

Better Safe Than Sorry - Labor Market Regulation and Cash Holdings of Founding Family Firms

Markus Fütterer

School of Business and Economics
Philipps-Universität Marburg, Germany

Marina Kononova

School of Business and Economics
Philipps-Universität Marburg, Germany

Marc Steffen Rapp

corresponding author

School of Business and Economics
Philipps-Universität Marburg, Germany

&

Center for Corporate Governance
Copenhagen Business School

Email: msr@m-s-rapp.de

Online Appendix

Version: March 9th, 2025

We have performed several additional tests to ensure the validity of our baseline findings reported in Table 3 of the paper. For the sake of brevity these tests have not been reported in the main manuscript. This Online Appendix documents selected additional tests. It is organized in four sections:

- Section A: Alternative Clustering of Residuals
- Section B: Change Regression Specifications
- Section C: Confounding Events
- Section D: Alternative Measures of Cash Holdings and LMR

A Alternative Clustering of Residuals

As a first robustness test, we challenge the statistical significance of our baseline results against alternative options to allow for clustering of residuals in the estimation of coefficients' standard Errors. The findings are reported in the Table 1 below and document that our results are insensitive to the clustering approach.

Table 1.

Alternative clustering of standard errors

This table presents the OLS regression results of average (Columns 1 and 3) and FFF-related differential (Columns 2 and 4) effect of LMR on cash holdings. Column 1 and 2 (3 and 4) show the results for Cash (CashToNetAssets) as dependent variable. All variables are defined in Table 12 of the main paper. All independent variables except LMR, FFF, and Other Ultimate Owner are lagged by one period. All regression specifications include control variables, firm fixed effects, industry-year fixed effects, and country specific year trends. The t-Statistics in parentheses are based on robust standard errors, without clustering in Panel A, clustered at the industry level in Panel B, at the year level in Panel C, at the country level in Panel D, at the industry-year level in Panel E, at the country-year level in Panel F. *, **, *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

Dependent Variable	Cash		CashToNetAssets	
	(1)	(2)	(3)	(4)
Panel A: No clustering				
LMR	-0.002 (-0.80)	-0.004* (-1.65)	-0.009 (-1.37)	-0.016** (-2.02)
LMR#FFF		0.007** (2.26)		0.024** (2.09)
FFF		-0.027 (-1.59)		-0.088 (-1.47)
Panel B: Clustering at industry-level				
LMR	-0.002 (-0.70)	-0.004 (-1.62)	-0.009 (-1.20)	-0.016* (-1.82)
LMR#FFF		0.007*** (2.89)		0.024*** (2.86)
FFF		-0.027* (-1.90)		-0.088** (-2.12)
Panel C: Clustering at year-level				
LMR	-0.002 (-1.07)	-0.004** (-2.38)	-0.009** (-2.42)	-0.016*** (-3.42)
LMR#FFF		0.007*** (5.64)		0.024*** (4.26)
FFF		-0.027*** (-4.08)		-0.088** (-2.44)
Panel D: Clustering at country-level				
LMR	-0.002 (-1.07)	-0.004** (-2.56)	-0.009* (-1.83)	-0.016** (-2.66)
LMR#FFF		0.007*** (3.36)		0.024** (2.28)
FFF		-0.027*** (-5.25)		-0.088*** (-3.92)
Panel E: Clustering at industry-year-level				
LMR	-0.002 (-0.79)	-0.004* (-1.80)	-0.009 (-1.53)	-0.016** (-2.37)
LMR#FFF		0.007*** (3.86)		0.024*** (3.32)
FFF		-0.027*** (-2.90)		-0.088** (-2.50)
Panel F: Clustering at country-year-level				
LMR	-0.002 (-1.14)	-0.004** (-2.59)	-0.009** (-2.38)	-0.016*** (-3.69)
LMR#FFF		0.007*** (4.44)		0.024*** (3.21)
FFF		-0.027*** (-3.41)		-0.088** (-2.36)

B Change Regression Specifications

As a second robustness test, we exploit incremental cash holdings' decisions in FFFs and non-FFFs in response to LMR changes and test whether our baseline findings might reflect the cumulative historical decisions concentrated in levels of cash (see [Graham, 1999](#); [Mackie-Mason, 1990](#)).

First, in a similar vein to related capital structure literature, we employ a change regression specification¹, using year-by-year changes in cash holdings as dependent variable and lagged first-differences of the right-side variables as explanatory variables, with exception of *FFF* and *Other Ultimate Owner*. Following previous literature (e.g., [Faccio and Xu, 2015](#); [Graham, 1999](#)), we conduct a simple dynamic analysis including current and one-year-lagged values of *LMR* changes, as firms adjust their cash holdings rather slowly due to market imperfections (see e.g., [Gao et al., 2013](#); [Opler et al., 1999](#)). We also control for lagged levels of cash holdings and changes in cash holdings to allow for partial adjustments of the cash ratio to the equilibrium level (e.g., [Bates et al., 2009](#); [Opler et al., 1999](#)). The results on *Cash* and *CashToNetAssets* are presented in Columns 1 and 2 of Table 2 respectively. We find a negative impact of *LMR* changes on cash holdings for non-*FFF* and a positive one for *FFF*. While the coefficients of interest for the year of the *LMR* change are not throughout statistically significant at the conventional level, the coefficient estimates for the year following the change are statistically significant at the 1% level. These results substantiate our main findings, while confirming that incremental cash holding adjustments may need time.

Second, we repeat the former analysis focusing on substantial changes in *LMR*. We define substantial changes as changes greater than the mean of absolute *LMR* changes in the sample (0.2 units). First, this definition is more suitable for the dynamic analysis because substantial *LMR* changes occur less gradually, often allowing a time window before the next *LMR* change occurs. Second, this strategy allows us to examine whether larger changes in *LMR* have a different *FFF*-related effect on incremental cash holding adjustments as compared to small changes. Finally, this allows us to provide reassurance that our results are not attenuated through many small changes in *LMR*. The results in Columns 3 and 4 of Table 2 remain consistent with our predictions.

¹ Other studies that use change regression specifications are for example [Faccio and Xu \(2015\)](#), [Bates et al. \(2009\)](#), [Harford et al. \(2008\)](#), [Graham \(1999\)](#), or [Mackie-Mason \(1990\)](#).

Table 2.
Change regression specification

This table presents the results of change regressions of an incremental FFF-related differential effect of LMR on cash holdings. Column 1 and 3 (2 and 4) show the results for ΔCash ($\Delta\text{CashToNetAssets}$) as dependent variable, that is the annual change in Cash (CashToNetAssets) levels. ΔLMR is the annual change in LMR. $\Delta\text{LMR}^{\text{LC}}$ is a substantial annual change in LMR, defined as changes greater than the mean of absolute LMR changes in the sample (0.2 units). ΔLMR and $\Delta\text{LMR}^{\text{LC}}$ enter regressions as both, contemporary and one-year-lagged values. All other variables are defined in Table 12 of the main paper. All independent variables are annual changes of the corresponding levels of the variables and are lagged by one period except FFF and Other Ultimate Owner. All regression specifications include industry-year fixed effects and country specific year trends. The t-Statistics in parentheses are based on robust standard errors, clustered at the country level. *, **, *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

Variable of Interest Dependent variable	ΔLMR		$\Delta\text{LMR}^{\text{LC}}$	
	ΔCash	$\Delta\text{CashToNetAssets}$	ΔCash	$\Delta\text{CashToNetAssets}$
	(1)	(2)	(3)	(4)
$\Delta\text{LMR}_{t=0}$	-0.004** (-2.15)	-0.008* (-2.07)	-0.003** (-2.24)	-0.008** (-2.45)
$\Delta\text{LMR } t=0\#\text{FFF}$	0.004*** (3.11)	0.011* (1.78)	0.004*** (3.11)	0.006* (1.85)
$\Delta\text{LMR}_{t=+1}$	-0.006*** (-4.21)	-0.014*** (-3.21)	-0.005*** (-4.35)	-0.014*** (-3.17)
$\Delta\text{LMR } t=+1\#\text{FFF}$	0.006*** (3.72)	0.017*** (5.78)	0.005*** (3.23)	0.014*** (5.24)
FFF	0.001 (0.79)	0.006 (0.94)	0.001 (0.70)	0.005 (0.82)
$\Delta\text{Cash}(t-1)$	-0.108*** (-12.22)	-0.273*** (-15.07)	-0.108*** (-12.24)	-0.273*** (-15.07)
$\text{Cash}(t-1)$	-0.139*** (-17.28)	-0.505*** (-8.89)	-0.139*** (-17.31)	-0.505*** (-8.89)
$\Delta\text{Size}(t-1)$	-0.017*** (-5.66)	-0.058*** (-6.14)	-0.017*** (-5.67)	-0.058*** (-6.15)
$\Delta\text{Growth}(t-1)$	0.002*** (5.58)	0.016*** (7.09)	0.002*** (5.57)	0.016*** (7.07)
$\Delta\text{Leverage}(t-1)$	0.004 (0.80)	0.015 (0.42)	0.004 (0.81)	0.014 (0.42)
$\Delta\text{NWC}(t-1)$	0.036*** (4.01)	0.080*** (3.52)	0.036*** (4.01)	0.080*** (3.53)
$\Delta\text{Investments}(t-1)$	-0.007 (-1.08)	0.025 (1.10)	-0.007 (-1.08)	0.025 (1.10)
$\Delta\text{Dividends}(t-1)$	0.002 (1.26)	0.005 (0.96)	0.002 (1.26)	0.005 (0.96)
$\Delta\text{Cash Flow}(t-1)$	-0.004 (-0.54)	-0.046 (-1.37)	-0.004 (-0.54)	-0.046 (-1.37)
$\Delta\text{Cash Flow Volatility}(t-1)$	0.003 (0.56)	0.005 (0.42)	0.003 (0.55)	0.005 (0.39)
Other Ultimate Owner	-0.000 (-0.06)	0.003 (0.39)	-0.000 (-0.05)	0.003 (0.40)
$\Delta\text{Inflation}(t-1)$	0.031 (0.59)	-0.085 (-0.40)	0.025 (0.51)	-0.095 (-0.45)
$\Delta\text{GDP Growth}(t-1)$	0.036 (1.14)	-0.053 (-0.42)	0.040 (1.19)	-0.047 (-0.36)
$\Delta\ln(\text{GDP p.c.}) (t-1)$	0.040 (1.38)	0.153* (2.02)	0.035 (1.13)	0.146 (1.74)
Firm Fixed Effects	NO	NO	NO	NO
Industry-Year Fixed Effects	YES	YES	YES	YES
Country Specific Year Trend	YES	YES	YES	YES
Clustered Standard Errors	Country-level	Country-level	Country-level	Country-level
Observations	25,386	25,386	25,386	25,386
R^2_{adj}	0.139	0.122	0.139	0.122

C Confounding Events

So far, we assume that changes in labor regulations are exogenous to firms' decisions. However, one might argue that our analysis suffers from an endogeneity issue because of country-level confounding factors that may influence our outcome variable. Thus, as a third robustness test, we complement our baseline analysis with additional country characteristics that have been identified in previous literature as relevant for both labor regulation and cash holding policies.

First, we follow Perotti and Von Thadden (2006), suggesting that higher labor protection comes along with more concentrated financial wealth, and control for the wealth distribution adding the Gini coefficient of income inequality (*Gini Coefficient*). Further, we tackle the issue that our findings might be driven by variations in taxes and add country-specific corporate tax rate (*Corporate Taxes*), as tax reforms may affect cash through a growth channel (Faccio and Xu, 2018). We further consider concurrent changes in labor market conditions proxied by the country-level unionization rate (*Unionization*). Next, as our sample starts shortly before the outbreak of the financial crisis, we also add a dummy variable indicating the financial crisis of 2008-2009 (*Crisis – Dummy*). Finally, the *LMR* index could capture the effects of general economic uncertainty that potentially may confound our findings. Therefore, we further add two different proxies for economic uncertainty including the Business Confidence Indicator provided by the OECD (*Business Confidence*) and the index on macroeconomic uncertainty (*Macro – Uncertainty*) developed by Rossi and Sekhposyan (2017).

We extend our baseline model gradually including these additional country-level characteristics and their interactions with the *FFF* dummy. Including interactions, we address the concern that *LMR* might be correlated with other macro-economic factors, reflecting an *FFF*-related effect of one of these potential confounders, and not the effect of *LMR*.

Results are presented in Table 3. As our results are qualitatively the same on *CashToNetAssets*, for brevity we report the results on *Cash* only. The coefficient estimates of interest are consistent with our predictions and remain statistically significant for both, *FFF* and non-*FFF*. Thereby, none of the coefficients on the main effects of the additional variables shows statistical significance at the conventional level². Considering the interaction terms, only coefficients on the interaction term with the Gini coefficient and with the corporate tax rate show stable statistical significance. Noticeably, comparing the

² Since our regression includes firm fixed effects, the coefficients on the Crisis Dummy and macro-economic uncertainty itself cannot be estimated.

regression results in Table 3 to the baseline results in the main paper reveals that accounting for other macro-economic factors and their interaction with the *FFF* dummy does not diminish the magnitude of the coefficients of interest. In Column 8, we extend our baseline model by country-year fixed effects. By demeaning all variables by country-and-year, this specification removes potential time-varying events that might impact cash holdings of all firms within the same country. While the LMR effect for non-FFFs cannot be estimated, the coefficient estimates for the interaction term between the *FFF* dummy and *LMR* remains statistically significant and comparable in the magnitude to the baseline results in the main paper. Overall, the results in Table 3 corroborate our main findings.

Table 3.
Confounding events

This table presents the results of OLS regression of an FFF-related differential effect of LMR on cash holdings after controlling for potential confounding events. For comparability purpose Column 1 presents the baseline results from Table 3 in the main paper, Column 2 from the main paper. Starting in Column 2, the regression model is gradually expanded by Gini Coefficient, Corporate Tax rate, Unionization rate, Business Confidence indicator, Crisis Dummy, Macro-Economic Uncertainty index and their interactions with FFF (main effects of Crisis Dummy and Macro-Economic Uncertainty are included, but omitted because of collinearity). In all regression specifications, Cash is used as dependent variable. All other variables are defined in Table 12 of the main paper. All independent variables except LMR, FFF, Other Ultimate Owner, and additional variables mentioned above, are lagged by one period. All regression specifications include firm fixed effects, industry-year fixed effects, and country specific year trends. The t-Statistics in parentheses are based on robust standard errors, clustered at the country level. *, **, *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

Dependent variable	Cash							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
LMR	-0.004** (-2.56)	-0.004** (-2.78)	-0.005** (-2.90)	-0.005** (-2.84)	-0.005** (-2.81)	-0.005** (-2.88)	-0.005** (-2.90)	-
LMR#FFF	0.007*** (3.36)	0.008*** (3.72)	0.010*** (4.21)	0.009*** (3.74)	0.009*** (3.59)	0.009*** (3.91)	0.010*** (4.14)	0.008*** (3.41)
FFF	-0.027*** (-5.25)	-0.065*** (-3.52)	-0.046** (-2.40)	-0.025 (-0.76)	-0.026 (-0.80)	-0.026 (-0.79)	-0.022 (-0.68)	-0.028*** (-5.12)
Gini Coefficient		-0.060 (-1.45)	-0.069* (-1.83)	-0.073* (-1.93)	-0.078* (-2.09)	-0.078* (-2.07)	-0.078* (-2.10)	
Gini Coefficient#FFF		0.101* (1.96)	0.120** (2.25)	0.132** (2.20)	0.140** (2.26)	0.141** (2.34)	0.143** (2.40)	
Corporate Tax			-0.010 (-0.38)	-0.015 (-0.55)	-0.014 (-0.50)	-0.013 (-0.50)	-0.014 (-0.50)	
Corporate Tax#FFF			-0.118** (-2.50)	-0.124** (-2.77)	-0.126** (-2.70)	-0.126** (-2.75)	-0.123** (-2.68)	
Unionization				0.027 (1.01)	0.024 (0.96)	0.024 (0.98)	0.024 (0.97)	
Unionization#FFF				-0.008 (-1.03)	-0.008 (-1.07)	-0.008 (-1.10)	-0.007 (-1.00)	
Business Confidence					-0.078 (-1.20)	-0.080 (-1.29)	-0.088 (-1.45)	
Business Confidence#FFF					0.094*** (2.97)	0.102 (1.36)	0.122 (1.58)	
Crisis Dummy#FFF						-0.000 (-0.10)	-0.002 (-0.53)	
Macro-Uncertainty#FFF							-0.013 (-1.22)	
Control Variables	YES	YES	YES	YES	YES	YES	YES	YES
Firm Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES
Industry-Year Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES
Country Specific Year Trend	YES	YES	YES	YES	YES	YES	YES	NO
Country-Year Fixed Effects	NO	NO	NO	NO	NO	NO	NO	YES
Clustered Standard Errors	Country-level	Country-level	Country-level	Country-level	Country-level	Country-level	Country-level	Country-level
Observations	28,113	28,113	28,113	28,113	28,113	28,113	28,113	28,113
R ² _{adj}	0.058	0.058	0.058	0.058	0.058	0.058	0.058	0.062

Moreover, we also test the sensitivity of our baseline results with regard to the financial crisis (2008-09). Therefore, we re-run our baseline regression on a subsample that excludes observations for the years 2008 and 2009. Table 4 reports the results and documents that our results remain unaffected.

Table 4.
Confounding events - Excluding years of financial crisis (2008-2009)

This table presents the results of OLS regression of an FFF-related differential effect of LMR on cash holdings after excluding years of financial crisis (2008-2009), controlling for a potential confounding event. The Columns 1 and 3, columns 2 and 4 present average and FFF-related differential effect of LMR on cash holdings, respectively. Column 1 and 2 (3 and 4) show the results for Cash (CashToNetAssets) as dependent variable. All other variables are defined in Table 12 of the main paper. All independent variables except LMR, FFF, and Other Ultimate Owner are lagged by one period. All regression specifications include firm fixed effects, industry-year fixed effects, and country specific year trends. The t-Statistics in parentheses are based on robust standard errors, clustered at the country level. *, **, *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

Dependent Variable	Cash		CashToNetAssets	
	(1)	(2)	(3)	(4)
LMR	-0.001 (-0.95)	-0.003* (-1.80)	-0.006 (-1.40)	-0.010* (-1.89)
LMR#FFF		0.006** (2.68)		0.017** (2.59)
FFF		-0.025*** (-3.23)		-0.050*** (-4.40)
Size _(t-1)	-0.025*** (-3.36)	-0.025*** (-3.35)	-0.042 (-1.23)	-0.042 (-1.24)
Growth _(t-1)	0.004** (2.61)	0.004** (2.64)	0.020*** (3.17)	0.020*** (3.18)
Leverage _(t-1)	-0.069*** (-3.97)	-0.068*** (-3.96)	-0.184** (-2.63)	-0.184** (-2.62)
NWC _(t-1)	-0.029 (-1.29)	-0.029 (-1.30)	-0.122** (-2.63)	-0.123** (-2.65)
Investments _(t-1)	-0.053*** (-3.37)	-0.053*** (-3.38)	-0.128** (-2.71)	-0.128** (-2.69)
Dividends _(t-1)	0.006*** (3.02)	0.005*** (3.01)	0.014 (1.70)	0.014 (1.68)
Cash Flow _(t-1)	0.005 (0.31)	0.005 (0.32)	-0.003 (-0.09)	-0.003 (-0.09)
Cash Flow Volatility _(t-1)	0.008 (1.55)	0.007 (1.55)	0.020* (1.78)	0.020* (1.78)
Other Ultimate Owner	0.000 (0.11)	0.001 (0.15)	0.001 (0.11)	0.003 (0.25)
Inflation _(t-1)	-0.119 (-1.70)	-0.117 (-1.65)	-0.017 (-0.06)	-0.012 (-0.04)
GDP Growth _(t-1)	-0.069** (-2.64)	-0.067** (-2.58)	-0.116 (-0.90)	-0.113 (-0.86)
ln(GDP p.c.) _(t-1)	0.083*** (3.25)	0.081*** (3.27)	0.081 (0.82)	0.078 (0.78)
Firm Fixed Effects	YES	YES	YES	YES
Industry-Year Fixed Effects	YES	YES	YES	YES
Country Specific Year Trend	YES	YES	YES	YES
Clustered Standard Errors	Country- level	Country- level	Country- level	Country- level
Observations	19,959	19,959	19,959	19,959
R ² _{adj}	0.045	0.046	0.029	0.029

D Alternative Measures of Cash Holdings and LMR

As a fourth robustness test, we replicate our base regression results using two alternative definitions of cash holdings. First, we address the concern regarding outliers created by *CashToNetAssets* due to firms holding most of their assets in cash. We follow previous literature (e.g., Bates et al., 2009; Foley et al., 2007; Itzkowitz, 2013) and re-define our *CashToNetAssets* measure as the natural logarithm of one plus the ratio of *CashToNetAssets* ($\ln(\text{CashToNetAssets})$). Second, we test whether our results on cash holdings are merely the flipside of response in firms' debt policy, as previous studies find evidence on the significant relationship of leverage and labor regulation (e.g., Ellul and Pagano, 2019; Serfling, 2016; Simintzi et al., 2015). Thereby, we focus on long-term debt, as this is the fraction of debt that the literature suggests is most responsive to changes in labor regulations (see e.g., Heider and Ljungqvist, 2015; Simintzi et al., 2015). We define this alternative measure of cash holdings ($\text{Cash}^{\text{Net of Debt}}$) as the ratio of the sum of cash and short-term investments net of long-term debt divided by the book value of total assets. Table 5, Columns 1 and 2, show a statistically significant, negative relation between cash holdings and *LMR* for non-*FFF* and positive ones for *FFF*, indicating that alternative definitions of cash holdings do not affect our findings.

Next, we ensure that our results are also robust to alternative measures of *LMR*. First, we follow the approach of Simintzi et al. (2015) and design an alternative *LMR* measure ($\text{LMR}^{\text{LC-I}}$) whose objective is to capture the long-run effect of labor policy stringency. We construct $\text{LMR}^{\text{LC-I}}$ as a categorical variable that is based on only substantial changes in *LMR*, as specified in Section B, and is defined recursively, starting in 2007 (sample beginning) and distinguishing between changes that increased (+1) and those that decreased (-1) employment protection. We re-run our baseline model (1) using the $\text{LMR}^{\text{LC-I}}$ measure. The coefficients of interest in Table 5, Column 3, remain statistically significant and show the expected signs. Second, we reassure that the aggregation of the four sub-indicators by an equally weighted average is a valid approach. In unreported results, we obtain the summary *LMR* index by conducting a factor analysis on the four sub-indicators to elicit the sub-indicators' weights according to their contribution to the overall variance in the data in a particular year. We re-run model (1) with the resulting summary index. The results remain quantitatively and qualitatively similar to our main findings.

Overall, we conclude that our findings are robust to alternative definitions of cash holdings and *LMR*.

Table 5.

Alternative measures of cash holdings and LMR

This table presents the results of OLS regression of an FFF-related differential effect of LMR on cash holdings using alternative definitions of cash holdings (Columns 1 and 2) and LMR (Column 3). $\ln(\text{CashToNetAssets})$ is the natural logarithm of one plus the ratio of CashToNetAssets. $\text{Cash}^{\text{Net of Debt}}$ is a ratio of the sum of cash and short-term investments net of long-term debt divided by the book value of total assets. $\text{LMR}^{\text{LC-I}}$ is a categorical variable that is based on only substantial changes in LMR (greater than 0.2 units) and is defined recursively, starting in 2007 and distinguishing between changes that increased (+1) and those that decreased (-1) employment protection. All other variables are defined in Table 12 of the main paper. All independent variables except LMR, FFF, and Other Ultimate Owner are lagged by one period. All regression specifications include firm fixed effects, industry-year fixed effects, and country specific year trends. The t-Statistics in parentheses are based on robust standard errors, clustered at the country level. *, **, *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

Dependent Variable	$\ln(\text{CashToNetAssets})$	$\text{Cash}^{\text{Net of Debt}}$	Cash
Variable of Interest	LMR		$\text{LMR}^{\text{LC-I}}$
	(1)	(2)	(3)
LMR	-0.007** (-2.73)	-0.008*** (-3.14)	-0.003** (-2.86)
LMR#FFF	0.012** (2.82)	0.007*** (3.38)	0.004*** (3.58)
FFF	-0.044*** (-5.46)	-0.032*** (-3.67)	0.004 (0.46)
Size _(t-1)	-0.034** (-2.81)	-0.040*** (-6.01)	-0.025*** (-3.67)
Growth _(t-1)	0.007*** (3.89)	0.003** (2.16)	0.004*** (3.44)
Leverage _(t-1)	-0.129*** (-9.04)	-0.491*** (-40.80)	-0.089*** (-11.63)
NWC _(t-1)	-0.080** (-2.43)	-0.127*** (-6.04)	-0.048** (-2.29)
Investments _(t-1)	-0.081*** (-2.96)	-0.097*** (-3.68)	-0.053*** (-3.07)
Dividends _(t-1)	0.007*** (2.94)	0.003 (1.21)	0.006*** (3.23)
Cash Flow _(t-1)	0.017 (0.73)	0.028** (2.71)	0.015 (1.11)
Cash Flow Volatility _(t-1)	0.016 (1.64)	0.005 (0.61)	0.009 (1.40)
Other Ultimate Owner	0.003 (0.40)	0.003 (0.62)	0.001 (0.28)
Inflation _(t-1)	-0.053 (-0.44)	0.012 (0.09)	-0.062 (-0.82)
GDP Growth _(t-1)	-0.047 (-0.75)	-0.173** (-2.23)	-0.041 (-1.18)
$\ln(\text{GDP p.c.})_{(t-1)}$	0.093** (2.27)	0.124** (2.47)	0.083*** (3.41)
Firm Fixed Effects	YES	YES	YES
Industry-Year Fixed Effects	YES	YES	YES
Country Specific Year Trend	YES	YES	YES
Clustered Standard Errors	Country-level	Country-level	Country-level
Observations	28,113	27,896	28,113
R ² _{adj}	0.049	0.173	0.058

References

- Bates, T. W., Kahle, K. M., & Stulz, R. M. (2009). Why Do U.S. Firms Hold So Much More Cash than They Used To? *The Journal of Finance*, 64, 1985-2021.
- Ellul, A., & Pagano, M. (2019). Corporate leverage and employees' rights in bankruptcy. *Journal of Financial Economics*, 133, 685-707.
- Faccio, M., & Xu, J. (2015). Taxes and Capital Structure. *Journal of Financial and Quantitative Analysis*, 50, 277-300.
- Faccio, M., & Xu, J. (2018). Taxes, Capital Structure Choices, and Equity Value. *Journal of Financial and Quantitative Analysis*, 53, 967-995.
- Fritz Foley, C., Hartzell, J. C., Titman, S., & Twite, G. (2007). Why do firms hold so much cash? A tax-based explanation. *Journal of Financial Economics*, 86, 579-607.
- Gao, H., Harford, J., & Li, K. (2013). Determinants of corporate cash policy: Insights from private firms. *Journal of Financial Economics*, 109, 623-639.
- Graham, J. R. (1999). Do Taxes Affect Corporate Financing Decisions? *Journal of Public Economics*, 73, 147-185.
- Harford, J., Mansi, S. A., & Maxwell, W. F. (2008). Corporate governance and firm cash holdings in the US. *Journal of Financial Economics*, 87, 535-555.
- Heider, F., & Ljungqvist, A. (2015). As certain as debt and taxes: Estimating the tax sensitivity of leverage from state tax changes. *Journal of Financial Economics*, 118, 684-712.
- Itzkowitz, J. (2013). Customers and cash: How relationships affect suppliers' cash holdings. *Journal of Corporate Finance*, 19, 159-180.
- Mackie-Mason, J. K. (1990). Do Taxes Affect Corporate Financing Decisions? *The Journal of Finance*, 45, 1471-1493.
- Opler, T., Pinkowitz, L., Stulz, R., & Williamson, R. (1999). The determinants and implications of corporate cash holdings. *Journal of Financial Economics*, 52, 3-46.
- Perotti, E. C., & Von Thadden, E. (2006). The Political Economy of Corporate Control and Labor Rents. *Journal of Political Economy*, 114, 145-175.
- Rossi, B., & Sekhposyan, T. (2017). Macroeconomic uncertainty indices for the Euro Area and its individual member countries. *Empirical Economics*, 53, 41-62.
- Serfling, M. (2016). Firing Costs and Capital Structure Decisions. *Journal of Finance*, 71, 2239-2286.
- Simintzi, E., Vig, V., & Volpin, P. (2015). Labor protection and leverage. *Review of Financial Studies*, 28, 561-591.