, identified as primary SIC code starting with "6". I require firms to have total assets, price-to-book, and year-end stock market capitalization data available the previous year. **Disaster-"Treated"-years** reports the total number firm-year observations for which each country experiences its largest natural disasters to date. **DisasterCAR**$_{i,j,t}$ labels the cumulative abnormal return for firm *i* in country *j* in year *t* during the month in which country *j* experiences its largest natural disasters to date. To measure the market response to the disaster events, each year I estimate the following international market model specification for each firm: $R_{i,j,t} = a_i + B_{m,i}R_{j,t} + B_{w,i}R_{w,t} + LargestDisaster_{j,t}\delta_{i,j,t} + e_{i,t}$, where $R_{i,j,t}$ is the weekly return on firm *i,* while $R_{j,t}$ and $R_{w,t}$ are the weekly returns on the local and global market portfolios, respectively. To calculate DisasterCARs, I use the estimated coefficient of the indicator, $\delta_{i,j,t}$, which is equal to 1 during the month in which the country *j* experiences its largest disaster each year, and 0 otherwise. This produces DisasterCARs for each year. I report the average and median DisasterCARs for the years in which a country experiences its largest natural disasters to date. All returns are in USD and downloaded via Datastream. **Debt Maturity** reports the time-series median of the firm-level ratio long-term debt to the sum of long and short-term debt. **New Debt Issue** is the total number of bond issuance years matched to each firm in the sample. **Years-to-Maturity** reports the time-series median of the value-weighted years-to-maturity of the new debt issuance matched to each firm in the sample. **SEO** is the total number of seasoned equity issuance years matched to each firm in the sample. Bond and stock proceeds are measured in USD millions. Equity and bond issuance data are obtained from SDC and matched to financial data using the ultimate parents' primary issuers' CUSIP, SEDOL, and ISIN. All firm accounting data are in USD and downloaded via Worldscope. All accounting variables are winsorized at the 1% and 99% level.

Country Table 1 Panel A: Frugality, Natural Disasters, Firm Characteristics, and Capital Issuances by Country

Country$_J$	Frugality$_J$ (Mean)	Disaster$_J$ Events (Count)	Largest Disaster$_J$ (Date)	Largest Disaster$_J$ (Type)	Disaster Deaths (Max)	Firm-Years (Count)	Disaster-Treated-Years (Count)	Disaster CARs (%) (Mean)	Disaster CARs (%) (P50)	Debt Maturity (P50)	New Debt Proceeds (P50)	Years-to-Maturity (P50)	SEO Proceeds (P50)
Argentina	0.268	3	04/2013	Flood	52	1,228	79	-0.286	-0.081	0.541	100	4.3	86
Australia	0.243	3	01/2009	Heat wave	347	20,670	2,043	-0.704	-0.846	0.674	300	5.6	5
Brazil	0.284	5	01/2011	Flood	900	768	164	0.422	0.240	0.752	589	6.0	200
Bulgaria	0.427	2	01/2012	Cold wave	30	1,258	201	-0.744	-0.063	0.526	-	-	17
Canada	0.282	3	01/1998	Storm	28	15,031	581	0.201	0.168	0.707	291	8.4	7
Chile	0.330	2	02/2010	Earthquake	562	2,912	182	-0.093	-0.005	0.705	156	13.1	58
China	0.571	3	05/2008	Earthquake	87,476	19,748	1,753	2.716	2.520	0.098	128	3.7	98
Colombia	0.324	3	01/1999	Earthquake	1,186	545	40	-0.418	0.000	0.593	152	9.5	35
Cyprus	0.361	-	08/1998	Heat wave	52	776	0	-	-	0.497	731	3.0	13
Czech Republic	0.453	3	07/2003	Heat wave	418	461	77	-0.071	-0.263	0.482	208	6.0	294
Egypt	0.188	-	11/1994	Flood	600	964	0	-	-	0.410	193	6.5	20
Finland	0.280	2	01/1990	Storm	0	2,392	150	-0.421	-0.562	0.690	197	5.1	55
France	0.428	4	08/2003	Heat wave	19,490	15,536	2,266	-0.651	-0.862	0.577	755	6.3	52
Hungary	0.392	5	07/2007	Heat wave	500	621	136	0.689	-0.011	0.472	495	3.6	200
India	0.467	3	01/2001	Earthquake	20,005	19,014	721	-1.195	-1.273	0.554	59	5.0	17
Indonesia	0.490	3	12/2004	Earthquake	165,708	3,959	255	-0.957	0.000	0.442	81	5.0	49
Israel	0.198	2	12/2010	Forest Fire	44	4,148	486	-0.582	-0.332	0.582	150	7.8	18
Italy	0.394	4	07/2003	Heat wave	20,089	4,939	709	-0.467	-0.395	0.485	368	5.1	102
Japan	0.445	5	03/2011	Earthquake	19,846	65,403	9,563	0.599	0.246	0.430	152	5.0	17
Malaysia	0.557	2	12/1996	Storm	270	11,247	359	-0.961	-0.707	0.335	79	5.0	8
Mexico	0.348	2	09/1999	Flood	636	2,322	141	-0.135	0.009	0.734	194	5.9	131
Netherlands	0.454	3	07/2006	Heat wave	1,000	3,915	461	-0.742	-0.532	0.635	682	7.1	101
New Zealand	0.301	7	02/2011	Earthquake	181	1,834	332	0.153	0.019	0.834	120	7.0	11
Norway	0.136	5	11/2011	Storm	4	2,130	325	-0.866	-0.923	0.834	140	7.0	27
Pakistan	0.517	2	10/2005	Earthquake	73,338	1,982	85	0.987	0.558	0.374	24	7.0	17
Peru	0.191	2	08/2007	Earthquake	818	1,337	130	-0.021	-0.406	0.500	24	3.0	32
Philippines	0.390	3	11/2013	Storm	7,354	3,028	206	0.267	0.018	0.421	150	6.4	22
Poland	0.532	5	11/2009	Cold wave	298	3,118	425	-0.257	-0.342	0.407	336	6.0	19
Romania	0.506	-	07/1991	Flood	108	990	0	-	-	0.210	-	-	77
Russian Federation	0.545	1	06/2010	Heat wave	55,736	504	52	0.447	0.528	0.585	238	4.0	59
Singapore	0.428	-	-	None	0	8,097	0	-	-	0.327	95	4.1	8
South Africa	0.284	3	12/1995	Flash Flood	207	415	9	2.449	0.856	0.631	725	6.8	125
South Korea	0.598	2	071998	Flash Flood	403	17,778	377	0.488	0.076	0.310	78	3.0	11
Spain	0.228	4	08/2003	Heat wave	15,090	2,939	480	-0.529	-0.808	0.542	709	6.6	106
Sweden	0.391	4	12/2013	Storm	7	6,210	1,002	-0.288	-0.235	0.712	310	4.9	16
Switzerland	0.342	3	07/2003	Heat wave	1,039	4,899	582	0.134	-0.048	0.697	225	7.1	89
Taiwan	0.585	3	09/1999	Earthquake	2,264	17,152	425	0.730	0.658	0.274	92	5.1	11
Thailand	0.557	1	12/2004	Tsunami	8,345	7,397	363	0.111	0.091	0.331	88	4.1	10
Turkey	0.333	3	08/1999	Earthquake	17,127	3,754	108	-0.735	-0.696	0.278	223	5.1	31
United Kingdom	0.271	4	07/2013	Heat wave	760	36,390	5,401	-0.368	-0.245	0.621	645	7.4	11
United States	0.293	3	08/2005	Storm	1,833	124,349	12,915	0.023	-0.160	0.785	324	9.7	65
Venezuela	0.421	2	12/1999	Flash Flood	30,000	394	21	-1.081	-0.465	0.423	226	10.6	15
Total	0.379	119	12/2004	Earthquake	165,708	442,554	43,605	0.129	-0.013	0.529	232	6.4	18

Table 1 Panel B: Large Natural Disasters, Firm Characteristics and Capital Issuances by Year

Year	Countries$_J$ (Count)	Disaster$_J$ Events (Count)	Firm-Years (Count)	Disaster-Treated-Years (Count)	Debt Maturity (P50)	New Debt Issues (Count)	New Debt Issues Proceeds (USD Millions) (P50)	New Debt Issues Proceeds (USD Millions) (Sum)	Years-to-Maturity (P50)	SEOs (Count)	SEOs Proceeds (USD Million) (P50)	SEOs Proceeds (USD Million) (Sum)
1990	27	17	6,021	3,263	0.639	277	160	75,134	5.0	71	54	5,600
1991	29	6	6,731	2,723	0.617	505	125	167,563	5.8	187	46	27,774
1992	30	7	7,636	567	0.607	523	130	174,006	7.0	197	41	17,578
1993	34	9	8,222	5,082	0.612	598	149	255,773	7.1	329	50	42,740
1994	35	5	9,045	465	0.625	535	102	188,429	5.0	346	50	32,581
1995	36	7	10,768	6,362	0.615	649	125	310,303	5.4	431	47	45,675
1996	37	9	11,943	912	0.611	797	138	375,814	5.2	554	50	68,485
1997	38	6	13,420	182	0.590	906	147	484,721	6.6	538	53	71,190
1998	39	5	14,358	840	0.601	885	194	677,579	7.0	427	63	89,656
1999	39	11	16,841	2,037	0.577	783	199	710,029	6.2	631	56	120,462
2000	39	0	18,299	0	0.542	733	200	728,014	5.0	790	52	161,736
2001	38	3	19,178	416	0.523	854	224	971,199	5.5	662	32	112,701
2002	39	0	20,083	0	0.523	765	225	772,886	5.8	839	19	92,037
2003	39	8	20,951	3,270	0.507	811	230	946,656	7.0	1,005	16	112,225
2004	38	2	20,876	558	0.516	739	224	861,210	7.1	1,277	20	134,703
2005	39	4	21,704	6,426	0.508	647	250	721,463	7.1	1,201	19	153,428
2006	41	2	24,286	171	0.501	674	300	977,855	7.3	1,434	18	154,394
2007	42	2	26,424	138	0.505	747	350	1,125,515	7.1	2,024	14	160,962
2008	42	1	27,390	1,544	0.487	714	298	760,491	5.4	1,603	9	116,724
2009	42	2	27,492	2,012	0.499	951	351	1,183,711	6.1	2,579	11	232,402
2010	41	4	26,979	724	0.500	955	335	1,171,282	7.0	2,659	10	252,948
2011	41	4	27,793	3,627	0.483	953	382	1,172,182	6.4	2,385	10	163,588
2012	42	1	28,132	187	0.464	1,128	399	1,409,229	7.0	2,261	10	184,113
2013	42	4	27,982	2,099	0.467	1,213	326	1,237,930	6.8	2,587	14	276,071
Total	909	119	442,554	43,605	0.529	18,342	232	17,500,000	6.4	27,017	18	2,829,771

Table 1 Panel C: Large Natural Disasters, Firm Characteristics and Capital Issuances, Summary statistics

Full Sample	Mean	P50	Sd	Count
$Frugality_J$	0.3821	0.3330	0.1161	442,554
$Disaster_{J,t}$	0.0985	0.0000	0.2980	442,554
$DisasterDeaths_{J,t}$	771	0.0000	6,955	405,260
$DisasterCAR_{i,j,t}$(%) ($Disaster_{J,t}$=1)	0.1291	-0.0131	4.6674	20,492
New Debt $Issues_{i,j,t}$	0.0414	0.0000	0.1993	442,529
New Debt $Proceeds_{i,j,t}$	953	232	7137	18,342
LCL Debt $Proceeds_{i,j,t}$ (Non-U.S.)	544	143	1716	9,199
USD Debt $Proceeds_{i,j,t}$ (Non-U.S.)	1310	299	3446	1,588
Years-to-$Maturity_{i,j,t}$	7.6969	6.4049	5.7699	18,342
$SEOs_{i,j,t}$	0.0700	0.0000	0.2551	442,554
SEO $Proceeds_{i,j,t}$	105	18	552	27,017
LCL SEO $Proceeds_{i,j,t}$ (Non-U.S.)	88	11	600	20,747
USD SEO $Proceeds_{i,j,t}$ (Non-U.S.)	223	81	449	510
Debt $Maturity_{i,j,t}$	0.5029	0.5289	0.3505	359,393
$Investment_{i,j,t}$	0.0760	0.0328	0.1280	442,554
Investment $share_{i,j,t}$	0.3537	0.2839	0.3057	385,054
R&D $share_{i,j,t}$	0.1758	0.0000	0.3106	371,247
$Q_{i,j,t}$	1.9762	1.1511	3.2270	388,203
$Cashflow_{i,j,t}$	0.0229	0.0879	0.4210	366,520
$lnTA_{i,j,t}$	5.1805	5.1603	2.2864	388,211
$PPE_{i,j,t}$	0.2974	0.2481	0.2490	384,525
$lnFirmAge_{i,j,t}$	2.1400	2.3026	0.8892	442,510
$Leverage_{i,j,t}$	0.1499	0.0689	0.2101	388,381
$GdpGrowth_{j,t}$	0.0315	0.0274	0.0313	424,412
$MktCapGdp_{j,t}$	0.9505	0.9408	0.4319	424,356

Non-U.S. Sample	Mean	P50	Sd	Count
$Frugality_J$	0.4168	0.4446	0.1202	318,205
$DisasterCAR_{i,j,t}$(%) ($Disaster_{J,t}$=1)	0.1728	0.0002	4.0069	14,532
Debt $Maturity_{i,j,t}$	0.4540	0.4595	0.3330	264,319
$Investment_{i,j,t}$	0.0661	0.0298	0.1116	318,205
Investment $share_{i,j,t}$	0.3236	0.2454	0.2973	289,637
R&D $share_{i,j,t}$	0.1477	0.0000	0.2852	266,488
$Q_{i,j,t}$	1.6122	1.1006	2.1750	280,998
$Cashflow_{i,j,t}$	0.0651	0.0891	0.2685	266,308
$lnTA_{i,j,t}$	5.2170	5.1227	2.1416	281,002
$PPE_{i,j,t}$	0.3183	0.2832	0.2440	279,135
$lnFirmAge_{i,j,t}$	2.1526	2.3026	0.8600	318,198
$Leverage_{i,j,t}$	0.1328	0.0636	0.1835	281,010
$GdpGrowth_{j,t}$	0.0339	0.0281	0.0352	300,063
$MktCapGdp_{j,t}$	0.8627	0.7996	0.4489	300,007

Table 2. Does frugality influence the likelihood that firms raise capital from investors?

This table presents results from multinomial logit regressions of the relation between firms' bond and stock issuances around large natural disasters and frugality, defined as a country's propensity to encourage teaching "thrift, saving money and things" to children, from 1990 to 2013. Using bond and stock issuances, I estimate the following multinomial logit regression:

$$None|New\ Debt\ Issuance|SEO\ issuance_{i,j,k,t} = a + \text{Frugality}_J * \text{Disaster}_{j,t} + \text{Disaster}_{j,t} + \text{DisasterCAR}_{i,j,t} + \text{X}_{i,j,t} + b_j + c_k + d_t + e_{j,t}$$

The dependent variable takes three values (1) when a firm issues bonds (2) when a firm issues stocks (3) no issuance of stocks or bonds (the base case). As before, $Disaster_{j,t}$ identifies country-years in which a country experiences the largest natural disaster to date, starting in January of 1990 and rolling through the end of the sample period. $Frugality_J$ is the average country response to the World Value Survey question "Do you consider it important to encourage children to learn thrift and savings?" as in Guiso, Sapienza, and Zingales (2006). $\text{DisasterCAR}_{i,j,t}$ labels the cumulative abnormal return during the disaster-month for firm *i* in country *j* at time *t.* Columns 1 through 3 include all firms; the analysis in Column 4 excludes firms from the United States, the United Kingdom, and Japan, the largest countries within the sample. The corresponding dependent variables are indicated in each column. All other variables are defined in the data appendix. As before, all issuance data are obtained from SDC. All macro-economic data are obtained from the World Bank. All firm-level accounting variables are in USD and downloaded via World Scope and winsorized at the 1% level. Firm-level and market-level returns are obtained from Datastream and in USD. Cultural values are obtained from the World Values Survey. Natural disasters are obtained from the Centre for Research on the Epidemiology of Disasters. All models include country, industry and year fixed effects. All standard errors are clustered by country-year. ***,**,* denote significance at the 1%, 5%, and 10% level, respectively.

Table 2, Logits

	(1) Multinomial Logit		(2) Multinomial Logit		(3) Multinomial Logit		(4) Multinomial Logit	
Sample	All		All		All		Exclude U.S., U.K., Japan	
Type of issuance	New-Debt	SEO	New-Debt	SEO	New-Debt	SEO	New-Debt	SEO
$Disaster_{J,t}$*$Frugality_J$	1.8987**	-1.3052	1.5321**	-1.5685	2.1657***	-1.6804	2.9015**	0.3528
	(0.740)	(1.039)	(0.771)	(1.019)	(0.723)	(1.091)	(1.163)	(0.774)
$Disaster_{J,t}$	-0.5185*	0.3923	-0.4480*	0.4411	-0.7236***	0.3624	-1.0046**	-0.2645
	(0.286)	(0.356)	(0.267)	(0.363)	(0.248)	(0.381)	(0.443)	(0.256)
$DisasterCAR_{i,j,t}$	-0.1956	-0.2986	0.1467	-0.2677	0.7770	0.2390	0.9284	0.1313
	(0.832)	(0.880)	(1.378)	(0.794)	(1.287)	(0.796)	(1.366)	(0.615)
$PreDisaster_{J,t}$*$Frugality_J$					1.4766*	-1.3112	3.1839***	1.3413*
					(0.850)	(1.078)	(1.041)	(0.738)
$PostDisaster_{J,t}$*$Frugality_J$					2.4560***	-0.6084	2.1709***	1.0573
					(0.675)	(0.887)	(0.770)	(0.794)
$PreDisaster_{J,t}$					-0.4819	0.3120	-1.1040***	-0.6276**
					(0.294)	(0.370)	(0.421)	(0.274)
$PostDisaster_{J,t}$					-0.9110***	-0.0410	-0.7098**	-0.6396**
					(0.239)	(0.345)	(0.301)	(0.315)
$Q_{i,j,t-1}$			0.0367***	0.0089*	0.0292**	0.0095*	0.0004	0.0142***
			(0.013)	(0.005)	(0.014)	(0.006)	(0.029)	(0.005)
$Cashflow_{i,j,t-1}$			0.6711***	-0.2945***	0.7118***	-0.2900***	0.5884***	-0.7061***
			(0.137)	(0.039)	(0.141)	(0.042)	(0.217)	(0.065)
$lnTA_{i,j,t-1}$			0.8561***	0.0363**	0.8624***	0.0430**	0.8106***	-0.0291
			(0.015)	(0.018)	(0.015)	(0.020)	(0.020)	(0.023)
$PPE_{i,j,t-1}$			0.2962***	0.1674**	0.3682***	0.1716**	-0.2647**	0.4841***
			(0.084)	(0.074)	(0.083)	(0.079)	(0.109)	(0.090)
$lnFirmAge_{i,j,t}$			0.2005***	-0.3149***	0.2100***	-0.3239***	0.1904***	-0.2024***
			(0.022)	(0.024)	(0.022)	(0.025)	(0.034)	(0.023)
$Leverage_{i,j,t-1}$			1.3172***	0.6650***	1.2965***	0.6571***	1.1065***	0.7362***
			(0.084)	(0.057)	(0.084)	(0.061)	(0.100)	(0.095)
$GdpGrowth_{j,t-1}$			3.5447*	0.9412	4.6090***	2.0433	2.8957**	0.7469
			(1.872)	(1.623)	(1.524)	(1.642)	(1.465)	(1.342)
$MktCapGdp_{j,t-1}$			-0.1861	0.0773	-0.1492	0.0901	-0.4612***	0.3065***
			(0.151)	(0.135)	(0.125)	(0.142)	(0.128)	(0.104)
Constant	-4.1598***	-6.1775***	-10.5593***	-4.7422***	-10.9177***	-4.6913***	-11.0499***	-5.1134***
	(0.337)	(0.634)	(0.430)	(0.694)	(0.392)	(0.682)	(0.494)	(0.639)
Observations	440,977	440,977	347,015	347,015	323,865	323,865	147,798	147,798
Country FE	Y	Y	Y	Y	Y	Y	Y	Y
Industry FE	Y	Y	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y	Y	Y
Controls	N	N	Y	Y	Y	Y	Y	Y
Pseudo R-Squared	0.140	0.140	0.245	0.245	0.249	0.249	0.268	0.268

Table 3. Does frugality influence the quantity and maturity of the capital firms raise?

This table presents results from OLS panel regressions of the relation between firms' bond proceeds, stock proceeds, and bond maturity around large natural disasters and frugality, defined as a country's propensity to encourage teaching "thrift, saving money and things" to children, from 1990 to 2013. Using bond and stock issuances, I estimate the following OLS panel regression:

$$ln(Issuance\ Proceeds),\ Years\ to\ Maturity_{i,j,k,t} = a + \text{Frugality}_J * \text{Disaster}_{j,t} + \text{Disaster}_{j,t} + \text{DisasterCAR}_{i,j,t} + \text{X}_{i,j,t} + b_j + c_k + d_t + e_{j,t}$$

The dependent variable is the natural log of the total proceeds of new debt issues, the natural log of total proceeds of SEOs, and the value-weighted years to maturity of the new debt issues of firm *i* in country *j* in industry *k* in year *t*. Proceeds are in USD millions. As before, $Disaster_{j,t}$ identifies country-years in which a country experiences the largest natural disaster to date, starting in January of 1990 and rolling through the end of the sample period. $Frugality_J$ is the average country response to the World Value Survey question "Do you consider it important to encourage children to learn thrift and savings?" as in Guiso, Sapienza, and Zingales (2006). $\text{DisasterCAR}_{i,j,t}$ labels the cumulative abnormal return during the disaster-month for firm *i* in country *j* at time *t*. Columns 1 through 3 identify new-debt issue proceeds; Columns 4 through 6 and 7 through 8 do the same for SEO proceeds, and the value-weighted years to maturity of the new debt issues, respectively. All other variables are previously defined. As before, all issuance data are obtained from SDC. All macro-economic data are obtained from the World Bank. All firm-level accounting variables are in USD and downloaded via World Scope and winsorized at the 1% level. Firm-level and market-level returns are obtained from Datastream and in USD. Cultural values are obtained from the World Values Survey. Natural disasters are obtained from the Centre for Research on the Epidemiology of Disasters. All models include country, industry and year fixed effects. All standard errors are clustered by country-year. ***,**,* denote significance at the 1%, 5%, and 10% level, respectively.

Table 3 OLS Panel

Issuance Characteristic	(1) ln(Debt Proceeds)	(2) ln(Debt Proceeds)	(3) ln(Debt Proceeds)	(4) ln(SEO Proceeds)	(5) ln(SEO Proceeds)	(6) ln(SEO Proceeds)	(7) Years-to-Maturity	(8) Years-to-Maturity	(9) Years-to-Maturity
$Disaster_{J,t}$*$Frugality_J$	1.4349*	1.3357***	1.3084**	0.0340	-0.9217**	-0.8483**	-6.7459**	-6.6320**	-7.6789***
	(0.736)	(0.477)	(0.518)	(0.655)	(0.405)	(0.428)	(2.847)	(2.604)	(2.612)
$Disaster_{J,t}$	-0.5274*	-0.4562**	-0.4141**	0.0977	0.3647**	0.3761**	2.2456**	2.5148**	2.9522***
	(0.280)	(0.183)	(0.198)	(0.238)	(0.146)	(0.161)	(1.098)	(1.026)	(1.043)
$DisasterCAR_{i,j,t}$	-1.5540	3.2066***	3.4121***	2.6490***	1.4385***	1.4995***	-1.2030	5.5171	3.9378
	(1.409)	(1.162)	(1.196)	(0.867)	(0.467)	(0.471)	(4.396)	(5.435)	(5.318)
$PreDisaster_{J,t}$*$Frugality_J$			0.4964			-0.2656			0.9885
			(0.338)			(0.539)			(1.574)
$PostDisaster_{J,t}$*$Frugality_J$			0.9739***			-0.2716			-1.2171
			(0.354)			(0.385)			(2.339)
$PreDisaster_{J,t}$			-0.1897			0.1171			-0.9198
			(0.137)			(0.181)			(0.647)
$PostDisaster_{J,t}$			-0.3492***			0.2110			0.0097
			(0.132)			(0.138)			(0.890)
$Q_{i,j,t-1}$		0.0945***	0.0933***		0.1013***	0.1013***		0.0685	0.0746
		(0.018)	(0.018)		(0.004)	(0.004)		(0.074)	(0.077)
$Cashflow_{i,j,t-1}$		0.1248	0.1300		0.0320	0.0381		0.6439	0.3723
		(0.131)	(0.139)		(0.026)	(0.026)		(0.470)	(0.502)
$lnTA_{i,j,t-1}$		0.6291***	0.6296***		0.6079***	0.6051***		0.3647***	0.3394***
		(0.013)	(0.014)		(0.009)	(0.009)		(0.046)	(0.047)
$PPE_{i,j,t-1}$		-0.2413***	-0.2341***		-0.2185***	-0.1883***		2.4642***	2.5067***
		(0.046)	(0.050)		(0.039)	(0.035)		(0.313)	(0.335)
$lnFirmAge_{i,j,t}$		-0.0729***	-0.0762***		-0.1327***	-0.1355***		0.2760***	0.2525***
		(0.016)	(0.018)		(0.014)	(0.013)		(0.065)	(0.068)
$Leverage_{i,j,t-1}$		0.5836***	0.5886***		0.0444	0.0312		-0.4677	-0.3764
		(0.055)	(0.058)		(0.041)	(0.041)		(0.299)	(0.315)
$GdpGrowth_{j,t-1}$		1.8408***	2.1438**		1.6011*	0.7400		-1.4900	-4.2492
		(0.705)	(0.837)		(0.866)	(0.769)		(3.737)	(4.320)
$MktCapGdp_{j,t-1}$		0.3520***	0.3106***		0.1307*	0.1334*		-0.7919**	-0.8272***
		(0.068)	(0.071)		(0.073)	(0.074)		(0.322)	(0.312)
Constant	4.9851***	-0.4191***	-0.4320***	3.0357***	-0.0490	-0.0322	8.2883***	6.1378***	6.8949***
	(0.212)	(0.160)	(0.162)	(0.191)	(0.162)	(0.171)	(0.765)	(1.264)	(1.170)
Observations	18,252	15,780	14,643	26,937	21,497	19,346	18,273	15,796	14,659
Country FE	Y	Y	Y	Y	Y	Y	Y	Y	Y
Industry FE	Y	Y	Y	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y	Y	Y	Y
Controls	N	Y	Y	N	Y	Y	N	Y	Y
Adjusted R-Squared	0.299	0.600	0.597	0.305	0.673	0.672	0.278	0.297	0.298

Table 4. Does frugality influence the currency in which firms raise capital?

This table presents results from multinomial logit regressions of the relation between the currency of firms' bond and stock issuances around large natural disasters and frugality, defined as a country's propensity to encourage teaching "thrift, saving money and things" to children, from 1990 to 2013. Using the currency of bond and stock issuances, I estimate the following multinomial logit regression:

$$None|Local\ Currency\ Issuance|USD\ Issuance_{i,j,k,t} = a + \text{Frugality}_J * \text{Disaster}_{j,t} + \text{Disaster}_{j,t} + \text{DisasterCAR}_{i,j,t} + \text{X}_{i,j,t} + b_j + c_k + d_t + e_{j,t}$$

The dependent variable takes three values (1) when the majority of a firm's proceeds are in local currency (2) when the majority of a firm's proceeds are in USD (3) no capital issuance (the base case). Panel A reports results for new debt issues; Panel B does the same for stock issuance. Proceeds in local currencies and USD are obtained from SDC. As before, $Disaster_{j,t}$ identifies country-years in which a country experiences the largest natural disaster to date, starting in January of 1990 and rolling through the end of the sample period. $Frugality_J$ is the average country response to the World Value Survey question "Do you consider it important to encourage children to learn thrift and savings?" as in Guiso, Sapienza, and Zingales (2006). $\text{DisasterCAR}_{i,j,t}$ labels the cumulative abnormal return during the disaster-month for firm *i* in country *j* at time *t*. The sample excludes firms from the United States, where the local currency is USD. The corresponding dependent variables are indicated in each column. All other variables are defined in the data appendix. As before, all issuance data are obtained from SDC. All macro-economic data are obtained from the World Bank. All firm-level accounting variables are in USD and downloaded via World Scope and winsorized at the 1% level. Firm-level and market-level returns are obtained from Datastream and in USD. Cultural values are obtained from the World Values Survey. Natural disasters are obtained from the Centre for Research on the Epidemiology of Disasters. All models include country, industry and year fixed effects. All standard errors are clustered by country-year. ***,**,* denote significance at the 1%, 5%, and 10% level, respectively.

Table 4, Panel A: Bonds

	(1) Multinomial Logit		(2) Multinomial Logit		(3) Multinomial Logit	
Sample	Exclude U.S.		Exclude U.S.		Exclude U.S.	
Type of issuance	Local Debt	USD Debt	Local Debt	USD Debt	Local Debt	USD Debt
$Disaster_{J,t}$*$Frugality_J$	1.8190*	3.1569*	1.5911*	0.3037	2.0742**	0.9243
	(1.058)	(1.619)	(0.952)	(1.362)	(0.995)	(1.238)
$Disaster_{J,t}$	-0.5834	-0.8028	-0.4749	0.1123	-0.7026*	-0.1034
	(0.431)	(0.649)	(0.374)	(0.510)	(0.398)	(0.452)
$DisasterCAR_{i,j,t}$	-0.0485	1.8239	-0.4112	-0.5031	0.1124	1.9933
	(1.442)	(2.671)	(1.390)	(5.236)	(1.295)	(4.717)
$PreDisaster_{J,t}$*$Frugality_J$					3.0522***	-0.0415
					(1.178)	(1.159)
$PostDisaster_{J,t}$*$Frugality_J$					1.7133*	2.7205**
					(0.876)	(1.192)
$PreDisaster_{J,t}$					-1.1794**	0.2073
					(0.483)	(0.501)
$PostDisaster_{J,t}$					-0.6280*	-1.0552**
					(0.357)	(0.465)
$Q_{i,j,t-1}$			0.0795***	0.0990***	0.0694***	0.0968***
			(0.016)	(0.020)	(0.017)	(0.020)
$Cashflow_{i,j,t-1}$			0.3776**	-0.0309	0.4364**	0.0560
			(0.185)	(0.293)	(0.198)	(0.298)
$lnTA_{i,j,t-1}$			0.8337***	1.0351***	0.8405***	1.0309***
			(0.021)	(0.037)	(0.021)	(0.039)
$PPE_{i,j,t-1}$			-0.0777	-0.7475***	0.0027	-0.6136***
			(0.098)	(0.190)	(0.103)	(0.178)
$lnFirmAge_{i,j,t}$			0.1694***	-0.0181	0.1830***	-0.0115
			(0.031)	(0.044)	(0.030)	(0.046)
$Leverage_{i,j,t-1}$			1.6920***	1.4096***	1.6510***	1.4039***
			(0.112)	(0.163)	(0.113)	(0.168)
$GdpGrowth_{j,t-1}$			2.7818	6.6649***	3.6708**	6.7980***
			(1.832)	(2.333)	(1.635)	(2.201)
$MktCapGdp_{j,t-1}$			-0.4626***	0.6803***	-0.3131**	0.7279***
			(0.163)	(0.187)	(0.130)	(0.187)
Constant	-6.0546***	-4.3853***	-11.2233***	-11.9318***	-12.1280***	-12.2831***
	(0.601)	(0.874)	(0.700)	(0.848)	(0.687)	(0.913)
Observations	318,048	318,048	249,217	249,217	230,359	230,359
Country FE	Y	Y	Y	Y	Y	Y
Industry FE	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y
Controls	N	N	Y	Y	Y	Y
Pseudo R-Squared	0.122	0.122	0.327	0.327	0.334	0.334

Table 4, Panel B: SEOs

	(1) Multinomial Logit		(2) Multinomial Logit		(3) Multinomial Logit	
Sample	Exclude U.S.		Exclude U.S.		Exclude U.S.	
Type of issuance	Local SEO	USD SEO	Local SEO	USD SEO	Local SEO	USD SEO
$Disaster_{J,t}$*$Frugality_J$	-0.7898	3.1995**	-1.3472	2.4594	-1.2215	2.9648
	(0.989)	(1.594)	(0.901)	(1.912)	(0.905)	(1.838)
$Disaster_{J,t}$	0.1829	-1.2104**	0.3717	-1.1629*	0.1642	-1.3055**
	(0.308)	(0.555)	(0.301)	(0.609)	(0.285)	(0.618)
$DisasterCAR_{i,j,t}$	-1.5252**	7.8863**	-1.0664	14.2269***	-0.3466	11.8156***
	(0.711)	(3.704)	(0.958)	(2.527)	(0.710)	(2.546)
$PreDisaster_{J,t}$*$Frugality_J$					-0.7155	-1.2306
					(1.028)	(2.110)
$PostDisaster_{J,t}$*$Frugality_J$					-0.0715	5.1454***
					(0.804)	(1.577)
$PreDisaster_{J,t}$					0.0036	-0.0450
					(0.339)	(0.814)
$PostDisaster_{J,t}$					-0.2836	-1.5928**
					(0.276)	(0.672)
$Q_{i,j,t-1}$			0.0243***	0.0968***	0.0233***	0.0979***
			(0.006)	(0.016)	(0.006)	(0.017)
$Cashflow_{i,j,t-1}$			-0.6654***	-0.7709***	-0.6717***	-0.6932***
			(0.048)	(0.128)	(0.052)	(0.142)
$lnTA_{i,j,t-1}$			-0.0411**	0.3547***	-0.0377**	0.3556***
			(0.017)	(0.043)	(0.018)	(0.046)
$PPE_{i,j,t-1}$			0.2678***	0.1551	0.2652***	0.2086
			(0.090)	(0.291)	(0.097)	(0.312)
$lnFirmAge_{i,j,t}$			-0.3045***	-0.3479***	-0.3188***	-0.3492***
			(0.026)	(0.086)	(0.026)	(0.091)
$Leverage_{i,j,t-1}$			0.7473***	0.6254**	0.7227***	0.6499**
			(0.079)	(0.261)	(0.084)	(0.259)
$GdpGrowth_{j,t-1}$			-0.7935	5.8568	0.7704	6.2770**
			(1.548)	(3.659)	(1.466)	(2.527)
$MktCapGdp_{j,t-1}$			0.1671	0.0968	0.1835	0.2545
			(0.130)	(0.331)	(0.136)	(0.338)
Constant	-7.8207***	-6.8798***	-5.8796***	-7.5380***	-5.7914***	-7.7094***
	(0.518)	(1.349)	(0.594)	(1.205)	(0.636)	(1.170)
Observations	318,048	318,048	249,217	249,217	230,359	230,359
Country FE	Y	Y	Y	Y	Y	Y
Industry FE	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y
Controls	N	N	Y	Y	Y	Y
Pseudo R-Squared	0.195	0.195	0.211	0.211	0.216	0.216

Table 5. Does frugality influence firms' investment policies?

This table presents results from OLS panel regressions of the relation between firms' investment policies around large natural disasters and frugality, defined as a country's propensity to encourage teaching "thrift, saving money and things" to children, from 1990 to 2013. Using firm-level capital expenditures (CAPEX), research and development expense (RDX), and cash and cash equivalent holdings (CASH), I estimate the following OLS panel regression:

$$InvestmentPolicy_{i,j,k,t} = a + \text{Frugality}_J * \text{Disaster}_{j,t} + \text{Disaster}_{j,t} + \text{DisasterCAR}_{i,j,t} + \text{X}_{i,j,t} + b_i + c_t + e_{j,t}$$

The dependent variable is the investment policy of firm *i* in country *j* in industry *k* in year *t.* Using CAPEX, RDX, and CASH, I examine the following investment policies: (1) total investment, the ratio of CAPEX and RDX relative to lagged total assets; (2) investment share, the ratio of CAPEX and RDX to the sum of CAPEX, RDX, and CASH; (3) r&d share, the ratio of RDX to the sum of CAPEX and RDX. I set CAPEX and RDX equal to zero when missing. As before, $Disaster_{j,t}$ identifies country-years in which a country experiences the largest natural disaster to date, starting in January of 1989 and rolling through the end of the sample period. $Frugality_J$ is the average country response to the World Value Survey question "Do you consider it important to encourage children to learn thrift and savings?" as in Guiso, Sapienza, and Zingales (2006). $\text{DisasterCAR}_{i,j,t}$ labels the cumulative abnormal return during the disaster-month for firm *i* in country *j* at time *t.* Columns 1 through 3 report total investment; Columns 4 through 6 and 7 through 8 do the same for investment share, and the r&d share, respectively. All other variables are previously defined. The analysis in Panel B uses a propensity score matched sample that uses the full sample of data to estimate the model displayed in Column 1 of Panel B. The control group is matched to "treated" observations (those that issue stocks or bonds in year $t = 1$) using nearest neighbor matching with replacement matching, when the absolute difference in propensity scores between the matched observations is less than or equal to 0.01. The logit includes country, industry, and year fixed effects. The corresponding columns and control variables are indicated in each column. Panel C shows the means of the various characteristics of the treated and control samples and their differences for the full sample and for the matched sample used in Panels A and B, respectively. As before, all issuance data are obtained from SDC. All macro-economic data are obtained from the World Bank. All firm-level accounting variables are in USD and downloaded via World Scope and winsorized at the 1% level. Firm-level and market-level returns are obtained from Datastream and in USD. Cultural values are obtained from the World Values Survey. Natural disasters are obtained from the Centre for Research on the Epidemiology of Disasters. All OLS models include firm and year fixed effects. The standard errors for all OLS models are clustered by country-year. ***,**,* denote significance at the 1%, 5%, and 10% level, respectively.

Table 5, Panel A

Investment Policy	(1) CAPEX +RDX	(2) CAPEX +RDX	(3) CAPEX +RDX	(4) Investment Share	(5) Investment Share	(6) Investment Share	(7) RDX Share	(8) RDX Share	(9) RDX Share
$Disaster_{J,t}$*$Frugality_J$	-0.0617**	-0.0665***	-0.0707***	-0.1977**	-0.2191**	-0.2543***	0.2478**	0.2131**	0.2528***
	(0.028)	(0.022)	(0.022)	(0.094)	(0.086)	(0.087)	(0.101)	(0.097)	(0.096)
$Disaster_{J,t}$	0.0236**	0.0233***	0.0240***	0.0582*	0.0658**	0.0748**	-0.0772**	-0.0660**	-0.0764**
	(0.010)	(0.007)	(0.007)	(0.031)	(0.029)	(0.029)	(0.031)	(0.030)	(0.030)
$DisasterCAR_{i,j,t}$	0.0384	0.0196	0.0277	0.0308	-0.0053	0.0218	-0.0742	-0.0696	-0.0630
	(0.025)	(0.020)	(0.020)	(0.046)	(0.045)	(0.046)	(0.058)	(0.062)	(0.066)
$PreDisaster_{J,t}$*$Frugality_J$			-0.0319			-0.0645			0.1916**
			(0.024)			(0.094)			(0.088)
$PostDisaster_{J,t}$*$Frugality_J$			-0.0382*			-0.1751**			0.1750***
			(0.022)			(0.085)			(0.067)
$PreDisaster_{J,t}$			0.0110			0.0158			-0.0563**
			(0.008)			(0.032)			(0.028)
$PostDisaster_{J,t}$			0.0114			0.0508*			-0.0535**
			(0.007)			(0.029)			(0.021)
$Q_{i,j,t-1}$		0.0081***	0.0082***		-0.0012***	-0.0015***		-0.0019***	-0.0018***
		(0.000)	(0.000)		(0.000)	(0.000)		(0.000)	(0.000)
$Cashflow_{i,j,t-1}$		-0.0038	-0.0025		0.0071*	0.0075*		-0.0236***	-0.0248***
		(0.003)	(0.003)		(0.004)	(0.004)		(0.003)	(0.003)
$lnTA_{i,j,t-1}$		-0.0193***	-0.0200***		0.0109***	0.0098***		-0.0013	-0.0010
		(0.001)	(0.001)		(0.002)	(0.003)		(0.002)	(0.002)
$PPE_{i,j,t-1}$		-0.0023	-0.0022		0.2647***	0.2623***		-0.0449***	-0.0428***
		(0.005)	(0.005)		(0.012)	(0.013)		(0.007)	(0.007)
$lnFirmAge_{i,j,t}$		-0.0218***	-0.0221***		-0.0158***	-0.0176***		0.0013	0.0001
		(0.002)	(0.002)		(0.006)	(0.007)		(0.004)	(0.004)
$Leverage_{i,j,t-1}$		-0.0010	-0.0023		0.0368***	0.0368***		0.0051*	0.0035
		(0.002)	(0.002)		(0.005)	(0.005)		(0.003)	(0.003)
$GdpGrowth_{j,t-1}$		0.0919**	0.1011***		0.5095***	0.4996***		-0.1724*	-0.1595*
		(0.036)	(0.036)		(0.133)	(0.139)		(0.092)	(0.091)
$MktCapGdp_{j,t-1}$		0.0052*	0.0060**		0.0114	0.0216*		0.0260***	0.0229**
		(0.003)	(0.003)		(0.012)	(0.012)		(0.010)	(0.009)
Constant	0.1150***	0.1898***	0.1955***	0.3811***	0.2413***	0.2563***	0.1661***	0.1785***	0.1691***
	(0.010)	(0.007)	(0.007)	(0.031)	(0.020)	(0.019)	(0.016)	(0.011)	(0.010)
Observations	442,516	348,196	325,023	385,020	305,843	285,315	371,222	297,686	277,981
Firm FE	Y	Y	Y	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y	Y	Y	Y
Controls	N	Y	Y	N	Y	Y	N	Y	Y
Adjusted R-Squared	0.442	0.506	0.514	0.593	0.621	0.625	0.801	0.813	0.812

Table 5, Panel B: Matched

Dependent Variable	(1) Issuance Indicator$_{i,j,t}$	(2) CAPEX +RDX	(3) CAPEX +RDX	(4) CAPEX +RDX	(5) Investment Share	(6) Investment Share	(7) Investment Share	(8) RDX Share	(9) RDX Share	(10) RDX Share
Disaster$_{J,t}$*Frugality$_J$		-0.0758**	-0.1023***	-0.0964***	-0.2924**	-0.2773***	-0.3081***	0.1532***	0.1497***	0.1472***
		(0.035)	(0.034)	(0.036)	(0.117)	(0.107)	(0.117)	(0.054)	(0.055)	(0.053)
Disaster$_{J,t}$		0.0289**	0.0386***	0.0351**	0.0891**	0.0794**	0.0896**	-0.0476***	-0.0465***	-0.0436**
		(0.012)	(0.013)	(0.014)	(0.037)	(0.034)	(0.038)	(0.018)	(0.018)	(0.017)
DisasterCAR$_{i,j,t}$		0.0938	0.0467	0.0586	-0.0391	-0.0121	0.0701	-0.0565	-0.0587	-0.0140
		(0.059)	(0.086)	(0.080)	(0.110)	(0.108)	(0.095)	(0.124)	(0.124)	(0.113)
PreDisaster$_{J,t}$*Frugality$_J$				0.0124			-0.0065			0.0479
				(0.031)			(0.134)			(0.056)
PostDisaster$_{J,t}$*Frugality$_J$				-0.0643***			-0.2013*			0.1020***
				(0.023)			(0.116)			(0.038)
PreDisaster$_{J,t}$				-0.0064			0.0023			-0.0138
				(0.011)			(0.042)			(0.017)
PostDisaster$_{J,t}$				0.0205**			0.0520			-0.0329***
				(0.008)			(0.038)			(0.012)
Q$_{i,j,t-1}$	0.0348***		0.0105***	0.0107***		-0.0015**	-0.0019**		-0.0019***	-0.0016**
	(0.002)		(0.001)	(0.001)		(0.001)	(0.001)		(0.001)	(0.001)
Cashflow$_{i,j,t-1}$	-0.5186***		-0.0078**	-0.0065*		0.0060	0.0052		-0.0109***	-0.0136***
	(0.015)		(0.003)	(0.004)		(0.004)	(0.005)		(0.004)	(0.004)
lnTA$_{i,j,t-1}$	0.2955***		-0.0253***	-0.0255***		0.0220***	0.0209***		-0.0036*	-0.0027
	(0.003)		(0.002)	(0.003)		(0.004)	(0.004)		(0.002)	(0.002)
PPE$_{i,j,t-1}$	0.0673**		-0.0085	-0.0089		0.2411***	0.2355***		-0.0471***	-0.0433***
	(0.027)		(0.012)	(0.015)		(0.019)	(0.023)		(0.009)	(0.008)
lnFirmAge$_{i,j,t}$	-0.1255***		-0.0217***	-0.0210***		-0.0072	-0.0073		-0.0012	-0.0043
	(0.008)		(0.003)	(0.003)		(0.008)	(0.009)		(0.005)	(0.005)
Leverage$_{i,j,t-1}$	0.7207***		-0.0087*	-0.0105**		0.0202**	0.0235***		0.0058	0.0054
	(0.025)		(0.005)	(0.005)		(0.008)	(0.009)		(0.005)	(0.005)
GdpGrowth$_{j,t-1}$	2.4547***		0.0430	0.0336		0.6630***	0.5655***		-0.0632	-0.0560
	(0.365)		(0.050)	(0.055)		(0.176)	(0.197)		(0.068)	(0.055)
MktCapGdp$_{j,t-1}$	0.0058		0.0124**	0.0117**		-0.0086	0.0015		0.0060	0.0093*
	(0.030)		(0.005)	(0.005)		(0.016)	(0.017)		(0.007)	(0.006)
Constant	-5.5083***	0.1205***	0.2486***	0.2543***	0.4416***	0.2321***	0.2525***	0.1453***	0.1844***	0.1722***
	(0.201)	(0.004)	(0.016)	(0.018)	(0.025)	(0.031)	(0.030)	(0.011)	(0.016)	(0.013)
Observations	350,966	73,339	73,339	66,672	66,199	66,199	60,192	66,004	66,004	60,119
Model from Panel A	NA	1	2	3	4	5	6	4	5	6
Firm FE	N	Y	Y	Y	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Controls	Y	N	Y	Y	N	Y	Y	N	Y	Y
Adjusted R-Squared	0.131	0.481	0.528	0.543	0.599	0.613	0.619	0.820	0.820	0.827

Table 5, Panel C: Differences between treatment and control samples

Variable	(1) Sample	(2) Control	(3) Treatment	(4) Difference
$Frugality_J$	full	0.3790	0.3560	0.0225***
	matched	0.3610	0.3560	0.0050***
$Disaster_{J,t}$	full	0.0925	0.0906	0.0019
	matched	0.0878	0.0906	-0.0028
$DisasterCAR_{i,j,t}$	full	0.0002	-0.0000	0.0002***
	matched	0.0001	-0.0000	0.0002*
$Q_{i,j,t-1}$	full	1.9300	2.1590	-0.2293***
	matched	2.1430	2.1590	-0.0159
$Cashflow_{i,j,t-1}$	full	0.0302	-0.0444	0.0746***
	matched	-0.0263	-0.0444	0.0181***
$lnTA_{i,j,t-1}$	full	5.1160	5.8900	-0.7744***
	matched	5.8800	5.8900	-0.0098
$PPE_{i,j,t-1}$	full	0.2960	0.3490	-0.0534***
	matched	0.3350	0.3490	-0.0143***
$lnFirmAge_{i,j,t}$	full	2.3030	2.3420	-0.0385***
	matched	2.3310	2.3420	-0.0102*
$Leverage_{i,j,t-1}$	full	0.1490	0.2090	-0.0592***
	matched	0.2080	0.2090	-0.0004
$GdpGrowth_{j,t-1}$	full	0.0311	0.0279	0.0032***
	matched	0.0279	0.0279	0.0001
$MktCapGdp_{j,t-1}$	full	0.9480	0.9820	-0.0336***
	matched	0.9790	0.9820	-0.0025

Table 6. Are firms with foreign sales, assets, or income less affected by frugality?

This table presents results from OLS panel regressions of the relation between firms' total investment around large natural disasters and frugality, defined as a country's propensity to encourage teaching "thrift, saving money and things" to children, from 1990 to 2013. Using firm-level capital expenditures (CAPEX) and research and development expense (RDX), I estimate the following OLS panel regression:

$$InvestmentPolicy_{i,j,k,t} = a + \text{Frugality}_J * \text{Disaster}_{j,t} + \text{Disaster}_{j,t} + \text{DisasterCAR}_{i,j,t} + \text{X}_{i,j,t} + b_i + c_t + e_{j,t}$$

The dependent variable is the total investment of firm *i* in country *j* in industry *k* in year *t,* relative to lagged total assets. I set CAPEX and RDX equal to zero when missing. As before, $Disaster_{j,t}$ identifies country-years in which a country experiences the largest natural disaster to date, starting in January of 1990 and rolling through the end of the sample period. $Frugality_J$ is the average country response to the World Value Survey question "Do you consider it important to encourage children to learn thrift and savings?" as in Guiso, Sapienza, and Zingales (2006). $\text{DisasterCAR}_{i,j,t}$ labels the cumulative abnormal return during the disaster-month for firm *i* in country *j* at time *t.* The models estimated in this table reexamine Model 3 of Table 5, Panel A and Model 4 of Table 5, Panel B for subgroups of firms categorized by foreign sales, foreign assets, and foreign income. Columns 1 through 2 report investment for subsamples of firms that have lagged foreign sales not equal to zero and lagged foreign sales equal to zero, respectively; Column 3 through 6 groups firms by lagged foreign assets and lagged foreign income, respectively. I set foreign sales, foreign assets, and foreign income equal to zero when missing. All other variables are previously defined. The analysis in Panel B uses a propensity score matched sample that is matched using the same methodology in Table 5. The corresponding columns and control variables are indicated in each column. As before, all issuance data are obtained from SDC. All macro-economic data are obtained from the World Bank. All firm-level accounting variables are in USD and downloaded via World Scope and winsorized at the 1% level. Firm-level and market-level returns are obtained from Datastream and in USD. Cultural values are obtained from the World Values Survey. Natural disasters are obtained from the Centre for Research on the Epidemiology of Disasters. All models include firm and year fixed effects. All standard errors are clustered by country-year. ***,**,* denote significance at the 1%, 5%, and 10% level, respectively.

Table 6, Panel A

Sample	(1) ForSales	(2) NoForSales	(3) ForAT	(4) NoForAT	(5) ForINC	(6) NoForINC
Dependent Variable	CAPEX +RDX	CAPEX +RDX	CAPEX +RDX	CAPEX +RDX	CAPEX +RDX	CAPEX +RDX
$Disaster_{J,t}$*$Frugality_J$	-0.0603**	-0.0619***	-0.0103	-0.0617***	-0.0462	-0.0602***
	(0.029)	(0.021)	(0.030)	(0.019)	(0.033)	(0.020)
$Disaster_{J,t}$	0.0211**	0.0212***	0.0059	0.0211***	0.0177	0.0204***
	(0.009)	(0.007)	(0.010)	(0.007)	(0.011)	(0.007)
$DisasterCAR_{i,j,t}$	0.0279	0.0199	0.0793**	0.0121	0.0821**	0.0160
	(0.032)	(0.018)	(0.037)	(0.016)	(0.038)	(0.018)
$PreDisaster_{J,t}$*$Frugality_J$	-0.0048	-0.0355	0.0564**	-0.0308	0.0516**	-0.0290
	(0.027)	(0.023)	(0.028)	(0.021)	(0.026)	(0.022)
$PostDisaster_{J,t}$*$Frugality_J$	-0.0365	-0.0300	0.0033	-0.0295	-0.0819	-0.0285
	(0.026)	(0.020)	(0.022)	(0.019)	(0.058)	(0.019)
$PreDisaster_{J,t}$	0.0016	0.0130*	-0.0176*	0.0110	-0.0141	0.0097
	(0.009)	(0.008)	(0.010)	(0.007)	(0.009)	(0.008)
$PostDisaster_{J,t}$	0.0101	0.0096	-0.0019	0.0094	0.0219	0.0091
	(0.009)	(0.007)	(0.007)	(0.007)	(0.017)	(0.007)
$Q_{i,j,t-1}$	0.0098***	0.0079***	0.0110***	0.0078***	0.0106***	0.0079***
	(0.001)	(0.000)	(0.001)	(0.000)	(0.001)	(0.000)
$Cashflow_{i,j,t-1}$	0.0226***	-0.0063**	0.0125***	-0.0048*	0.0216***	-0.0043
	(0.004)	(0.003)	(0.005)	(0.003)	(0.005)	(0.003)
$lnTA_{i,j,t-1}$	-0.0224***	-0.0195***	-0.0249***	-0.0194***	-0.0248***	-0.0196***
	(0.001)	(0.001)	(0.002)	(0.001)	(0.002)	(0.001)
$PPE_{i,j,t-1}$	0.0207***	-0.0169***	0.0194**	-0.0144***	0.0234**	-0.0110**
	(0.007)	(0.005)	(0.008)	(0.005)	(0.011)	(0.005)
$lnFirmAge_{i,j,t}$	-0.0203***	-0.0237***	-0.0209***	-0.0234***	-0.0209***	-0.0234***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
$Leverage_{i,j,t-1}$	-0.0149***	0.0011	-0.0071**	-0.0013	-0.0138***	-0.0003
	(0.002)	(0.003)	(0.003)	(0.003)	(0.004)	(0.002)
$GdpGrowth_{j,t-1}$	0.1351***	0.0832**	0.0956***	0.0958***	0.1338***	0.0945***
	(0.041)	(0.036)	(0.036)	(0.035)	(0.043)	(0.034)
$MktCapGdp_{j,t-1}$	0.0023	0.0068**	0.0049	0.0066**	0.0090**	0.0062**
	(0.003)	(0.003)	(0.003)	(0.003)	(0.004)	(0.003)
Constant	0.2404***	0.1780***	0.2614***	0.1838***	0.2626***	0.1855***
	(0.011)	(0.008)	(0.013)	(0.007)	(0.014)	(0.007)
Observations	95,997	229,026	66,191	258,832	50,274	274,749
Firm FE	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y
Controls	Y	Y	Y	Y	Y	Y
Adjusted R-Squared	0.556	0.519	0.572	0.517	0.592	0.514

Table 6, Panel B

Sample	(1) ForSales	(2) NoForSales	(3) ForAT	(4) NoForAT	(5) ForINC	(6) NoForINC
Dependent Variable	CAPEX +RDX	CAPEX +RDX	CAPEX +RDX	CAPEX +RDX	CAPEX +RDX	CAPEX +RDX
$Disaster_{J,t}$*$Frugality_J$	-0.0776**	-0.0890*	-0.0444	-0.0752**	-0.0722	-0.0704*
	(0.039)	(0.046)	(0.043)	(0.038)	(0.053)	(0.036)
$Disaster_{J,t}$	0.0295**	0.0330*	0.0171	0.0273*	0.0251	0.0259*
	(0.014)	(0.018)	(0.016)	(0.015)	(0.019)	(0.015)
$DisasterCAR_{i,j,t}$	0.1418*	0.0138	0.2019**	-0.0270	0.3282***	-0.0449
	(0.080)	(0.117)	(0.087)	(0.082)	(0.088)	(0.094)
$PreDisaster_{J,t}$*$Frugality_J$	0.0669*	0.0065	0.0963**	0.0166	0.0735	0.0252
	(0.038)	(0.036)	(0.041)	(0.033)	(0.051)	(0.032)
$PostDisaster_{J,t}$*$Frugality_J$	-0.0487	-0.0500*	-0.0356	-0.0423*	-0.0901	-0.0430*
	(0.031)	(0.027)	(0.036)	(0.023)	(0.065)	(0.022)
$PreDisaster_{J,t}$	-0.0226*	-0.0064	-0.0339**	-0.0083	-0.0255	-0.0118
	(0.014)	(0.014)	(0.014)	(0.013)	(0.017)	(0.012)
$PostDisaster_{J,t}$	0.0113	0.0178*	0.0100	0.0132	0.0222	0.0145*
	(0.011)	(0.010)	(0.014)	(0.009)	(0.020)	(0.008)
$Q_{i,j,t-1}$	0.0119***	0.0107***	0.0134***	0.0107***	0.0122***	0.0105***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)
$Cashflow_{i,j,t-1}$	0.0264***	-0.0084*	0.0049	-0.0078*	0.0236**	-0.0071*
	(0.007)	(0.004)	(0.010)	(0.004)	(0.010)	(0.004)
$lnTA_{i,j,t-1}$	-0.0267***	-0.0255***	-0.0277***	-0.0262***	-0.0235***	-0.0265***
	(0.002)	(0.004)	(0.003)	(0.004)	(0.004)	(0.003)
$PPE_{i,j,t-1}$	0.0036	-0.0195	0.0045	-0.0194	0.0268	-0.0189
	(0.017)	(0.018)	(0.020)	(0.017)	(0.031)	(0.016)
$lnFirmAge_{i,j,t}$	-0.0129***	-0.0246***	-0.0137***	-0.0250***	-0.0141***	-0.0248***
	(0.003)	(0.005)	(0.005)	(0.005)	(0.005)	(0.004)
$Leverage_{i,j,t-1}$	-0.0181***	-0.0110	-0.0063	-0.0111	-0.0128*	-0.0086
	(0.006)	(0.008)	(0.007)	(0.007)	(0.007)	(0.007)
$GdpGrowth_{j,t-1}$	0.1220**	-0.0037	0.1511**	-0.0023	0.1486	0.0250
	(0.061)	(0.068)	(0.073)	(0.062)	(0.091)	(0.059)
$MktCapGdp_{j,t-1}$	0.0066	0.0141*	0.0019	0.0143**	0.0122	0.0115*
	(0.005)	(0.008)	(0.007)	(0.007)	(0.008)	(0.006)
Constant	0.2830***	0.2346***	0.2899***	0.2486***	0.2599***	0.2504***
	(0.020)	(0.022)	(0.025)	(0.023)	(0.030)	(0.021)
Observations	23,046	43,626	18,032	48,640	13,259	53,413
Model from Panel A	1	2	3	4	5	6
Firm FE	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y
Controls	Y	Y	Y	Y	Y	Y
Adjusted R-Squared	0.606	0.526	0.574	0.536	0.606	0.534

Table 7. Placebo Disaster Treatments

This table presents results from OLS panel regressions of the relation between firms' capital-raising and investment behaviors around randomly generated disasters and frugality, defined as a country's propensity to encourage teaching "thrift, saving money and things" to children, from 1990 to 2013. Using firm-level issuances and investment, I estimate forms of the following regression:

$$Outcome_{i,j,k,t} = a + \text{Frugality}_J * \text{PlaceboDisaster}_{j,t} + \text{PlacebDisaster}_{J,t} + \text{PlaceboDisasterCAR}_{i,j,t} + \text{X}_{i,j,t} + b_j + c_k + d_t + e_{j,t}$$

the dependent variable is the issuance or investment outcome of firm *i* in country *j* in industry *k* in year *t*. $Frugality_J$ is the average country response to the World Value Survey question "Do you consider it important to encourage children to learn thrift and savings?", as in Guiso, Sapienza, and Zingales (2006). $PlaceboDisaster_{j,t}$ identifies random country-years, starting in January of 1990 and rolling through the end of the sample period. $PlaceboDisasterCAR_{i,j,t}$ labels the cumulative abnormal return during the random disaster-month for firm *i* in country *j* at time *t*. All other variables are defined in the data appendix. Columns 1, 2, 3 repeat the OLS regressions in Table 3 (Columns 3, 6, 9). The dependent variables are the natural log of bond proceeds, the natural log of stock proceeds, and the value-weighted years-to-maturity, respectively. Columns 4, 5, 6 repeat the OLS regressions in Table 5 (Panel A, Columns 3, 6, 9). The dependent variables are firms' total investment, investment share, and R&D share, respectively. As before, I set CAPEX and RDX equal to zero when missing. All issuance data are obtained from SDC; all bond and stock proceeds are in USD millions. All macro-economic data are obtained from the World Bank. All firm-level accounting variables are in USD and downloaded via World Scope and winsorized at the 1% level. Firm-level and market-level returns are obtained from Datastream and in USD. Cultural values are obtained from the World Values Survey. Natural disasters are obtained from the Centre for Research on the Epidemiology of Disasters. All issuance models include country, industry and year-fixed effects; the investment models include firm and year-fixed effects. All standard errors are clustered by country-year. ***,**,* denote significance at the 1%, 5%, and 10% level, respectively.

Table 7

Sample	(1) All	(2) All	(3) All	(4) All	(5) All	(6) All
Dependent Variable	ln(Debt Proceeds)	ln(SEO Proceeds)	Years-to-Maturity	CAPEX +RDX	Investment Share	RDX Share
Placebo-Disaster$_{J,t}$*Frugality$_J$	-0.1359	-0.1258	1.1618*	-0.0024	0.0003	0.0055
	(0.160)	(0.193)	(0.627)	(0.007)	(0.021)	(0.015)
Placebo-Disaster$_{J,t}$	-0.0062	0.0269	-0.6419**	0.0015	0.0019	0.0007
	(0.065)	(0.080)	(0.262)	(0.003)	(0.007)	(0.004)
Placebo-DisasterCAR$_{i,j,t}$	-0.3486	0.0722	-3.2533	-0.0054	0.0212	0.0164
	(0.550)	(0.427)	(2.085)	(0.016)	(0.030)	(0.017)
PrePlaceboDisaster$_{J,t}$*Frugality$_J$	-0.0652	-0.2347	1.6315	0.0101	0.0248	-0.0583**
	(0.244)	(0.345)	(1.021)	(0.013)	(0.037)	(0.023)
PostPlaceboDisaster$_{J,t}$*Frugality$_J$	-0.1233	-0.2240	1.5552	-0.0126	-0.0231	0.0184
	(0.236)	(0.332)	(1.028)	(0.011)	(0.034)	(0.025)
PrePlaceboDisaster$_{J,t}$	0.0705	-0.0317	-0.7907*	-0.0045	-0.0028	0.0179**
	(0.098)	(0.142)	(0.438)	(0.005)	(0.013)	(0.008)
PostPlaceboDisaster$_{J,t}$	0.0373	0.0601	-0.9755**	0.0045	0.0117	-0.0061
	(0.096)	(0.140)	(0.444)	(0.005)	(0.013)	(0.009)
Q$_{i,j,t-1}$	0.0961***	0.0965***	0.0653	0.0081***	-0.0012***	-0.0019***
	(0.018)	(0.007)	(0.073)	(0.000)	(0.000)	(0.000)
Cashflow$_{i,j,t-1}$	0.1167	0.0718**	0.7818*	-0.0038	0.0071*	-0.0236***
	(0.128)	(0.036)	(0.473)	(0.003)	(0.004)	(0.003)
lnTA$_{i,j,t-1}$	0.6290***	0.6913***	0.3569***	-0.0193***	0.0112***	-0.0014
	(0.013)	(0.011)	(0.044)	(0.001)	(0.003)	(0.002)
PPE$_{i,j,t-1}$	-0.2397***	-0.2308***	2.4089***	-0.0024	0.2643***	-0.0454***
	(0.046)	(0.060)	(0.320)	(0.005)	(0.012)	(0.007)
lnFirmAge$_{i,j,t}$	-0.0760***	-0.1815***	0.2738***	-0.0217***	-0.0154**	0.0011
	(0.016)	(0.015)	(0.066)	(0.002)	(0.006)	(0.004)
Leverage$_{i,j,t-1}$	0.5787***	-0.0434	-0.5107*	-0.0010	0.0367***	0.0053**
	(0.056)	(0.047)	(0.303)	(0.002)	(0.005)	(0.003)
GdpGrowth$_{j,t-1}$	2.0008***	2.2659*	-0.6413	0.0878**	0.4883***	-0.1627*
	(0.738)	(1.252)	(3.734)	(0.036)	(0.132)	(0.087)
MktCapGdp$_{j,t-1}$	0.3607***	0.1006	-0.6695**	0.0034	0.0014	0.0290***
	(0.075)	(0.103)	(0.324)	(0.004)	(0.014)	(0.011)
Constant	-0.3590**	-0.5261***	6.0676***	0.1909***	0.2387***	0.1805***
	(0.176)	(0.198)	(1.175)	(0.007)	(0.022)	(0.013)
Observations	15,803	24,413	15,819	348,196	305,843	297,685
Country FE	Y	Y	Y	N	N	N
Industry FE	Y	Y	Y	N	N	N
Firm FE	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y
Adjusted R-Squared	0.601	0.658	0.279	0.505	0.620	0.813

Table 8. Alternative Disaster Treatments with Large Transportation Disasters

This table presents results from multinomial logit and OLS panel regressions of the relation between firms' capital-raising and investment behaviors around large transportation disasters and frugality, defined as a country's propensity to encourage teaching "thrift, saving money and things" to children, from 1990 to 2013. Using firm-level issuances and investment, I estimate forms of the following regression:

$$Outcome_{i,j,k,t} = a + \text{Frugality}_J * \text{Transport}_{J,t} + \text{Transport}_{J,t} + \text{X}_{i,j,t} + b_j + c_k + d_t + e_{j,t}$$

The dependent variable is the issuance or investment outcome of firm *i* in country *j* in industry *k* in year *t.* The variable $Transport_{J,t}$ identifies country-years in which a country experiences the largest transport disaster to date, starting in January of 1990 and rolling through the end of the sample period. As before, $Frugality_J$ is the average country response to the World Value Survey question "Do you consider it important to encourage children to learn thrift and savings?" as in Guiso, Sapienza, and Zingales (2006). Panel A reports issuance, quantity, and maturity results. Column 1 repeats the multinomial logit model for firms' new debt and stock issuances estimated in Table 2 (Column 3); Columns 2, 3, 4 repeat the OLS regressions in Table 3 (Columns 3, 6, 9). The dependent variables are the natural log of bond proceeds, the natural log of stock proceeds, and the value-weighted years-to-maturity, respectively. Panel B repeats the OLS regressions in Table 5 (Panel A, Columns 3, 6, 9) and Table 6 (Panel A, Columns 3, 4, 5, 6). The dependent variables in Columns 1, 2, 3, are firms' total investment, investment share, and R&D share, respectively; Columns 4, 6, report firms' total investment for firms that report lagged foreign assets or income the year prior to the large transportation disasters; Columns 5, 7, do the same for firms that do not report lagged foreign asserts or income the year prior to the large transportation disasters. As before, I set CAPEX and RDX equal to zero when missing. All issuance data are obtained from SDC and all bond and stock proceeds are in USD millions. All macro-economic data are obtained from the World Bank. All firm-level accounting variables are in USD and downloaded via World Scope and winsorized at the 1% level. Firm-level and market-level returns are obtained from Datastream and in USD. Cultural values are obtained from the World Values Survey. Transportation disasters are obtained from the Centre for Research on the Epidemiology of Disasters. The issuance models include country, industry and year-fixed effects; the investment models include firm and year-fixed effects. All standard errors are clustered by country-year. ***,**,* denote significance at the 1%, 5%, and 10% level, respectively.

Table 8, Panel A

	(1) Multinomial Logit		(2)	(3) OLS	(4)
Sample	All	All	All	All	All
Dependent Variable	New-Debt	SEO	ln(Debt Proceeds)	ln(SEO Proceeds)	Years-to-Maturity
$Transport_{J,t}$*$Frugality_J$	0.0305	-3.6589*	2.6182***	1.7111	-6.7536
	(1.640)	(2.017)	(0.692)	(1.332)	(4.274)
$Transport_{J,t}$	0.0608	1.3357*	-0.8378***	-0.5582	1.8007
	(0.561)	(0.775)	(0.241)	(0.466)	(1.361)
$PreTransport_{J,t}$*$Frugality_J$	0.0048	-0.1343	0.2048	-0.2268	-2.6508*
	(0.532)	(0.603)	(0.254)	(0.405)	(1.360)
$PostTransport_{J,t}$*$Frugality_J$	0.7982	-0.1798	0.4286*	0.3688	-1.0503
	(0.588)	(0.610)	(0.236)	(0.412)	(0.968)
$PreTransport_{J,t}$	-0.0975	-0.1672	-0.1248	0.1419	0.9500*
	(0.196)	(0.214)	(0.101)	(0.163)	(0.563)
$PostTransport_{J,t}$	-0.3131	0.0818	-0.1937**	-0.0433	0.5719
	(0.212)	(0.222)	(0.095)	(0.158)	(0.410)
$Q_{i,j,t-1}$	0.0310**	0.0096*	0.1054***	0.0953***	0.0734
	(0.013)	(0.006)	(0.016)	(0.007)	(0.077)
$Cashflow_{i,j,t-1}$	0.6813***	-0.2912***	0.1029	0.0734*	0.4455
	(0.142)	(0.042)	(0.135)	(0.040)	(0.513)
$lnTA_{i,j,t-1}$	0.8642***	0.0432**	0.6294***	0.6869***	0.3375***
	(0.015)	(0.020)	(0.014)	(0.012)	(0.047)
$PPE_{i,j,t-1}$	0.3507***	0.1783**	-0.2276***	-0.1920***	2.4529***
	(0.085)	(0.079)	(0.050)	(0.059)	(0.344)
$lnFirmAge_{i,j,t}$	0.2049***	-0.3247***	-0.0809***	-0.1903***	0.2461***
	(0.022)	(0.025)	(0.018)	(0.015)	(0.070)
$Leverage_{i,j,t-1}$	1.3137***	0.6519***	0.5890***	-0.0458	-0.4237
	(0.084)	(0.061)	(0.058)	(0.050)	(0.309)
$GdpGrowth_{j,t-1}$	4.1249**	0.6170	1.8135**	2.8865**	-2.1596
	(1.652)	(1.632)	(0.715)	(1.238)	(3.740)
$MktCapGdp_{j,t-1}$	-0.0373	0.1272	0.3239***	0.0160	-0.8728***
	(0.135)	(0.134)	(0.074)	(0.096)	(0.328)
Constant	-10.6650***	-4.6118***	-0.4010**	-0.6357***	6.7469***
	(0.398)	(0.737)	(0.165)	(0.213)	(1.157)
Observations	323,885	323,885	14,662	21,852	14,678
Country FE	Y	Y	Y	Y	Y
Industry FE	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y
Controls	Y	Y	Y	Y	Y
Pseudo, Adjusted R-Squared	0.249	0.249	0.598	0.655	0.282

Table 8, Panel B

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
		OLS			OLS		
Sample	All	All	All	ForAT	NoForAT	ForINC	NoForINC
Dependent Variable	CAPEX +RDX	Investment Share	RDX Share	CAPEX +RDX	CAPEX +RDX	CAPEX +RDX	CAPEX +RDX
$Transport_{J,t}$*$Frugality_J$	-0.0872**	-0.3752**	0.3400*	-0.0067	-0.0621*	-0.0033	-0.0659*
	(0.043)	(0.179)	(0.188)	(0.041)	(0.036)	(0.060)	(0.036)
$Transport_{J,t}$	0.0296*	0.1191**	-0.0999*	-0.0026	0.0220*	0.0020	0.0231*
	(0.016)	(0.058)	(0.054)	(0.013)	(0.013)	(0.021)	(0.013)
$PreTransport_{J,t}$*$Frugality_J$	0.0042	0.0404	0.0096	0.0228	0.0066	0.0122	0.0087
	(0.012)	(0.050)	(0.028)	(0.019)	(0.012)	(0.020)	(0.011)
$PostTransport_{J,t}$*$Frugality_J$	-0.0106	-0.0535	0.0518**	0.0225	-0.0123	0.0211	-0.0095
	(0.013)	(0.046)	(0.026)	(0.020)	(0.013)	(0.021)	(0.013)
$PreTransport_{J,t}$	-0.0033	-0.0133	-0.0018	-0.0087	-0.0043	-0.0053	-0.0053
	(0.004)	(0.016)	(0.009)	(0.006)	(0.004)	(0.007)	(0.004)
$PostTransport_{J,t}$	0.0057	0.0254	-0.0143*	-0.0073	0.0067	-0.0040	0.0052
	(0.005)	(0.015)	(0.008)	(0.007)	(0.006)	(0.008)	(0.005)
$Q_{i,j,t-1}$	0.0082***	-0.0015***	-0.0018***	0.0110***	0.0078***	0.0106***	0.0080***
	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)	(0.001)	(0.000)
$Cashflow_{i,j,t-1}$	-0.0025	0.0075*	-0.0250***	0.0125***	-0.0048*	0.0216***	-0.0043
	(0.003)	(0.004)	(0.003)	(0.005)	(0.003)	(0.005)	(0.003)
$lnTA_{i,j,t-1}$	-0.0199***	0.0102***	-0.0013	-0.0248***	-0.0193***	-0.0249***	-0.0195***
	(0.001)	(0.003)	(0.002)	(0.002)	(0.001)	(0.002)	(0.001)
$PPE_{i,j,t-1}$	-0.0024	0.2619***	-0.0425***	0.0197**	-0.0148***	0.0240**	-0.0113**
	(0.005)	(0.013)	(0.007)	(0.008)	(0.005)	(0.011)	(0.005)
$lnFirmAge_{i,j,t}$	-0.0219***	-0.0171***	-0.0001	-0.0209***	-0.0233***	-0.0208***	-0.0233***
	(0.002)	(0.006)	(0.004)	(0.002)	(0.002)	(0.002)	(0.002)
$Leverage_{i,j,t-1}$	-0.0026	0.0357***	0.0052**	-0.0070**	-0.0015	-0.0141***	-0.0005
	(0.002)	(0.005)	(0.003)	(0.003)	(0.003)	(0.004)	(0.002)
$GdpGrowth_{j,t-1}$	0.0939***	0.4617***	-0.1234	0.0939***	0.0873**	0.1330***	0.0865***
	(0.035)	(0.131)	(0.092)	(0.035)	(0.034)	(0.042)	(0.033)
$MktCapGdp_{j,t-1}$	0.0033	0.0082	0.0264***	0.0044	0.0039	0.0060	0.0040
	(0.003)	(0.012)	(0.010)	(0.003)	(0.003)	(0.004)	(0.003)
Constant	0.1960***	0.2539***	0.1614***	0.2625***	0.1840***	0.2634***	0.1861***
	(0.008)	(0.021)	(0.013)	(0.013)	(0.008)	(0.014)	(0.008)
Observations	325,043	285,332	277,995	66,188	258,855	50,275	274,768
Firm FE	Y	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y	Y
Controls	Y	Y	Y	Y	Y	Y	Y
Adjusted R-Squared	0.514	0.625	0.812	0.572	0.516	0.591	0.514

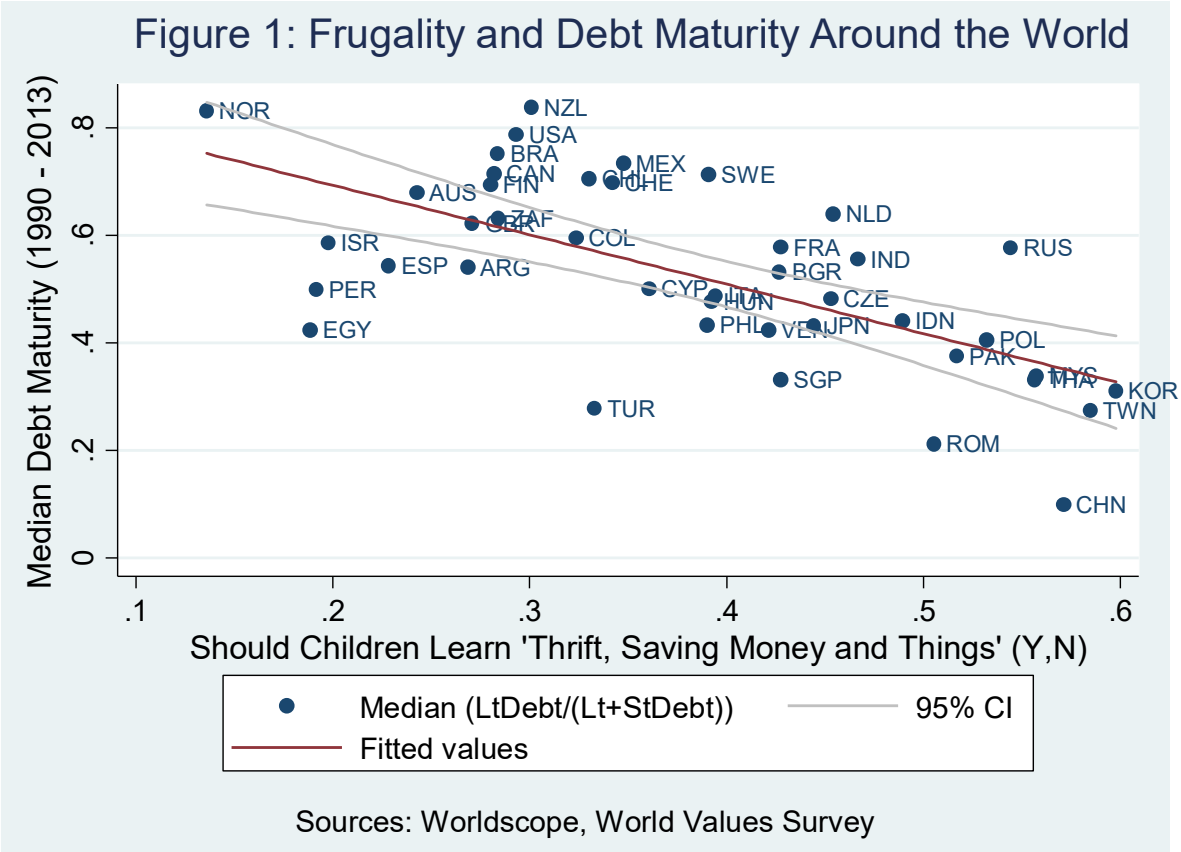

Figure 1: Median Firm's Debt Maturity and Frugality, 1990 –2013

This figure plots the relation between a country's median debt maturity and frugality from 1990 to 2013. At the firm level, I obtain accounting data for nonfinancial firms from Worldscope and measure debt maturity as the ratio of a firm's long-term debt to the sum of long term and short-term debt. I assign firms to home countries by Worldscope's primary geographic segment ("GEOGN"). To measure frugality, I follow Guiso, Sapienza, and Zingales (2006), and take the average tendency for a country's respondents to the World Value Survey to identify teaching "thrift, saving money and things" to children as especially important. At the country level, the correlation between debt maturity and frugality is -0.645.

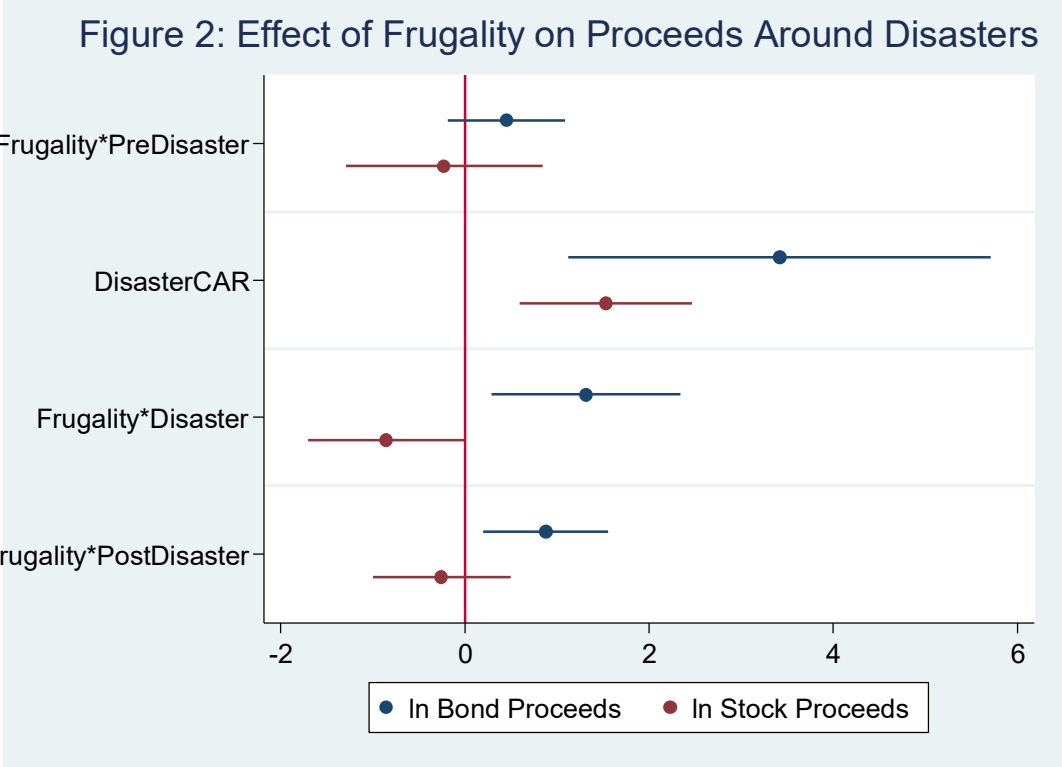

Figure 2: Effect of Frugality on Bond and Stock Proceeds around Natural Disasters

This figure plots coefficient estimates measuring the effect of frugality on the natural of log bond and stock proceeds around large natural disasters. Estimates are from the OLS panel regressions of Table 3, Models (3) and (6). Plotted are the coefficient estimates of $Frugality_J$*$Disaster_{J,t}$ and $DisasterCAR_{i,j,t}$, and their 95% confidence intervals (from standard errors clustered by country-year). Using firm-level bond and stock proceeds, I estimate the following regression:

$$ln(Issuance\ Proceeds)_{i,j,k,t} = a + \mathrm{B}_1 * \mathrm{Frugality}_J * \mathrm{Disaster}_{J,t} + \mathrm{B}_2 * \mathrm{Disaster}_{J,t} + B_3 * \mathrm{DisasterCAR}_{i,j,t} + + \mathrm{X}_{i,j,t} + b_j + c_k + d_t + e_{j,t}$$

where the dependent variable is the natural log of the total proceeds of new debt issues and SEOs of firm *i* in country *j* in industry *k* in year *t*. Proceeds are in USD millions, matched at the ultimate parent-level and obtained from SDC. $Frugality_J$ is the average country response to the World Value Survey question "Do you consider it important to encourage children to learn thrift and savings?" as in Guiso, Sapienza, and Zingales (2006). $Disaster_{J,t}$ identifies country-years in which a country experiences the largest natural disaster to date, starting in January of 1990 and rolling through the end of the sample period. $DisasterCAR_{i,j,t}$ labels the cumulative abnormal return during the disaster-month for firm *i* in country *j* at time *t*. Natural disasters are obtained from the Centre for Research on the Epidemiology of Disasters. $X_{i,j,t}$ labels control variables that are used in Table 3, Models (3) and (6).

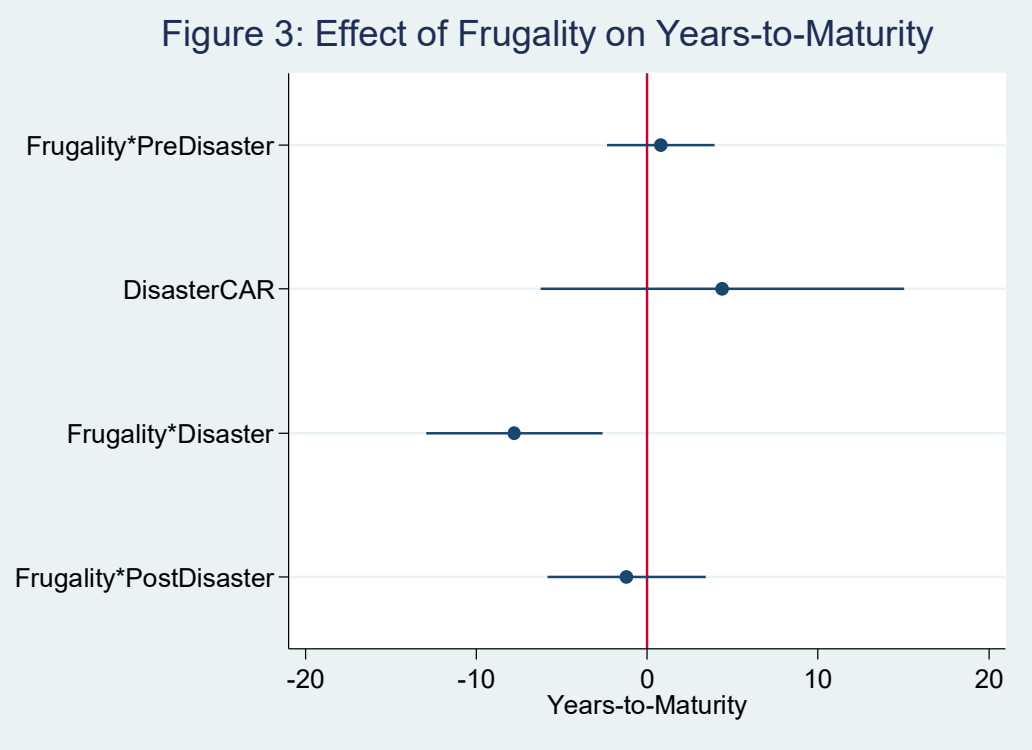

Figure 3: Effect of Frugality on Years-to-Maturity around Natural Disasters

This figure plots coefficient estimates measuring the effect of frugality on the value-weighted years-to-maturity of firms' bond issuances around large natural disasters. Estimates are from the OLS panel regressions of Table 3, Model (9). Plotted are the coefficient estimates of Frugality_J*$\text{Disaster}_{J,t}$ and $\text{DisasterCAR}_{i,j,t}$, and their 95% confidence intervals (from standard errors clustered by country-year). Using firm-level value-weighted bond proceeds, I estimate the following regression:

$$YearstoMaturity_{i,j,k,t} = a + \text{B}_1 * \text{Frugality}_J * \text{Disaster}_{J,t} + \text{B}_2 * \text{Disaster}_{J,t} + B_3 * \text{DisasterCAR}_{i,j,t} + + \text{X}_{i,j,t} + b_j + c_k + d_t + e_{j,t}$$

where the dependent variable is the value-weighted years-to-maturity of the bond proceeds of the new debt issues of firm *i* in country *j* in industry *k* in year *t*. Proceeds are in USD millions, matched at the ultimate parent-level and obtained from SDC. $Frugality_J$ is the average country response to the World Value Survey question "Do you consider it important to encourage children to learn thrift and savings?" as in Guiso, Sapienza, and Zingales (2006). $Disaster_{J,t}$ identifies country-years in which a country experiences the largest natural disaster to date, starting in January of 1990 and rolling through the end of the sample period. $\text{DisasterCAR}_{i,j,t}$ labels the cumulative abnormal return during the disaster-month for firm *i* in country *j* at time *t*. Natural disasters are obtained from the Centre for Research on the Epidemiology of Disasters. $X_{i,j,t}$ labels control variables that are used in Table 3, Model (9).

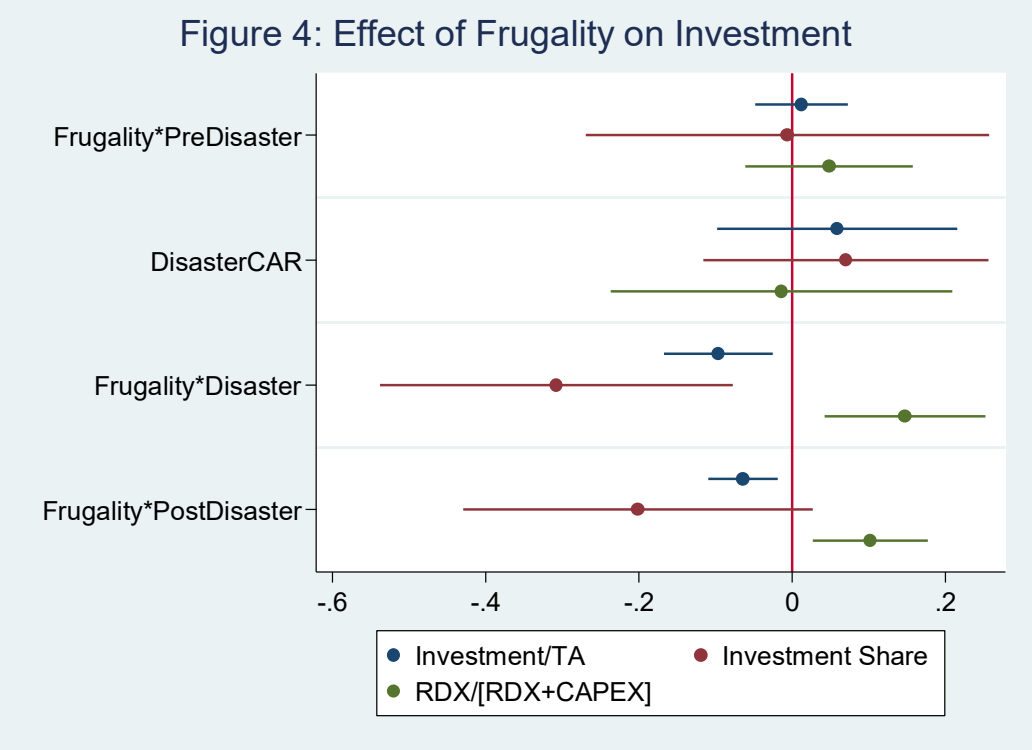

Figure 4: Effect of Frugality on Investment around Natural Disasters

This figure plots coefficient estimates measuring the effect of frugality on firms' investment policies around large natural disasters. Estimates are from the OLS panel regressions of Table 5, Panel B, Models (4), (7), and (10). Plotted are the coefficient estimates of $Frugality_J$*$Disaster_{J,t}$ and $DisasterCAR_{i,j,t}$, and their 95% confidence intervals (from standard errors clustered by country-year). Using firm-level investment, I estimate the following regression:

$$InvestmentPolicy_{i,j,t} = a + \mathrm{B}_1 * \mathrm{Frugality}_J * \mathrm{Disaster}_{J,t} + \mathrm{B}_2 * \mathrm{Disaster}_{J,t} + B_3 * \mathrm{DisasterCAR}_{i,j,t} + + \mathrm{X}_{i,j,t} + b_i + c_t + e_{j,t}$$

where the dependent variable is the total investment (CAPEX+RDX, scaled by lagged total assets), investment share (CAPEX+RDX, scaled by CAPEX+RDX+CASH), and r&d share (RDX, scaled by CAPEX+RDX) of firm *i* in country *j* in year *t*. $Frugality_J$ is the average country response to the World Value Survey question "Do you consider it important to encourage children to learn thrift and savings?" as in Guiso, Sapienza, and Zingales (2006). $Disaster_{J,t}$ identifies country-years in which a country experiences the largest natural disaster to date, starting in January of 1990 and rolling through the end of the sample period. $DisasterCAR_{i,j,t}$ labels the cumulative abnormal return during the disaster-month for firm *i* in country *j* at time *t*. Natural disasters are obtained from the Centre for Research on the Epidemiology of Disasters. $X_{i,j,t}$ labels control variables that are used in Table 5, Models (4), (7), and (10). The analysis presents firms that are from a propensity score matched sample based on their issuance likelihood that is outlined in Panel B of Table 5.

Appendix Table A.1 What kind of countries consider frugality important?

This table presents results from cross-sectional OLS regressions of the relation between frugality, defined as the cultural view towards savings, and measures of culture, legal origin, and institutional quality across countries. Using country-level frugality, I estimate the following OLS regression:

$$Frugrality_J = a + \text{Culture}_J + \text{Legal Origin}_J + \text{Institutional Quality}_J + e_J$$

The dependent variable $Frugality_J$ is the average country response to the World Value Survey question "Do you consider it important to encourage children to learn thrift and savings?" as in Guiso, Sapienza, and Zingales (2006). The independent variables include different measures of culture, legal origin, and institutional quality. Column 1 includes Trust and Uncertainty Avoidance as independent variables. $Trust_J$ reports the average country response to the World Value Survey question "Do you think people can be trusted?" as in Guiso, Sapienza, and Zingales (2006). *Uncertainty Avoidance* is the Geert Hofstede uncertainty avoidance index and obtained from https://geert-hofstede.com/national-culture.html. Column 2 includes the shares of religious affiliations in 1995 as in Guiso, Sapienza, and Zingales (2006), with no religious affiliation being the omitted group. Religious affiliations are from the World Religion Database Religious Affiliations. Column 3 includes indicator variables for a country's legal origin as in La Porta et al, 2008, with German legal origin being the omitted group. Column 4 includes measures of institutional quality. The measures include: *Anti-Self Dealing,* the anti-self-dealing index as reported in La Porta et al. 2006; *Creditor Rights,* the creditor rights aggregate score as reported in Djankov et al. 2007; and the *Case A Efficiency* score as in Djankov et al. 2006. Cultural values on frugality and trust are obtained from the World Values Survey. All standard errors are robust to heteroscedasticity. ***,**,* denote significance at the 1%, 5%, and 10% level, respectively.

Table A.1

VARIABLES	(1) Frugality$_J$ Culture	(2) Frugality$_J$ Religion	(3) Frugality$_J$ Legal Origin	(4) Frugality$_J$ Institutions
Do You Think People Can Be Trusted (Y,N)	-0.0469			
	(0.159)			
Uncertainty Avoidance	-0.0002			
	(0.001)			
Christianity: Roman Catholics, percentage adherents		-0.1273*		
		(0.075)		
Christianity: Protestants, percentage adherents		-0.2339**		
		(0.102)		
Christianity: Eastern Orthodox, percentage adherents		-0.0198		
		(0.086)		
Judaism: Total percentage adherents		-0.3141***		
		(0.062)		
Islam: Total percentage adherents		-0.0609		
		(0.099)		
Buddhism: Total percentage adherents		0.1205		
		(0.102)		
Hindu: Total percentage adherents		0.0309		
		(0.073)		
Legor_French			-0.1226***	
			(0.040)	
Legor_Scandinavian			-0.2139***	
			(0.070)	
Legor_English			-0.1168**	
			(0.046)	
Anti-Self Dealing Index				-0.0109
				(0.095)
Creditor Rights				0.0156
				(0.018)
Case Efficiency				-0.0005
				(0.001)
Constant	0.4097***	0.4637***	0.4827***	0.3807***
	(0.089)	(0.061)	(0.030)	(0.049)
Observations	41	42	42	39
Omitted Group	NA	No Religion	Legal German	NA
R-squared	0.003	0.388	0.231	0.025

Appendix Table A.2 Who considers frugality important?

This table presents results from OLS panel regressions of the relation between frugality, defined as an individual's propensity to encourage teaching "thrift, saving money and things" to children and various demographic characteristics. Using individual-level frugality responses, I estimate the following OLS panel regression:

$$Frugrality(Y,N)_{i,j,t} = \mathrm{a} + \mathrm{Age} + \mathrm{Age}^2 + \mathrm{Gender(F,M)} + \mathrm{Married(Y,N)} + \mathrm{Have\ Children(Y,N)} + \mathrm{Trust(Y,N)} + \mathrm{Health}$$

$$+ i.subjective_{education} + j.subjective_{happiness} + k.subjective_{wealth} + b_j + c_t + e_{i,j,t}$$

The dependent variable $Frugality_{i,j,t}$ is coded as 1 if person *i* in country *j* in survey-year *t* responds to the World Value Survey that "thrift, saving money and things" is an especially important quality that children should be encouraged to learn at home, as in Guiso, Sapienza, and Zingales (2006). The independent variables include the respondents age, age squared, gender, marital status, whether the respondent has children, whether the respondent trust others, their health, and dummy variables for their subjective levels of education, happiness, and wealth. Trust is the response to the World Value Survey question "Do you think people can be trusted?" as in Guiso, Sapienza, and Zingales (2006). Columns 1 and 2 include country and survey-year fixed effects. Columns 2 and 3 include religious affiliation and survey-year fixed effects. All data are obtained from the World Values Survey. All standard errors are robust to heteroscedasticity. ***,**,* denote significance at the 1%, 5%, and 10% level, respectively.

Table A.2

Variables	(1) Frugality$_{i,j,t}$(0.1) Country	(2) Frugality$_{i,j,t}$(0.1) Country	(3) Frugality$_{i,j,t}$(0.1) Religion	(4) Frugality$_{i,j,t}$(0.1) Religion
Age	-0.0005	-0.0002	-0.0002	-0.0001
	(0.000)	(0.000)	(0.000)	(0.000)
Age_sq	0.0000***	0.0000***	0.0000***	0.0000***
	(0.000)	(0.000)	(0.000)	(0.000)
Male (0,1)	-0.0102***	-0.0088***	-0.0113***	-0.0105***
	(0.002)	(0.002)	(0.002)	(0.002)
Married (0,1)	0.0089***	0.0147***	0.0209***	0.0246***
	(0.002)	(0.003)	(0.002)	(0.003)
Children (0,1)	0.0173***	0.0055*	0.0217***	0.0110***
	(0.003)	(0.003)	(0.003)	(0.003)
Trust (0,1)	-0.0357***	-0.0298***	-0.0243***	-0.0197***
	(0.002)	(0.002)	(0.002)	(0.002)
Health	-0.0105***	-0.0028**	-0.0208***	-0.0125***
	(0.001)	(0.001)	(0.001)	(0.001)
No_religious_denomination (0,1)	-0.0022	0.0007		
	(0.003)	(0.003)		
2.education_question		-0.0092**		0.0013
		(0.004)		(0.004)
3.education_question		-0.0095*		-0.0034
		(0.005)		(0.005)
4.education_question		-0.0379***		-0.0172***
		(0.004)		(0.004)
5.education_question		-0.0345***		-0.0342***
		(0.005)		(0.005)
6.education_question		-0.0514***		-0.0167***
		(0.005)		(0.005)
7.education_question		-0.0727***		-0.0637***
		(0.005)		(0.005)
8.education_question		-0.1064***		-0.0786***
		(0.005)		(0.005)
2.happiness		0.0133***		0.0220***
		(0.002)		(0.002)
3.happiness		0.0341***		0.0402***
		(0.003)		(0.003)
4.happiness		0.0078		0.0102
		(0.006)		(0.006)
2.subjwealth_question		-0.0070		-0.0134***

		(0.004)		(0.005)
3.subjwealth_question		-0.0014		0.0009
		(0.004)		(0.004)
4.subjwealth_question		-0.0100**		-0.0076*
		(0.004)		(0.004)
5.subjwealth_question		-0.0089**		0.0038
		(0.004)		(0.004)
6.subjwealth_question		-0.0138***		-0.0050
		(0.004)		(0.004)
7.subjwealth_question		-0.0167***		-0.0101**
		(0.005)		(0.005)
8.subjwealth_question		-0.0184***		-0.0181***
		(0.005)		(0.005)
9.subjwealth_question		-0.0240***		-0.0380***
		(0.006)		(0.006)
10.subjwealth_question		-0.0437***		-0.0668***
		(0.007)		(0.007)
Constant	0.1446***	0.4806***	0.0991***	0.3928***
	(0.020)	(0.020)	(0.019)	(0.018)
Observations	290,228	235,338	290,228	235,338
Country FE	Yes	Yes	No	No
Religion FE	No	No	Yes	Yes
Survey-year FE	Yes	Yes	Yes	Yes
R-squared	0.085	0.092	0.034	0.042

Appendix Table A.3 Does frugality influence corporate issuers' growth opportunities?

This table presents results from OLS panel regressions of the relation between firms' DisasterCARs, sales growth, and future earnings growth rates around large natural disasters and frugality, defined as a country's propensity to encourage teaching "thrift, saving money and things" to children, from 1990 to 2013. Using firm-level abnormal returns, sales growth, and earnings per share growth rates, I estimate the following OLS panel regression:

$$DisasterCAR_{i,j,t} = a + \text{Frugality}_J * \text{Disaster}_{j,t} + \text{Disaster}_{j,t}{}^{+} + \text{X}_{i,j,t} + b_j + c_k + d_t + e_{j,t}$$

The dependent variables $\text{DisasterCAR}_{i,j,t}$ labels the cumulative abnormal return during the disaster-month for firm *i* in country *j* in industry *k* in year *t*. To measure the market response to the disaster events, each year I estimate the following international market model specification: $R_{i,j,t} = a_i + B_{m,i}R_{j,t} + B_{w,i}R_{w,t} + LargestDisaster_{j,t}\delta_{i,j,t} + e_{i,t}$, where $R_{i,j,t}$ is the weekly return on firm *i*, while $R_{j,t}$ and $R_{w,t}$ are the weekly returns on the local and global market portfolios, respectively. To calculate DisasterCARs, I use the estimated coefficient of the indicator, $\delta_{i,j,t}$, which is equal to 1 during the month in which the country experiences its largest disaster of the year, and 0 otherwise. *Sales Growthi,j,t* measures the natural log of firm *i*'s total sales in year *t*, divided by firm *i*'s total sales in year *t-1*. $Growth_{i,j,t+1}$ measures the percentage change in I/B/E/S reported trailing 12-month earnings-per-share for the current fiscal year end to be reported (FY1) and the year after FY1 (FY2). I label the realized future growth rates in earnings-per-share as the future growth rates for each firm. All earnings-per-share measures are in USD. As before, $Disaster_{j,t}$ identifies country-years in which a country experiences the largest natural disaster to date, starting in January of 1990 and rolling through the end of the sample period. $Frugality_J$ is the average country response to the World Value Survey question "Do you consider it important to encourage children to learn thrift and savings?" as in Guiso, Sapienza, and Zingales (2006). Columns 1 through 2 report results for DisasterCARs; Columns 3 through 5 and 6 through 8 do the same for sales growth and realized future earnings-per-share growth rates, respectively. The analysis reports results for the sample of firms that issue stocks or bond during the year. $X_{i,j,t}$ labels control variables for firm *i* in country *j* at time *t*. All other variables are defined in the data appendix. As before, all issuance data are obtained from SDC. All macro-economic data are obtained from the World Bank. All firm-level accounting variables are in USD and downloaded via World Scope and winsorized at the 1% level. Firm-level and market-level returns are obtained from Datastream and in USD. Cultural values are obtained from the World Values Survey. Natural disasters are obtained from the Centre for Research on the Epidemiology of Disasters. All models include country, industry and year fixed effects. All standard errors are clustered by country-year. ***,**,* denote significance at the 1%, 5%, and 10% level, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Sample	Issuers	Issuers	Issuers	Issuers	Issuers	Issuers	Issuers	Issuers
Dependent Variable	DisasterCARS	DisasterCARS	Sales Growth	Sales Growth	Sales Growth	EPS Growth$_{t+1}$	EPS Growth$_{t+1}$	EPS Growth$_{t+1}$
Disaster$_{J,t}$*Frugality$_J$	0.0265***	0.0282***	0.2769	0.1192	0.2167	0.7861	0.9926**	1.0462**
	(0.009)	(0.010)	(0.171)	(0.227)	(0.199)	(0.484)	(0.491)	(0.491)
Disaster$_{J,t}$	-0.0096***	-0.0103***	-0.0552	0.0099	-0.0410	-0.2706	-0.3062*	-0.3257*
	(0.004)	(0.003)	(0.063)	(0.078)	(0.065)	(0.176)	(0.175)	(0.173)
DisasterCAR$_{i,j,t}$			0.4214**	0.4278**	0.4065*	0.7265	-0.1526	-0.1715
			(0.205)	(0.203)	(0.213)	(1.441)	(1.448)	(1.446)
PreDisaster$_{J,t}$*Frugality$_J$					-0.5767			-0.3471
					(0.444)			(0.405)
PostDisaster$_{J,t}$*Frugality$_J$					0.2549			0.7228*
					(0.216)			(0.413)
PreDisaster$_{J,t}$					0.1883			0.1651
					(0.138)			(0.154)
PostDisaster$_{J,t}$					-0.1204			-0.2899
					(0.090)			(0.177)
Q$_{i,j,t-1}$		0.0000		0.0209***	0.0199***		0.0117	0.0118
		(0.000)		(0.003)	(0.003)		(0.009)	(0.009)
Cashflow$_{i,j,t-1}$		0.0002		-0.0155	-0.0151		0.1278**	0.1285**
		(0.000)		(0.016)	(0.018)		(0.052)	(0.052)
lnTA$_{i,j,t-1}$		0.0001		0.0032	0.0023		0.0098	0.0099
		(0.000)		(0.003)	(0.004)		(0.007)	(0.007)
PPE$_{i,j,t-1}$		-0.0001		-0.0110	-0.0138		-0.0472	-0.0452
		(0.000)		(0.021)	(0.023)		(0.059)	(0.059)
lnFirmAge$_{i,j,t}$		0.0000		-0.0404***	-0.0424***		-0.0147	-0.0150
		(0.000)		(0.005)	(0.005)		(0.018)	(0.018)
Leverage$_{i,j,t-1}$		-0.0003		0.1648***	0.1628***		-0.0832	-0.0859
		(0.000)		(0.019)	(0.020)		(0.057)	(0.057)
GdpGrowth$_{j,t-1}$		0.0042		-0.8608**	-0.2586		0.8803	1.2089
		(0.005)		(0.435)	(0.352)		(1.020)	(1.051)
MktCapGdp$_{j,t-1}$		0.0000		0.0693*	0.0290		-0.2090***	-0.2277***
		(0.001)		(0.040)	(0.031)		(0.070)	(0.071)
Constant	0.0002	-0.0011	0.1408*	0.1460	0.1471	-0.6783**	-0.9303**	-0.9606**
	(0.002)	(0.002)	(0.074)	(0.098)	(0.103)	(0.319)	(0.379)	(0.380)
Observations	47,460	38,711	41,939	34,740	31,757	23,707	20,026	20,026
Country FE	Y	Y	Y	Y	Y	Y	Y	Y
Industry FE	Y	Y	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y	Y	Y
Controls	N	Y	N	Y	Y	N	Y	Y
Adjusted R-Squared	0.011	0.010	0.040	0.055	0.052	0.010	0.011	0.011

Appendix Table A.4 Industry Structure, Firm Size, Leverage and Investment

This table presents results from OLS panel regressions of the relation between firms' total investment around large natural disasters and frugality, defined as a country's propensity to encourage teaching "thrift, saving money and things" to children, from 1990 to 2013. Using firm-level capital expenditures (CAPEX) and research and development expense (RDX), I estimate the following OLS panel regression:

$$InvestmentPolicy_{i,j,k,t} = a + \text{Frugality}_J * \text{Disaster}_{j,t} + \text{Disaster}_{j,t} + \text{DisasterCAR}_{i,j,t} + \text{X}_{i,j,t} + b_i + c_t + e_{j,t}$$

The dependent variable is the total investment of firm *i* in country *j* in industry *k* in year *t,* relative to lagged total assets. I set CAPEX and RDX equal to zero when missing. As before, $Disaster_{j,t}$ identifies country-years in which a country experiences the largest natural disaster to date, starting in January of 1990 and rolling through the end of the sample period. $Frugality_J$ is the average country response to the World Value Survey question "Do you consider it important to encourage children to learn thrift and savings?" as in Guiso, Sapienza, and Zingales (2006). $\text{DisasterCAR}_{i,j,t}$ labels the cumulative abnormal return during the disaster-month for firm *i* in country *j* at time *t.* $\text{DisasterCAR}_{i,j,t}$ labels the cumulative abnormal return during the disaster-month for firm *i* in country *j* at time *t.* The models estimated in this table reexamine Model 3 of Table 5 for subgroups of firms categorized by industry structure, lagged firm size, and lagged firm leverge. Columns 1 through 4 report investment for subsamples by industry structure. Following Bekaert et al (2007), I identify firms as belonging to industries that are non-tradable, tradeable, regulated, and non-regulated. Columns 5 through 8 report investment for firms that have lagged total assets and lagged leverage relative to their country-year median, respectively. All other variables are previously defined. The analysis in Panel B uses a propensity score matched sample that is matched using the same methodology in Table 5. The corresponding columns and control variables are indicated in each column. As before, all issuance data are obtained from SDC. All macro-economic data are obtained from the World Bank. All firm-level accounting variables are in USD and downloaded via World Scope and winsorized at the 1% level. Firm-level and market-level returns are obtained from Datastream and in USD. Cultural values are obtained from the World Values Survey. Natural disasters are obtained from the Centre for Research on the Epidemiology of Disasters. All models include firm and year fixed effects. All standard errors are clustered by country-year. ***,**,* denote significance at the 1%, 5%, and 10% level, respectively.

Table A.4, Panel A

Sample	(1) NonTraded	(2) Traded	(3) Regulated	(4) NonReg	(5) Small	(6) Big	(7) LowLev	(8) HighLev
Dependent Variable	CAPEX +RDX	CAPEX +RDX	CAPEX +RDX	CAPEX +RDX	CAPEX +RDX	CAPEX +RDX	CAPEX +RDX	CAPEX +RDX
$Disaster_{J,t}$*$Frugality_J$	-0.0485**	-0.0831***	-0.0317	-0.0870***	-0.0663***	-0.0586***	-0.0547***	-0.0734***
	(0.019)	(0.026)	(0.020)	(0.024)	(0.021)	(0.020)	(0.020)	(0.023)
$Disaster_{J,t}$	0.0167**	0.0283***	0.0108	0.0297***	0.0224***	0.0204***	0.0181***	0.0252***
	(0.007)	(0.009)	(0.007)	(0.008)	(0.007)	(0.007)	(0.007)	(0.008)
$DisasterCAR_{i,j,t}$	0.0039	0.0414	-0.0016	0.0390**	0.0221	0.0328	-0.0033	0.0474
	(0.021)	(0.027)	(0.038)	(0.018)	(0.022)	(0.030)	(0.027)	(0.030)
$PreDisaster_{J,t}$*$Frugality_J$	-0.0229	-0.0375	-0.0208	-0.0358	-0.0396*	-0.0120	-0.0222	-0.0309
	(0.020)	(0.026)	(0.019)	(0.026)	(0.023)	(0.020)	(0.020)	(0.024)
$PostDisaster_{J,t}$*$Frugality_J$	-0.0169	-0.0516**	-0.0139	-0.0493**	-0.0294	-0.0300*	-0.0472**	-0.0184
	(0.019)	(0.026)	(0.019)	(0.024)	(0.022)	(0.017)	(0.021)	(0.022)
$PreDisaster_{J,t}$	0.0077	0.0131	0.0076	0.0123	0.0148*	0.0028	0.0087	0.0098
	(0.007)	(0.009)	(0.007)	(0.009)	(0.008)	(0.007)	(0.007)	(0.008)
$PostDisaster_{J,t}$	0.0040	0.0164*	0.0025	0.0156*	0.0099	0.0075	0.0155**	0.0033
	(0.006)	(0.009)	(0.007)	(0.008)	(0.008)	(0.006)	(0.007)	(0.007)
$Q_{i,j,t-1}$	0.0061***	0.0091***	0.0083***	0.0081***	0.0078***	0.0104***	0.0070***	0.0111***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)	(0.001)
$Cashflow_{i,j,t-1}$	0.0088***	-0.0074***	-0.0110***	0.0012	-0.0089***	0.0407***	-0.0069**	0.0042
	(0.003)	(0.003)	(0.004)	(0.003)	(0.002)	(0.007)	(0.003)	(0.004)
$lnTA_{i,j,t-1}$	-0.0153***	-0.0233***	-0.0187***	-0.0207***	-0.0176***	-0.0222***	-0.0181***	-0.0250***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
$PPE_{i,j,t-1}$	0.0125***	-0.0099	0.0023	-0.0032	-0.0181***	0.0061	0.0022	-0.0191***
	(0.005)	(0.007)	(0.006)	(0.006)	(0.006)	(0.005)	(0.006)	(0.007)
$lnFirmAge_{i,j,t}$	-0.0212***	-0.0224***	-0.0229***	-0.0220***	-0.0227***	-0.0152***	-0.0153***	-0.0237***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.003)	(0.001)	(0.002)	(0.002)
$Leverage_{i,j,t-1}$	0.0007	-0.0061*	-0.0060	-0.0010	-0.0059	-0.0012	-0.0110	-0.0018
	(0.002)	(0.003)	(0.004)	(0.003)	(0.004)	(0.002)	(0.014)	(0.002)
$GdpGrowth_{j,t-1}$	0.1316***	0.0844**	0.0703**	0.1155***	0.0795**	0.0909***	0.0942***	0.1069***
	(0.030)	(0.042)	(0.030)	(0.041)	(0.038)	(0.035)	(0.033)	(0.039)
$MktCapGdp_{j,t-1}$	0.0076***	0.0048	0.0027	0.0073**	0.0048	0.0060**	0.0026	0.0075**
	(0.003)	(0.004)	(0.003)	(0.003)	(0.004)	(0.003)	(0.003)	(0.003)
Constant	0.1522***	0.2246***	0.1887***	0.1982***	0.1586***	0.2195***	0.1583***	0.2425***
	(0.006)	(0.009)	(0.008)	(0.008)	(0.008)	(0.009)	(0.008)	(0.010)
Observations	134,996	190,027	96,625	228,398	162,686	162,337	152,423	172,600
Firm FE	Y	Y	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y	Y	Y
Controls	Y	Y	Y	Y	Y	Y	Y	Y
Adjusted R-Squared	0.457	0.524	0.571	0.485	0.527	0.536	0.569	0.522

Table A.4, Panel B Matched

Sample	(1) NonTraded	(2) Traded	(3) Regulated	(4) NonReg	(5) Small	(6) Big	(7) LowLev	(8) HighLev
Dependent Variable	CAPEX +RDX	CAPEX +RDX	CAPEX +RDX	CAPEX +RDX	CAPEX +RDX	CAPEX +RDX	CAPEX +RDX	CAPEX +RDX
$Disaster_{J,t}$*$Frugality_J$	-0.0746***	-0.1107**	-0.0407	-0.1268***	-0.1329*	-0.0763**	-0.0311	-0.1062***
	(0.027)	(0.045)	(0.036)	(0.043)	(0.069)	(0.034)	(0.045)	(0.037)
$Disaster_{J,t}$	0.0286***	0.0395**	0.0143	0.0466***	0.0448*	0.0294**	0.0097	0.0403***
	(0.010)	(0.018)	(0.012)	(0.017)	(0.027)	(0.014)	(0.018)	(0.014)
$DisasterCAR_{i,j,t}$	0.0834	0.0533	-0.0659	0.0940	-0.0002	0.1477	0.0172	0.1562***
	(0.065)	(0.122)	(0.157)	(0.060)	(0.123)	(0.093)	(0.133)	(0.053)
$PreDisaster_{J,t}$*$Frugality_J$	0.0252	-0.0025	0.0547	-0.0101	-0.0395	0.0220	-0.0053	0.0240
	(0.026)	(0.037)	(0.040)	(0.035)	(0.057)	(0.029)	(0.046)	(0.033)
$PostDisaster_{J,t}$*$Frugality_J$	-0.0530**	-0.0740**	-0.0139	-0.0913***	-0.0757	-0.0331	-0.0936**	-0.0376
	(0.022)	(0.030)	(0.026)	(0.031)	(0.048)	(0.022)	(0.042)	(0.026)
$PreDisaster_{J,t}$	-0.0098	-0.0016	-0.0219	0.0023	0.0080	-0.0086	0.0037	-0.0110
	(0.009)	(0.014)	(0.015)	(0.013)	(0.024)	(0.011)	(0.018)	(0.012)
$PostDisaster_{J,t}$	0.0169**	0.0242**	0.0029	0.0303***	0.0304*	0.0077	0.0295*	0.0123
	(0.007)	(0.011)	(0.009)	(0.011)	(0.018)	(0.009)	(0.018)	(0.009)
$Q_{i,j,t-1}$	0.0112***	0.0105***	0.0110***	0.0106***	0.0106***	0.0132***	0.0097***	0.0132***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)	(0.001)
$Cashflow_{i,j,t-1}$	0.0076	-0.0092**	-0.0132*	-0.0041	-0.0095**	0.0133	-0.0052	-0.0070
	(0.008)	(0.004)	(0.007)	(0.006)	(0.005)	(0.010)	(0.008)	(0.006)
$lnTA_{i,j,t-1}$	-0.0197***	-0.0279***	-0.0257***	-0.0257***	-0.0184***	-0.0298***	-0.0236***	-0.0287***
	(0.002)	(0.003)	(0.004)	(0.003)	(0.006)	(0.002)	(0.004)	(0.003)
$PPE_{i,j,t-1}$	0.0225*	-0.0170	-0.0130	-0.0076	-0.0276	-0.0088	-0.0067	-0.0286
	(0.012)	(0.019)	(0.020)	(0.016)	(0.026)	(0.012)	(0.029)	(0.018)
$lnFirmAge_{i,j,t}$	-0.0226***	-0.0196***	-0.0297***	-0.0164***	-0.0242**	-0.0158***	-0.0083	-0.0233***
	(0.004)	(0.005)	(0.005)	(0.004)	(0.011)	(0.003)	(0.007)	(0.004)
$Leverage_{i,j,t-1}$	-0.0017	-0.0177**	-0.0142	-0.0089	-0.0200	-0.0079*	0.0828*	-0.0075
	(0.005)	(0.008)	(0.009)	(0.007)	(0.015)	(0.004)	(0.049)	(0.006)
$GdpGrowth_{j,t-1}$	0.0484	0.0226	-0.0102	0.0618	-0.1655	0.0828*	-0.0229	0.0529
	(0.049)	(0.071)	(0.058)	(0.069)	(0.122)	(0.047)	(0.099)	(0.057)
$MktCapGdp_{j,t-1}$	0.0116***	0.0109	0.0067	0.0132**	0.0181	0.0073*	0.0062	0.0081
	(0.004)	(0.008)	(0.005)	(0.007)	(0.016)	(0.004)	(0.011)	(0.006)
Constant	0.1905***	0.2799***	0.2801***	0.2427***	0.1685***	0.3016***	0.1925***	0.2937***
	(0.016)	(0.022)	(0.022)	(0.019)	(0.031)	(0.019)	(0.025)	(0.023)
Observations	26,800	39,872	21,771	44,901	23,660	43,012	20,996	45,676
Model from Panel A	1	2	3	4	5	6	7	8
Firm FE	Y	Y	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y	Y	Y
Controls	Y	Y	Y	Y	Y	Y	Y	Y
Adjusted R-Squared	0.579	0.514	0.640	0.492	0.478	0.550	0.583	0.561