School of Economics Working Paper
2022-09

University of East Anglia

SCHOOL OF ECONOMICS

Credit Market Freedom and Corporate Decisions

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November 25, 2022

Abstract

Despite the extensive empirical evidence of a positive impact of economic freedom on economic growth, the influence of economic freedom and its components on a firm's level of cash, leverage and investment remains an unexplored issue in microeconomics and corporate finance research. In this study, we contribute towards filling this gap by examining whether Credit Market Freedom - an important component of the Economic Freedom Index – influences corporate decisions. In particular, we study whether and to what extent Credit Market Freedom affects a firm's target level of investment, cash holdings, and leverage. We observe the behavior of a large and heterogeneous sample of North American non-financial firms over the period 2000-2019. Our empirical results suggest that higher Credit Market Freedom is associated with a healthier corporate capital structure, higher financial flexibility, and a friendlier investment environment.

JEL: G10, G18, G30, G31

Keywords: Economic Freedom, Corporate Decisions, Capital Structure

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1. Introduction

Corporations operate under different levels of economic freedom, as characterized by the lack of rigidities in the labour market, independence in financial markets from government control, and by a legal structure that protects property rights and the freedom to enter and compete in product markets. This has driven some research about the importance of economic freedom at firm level. There is a body of research on the importance of economic freedom at the firm level. Research suggests that the greater the credit market freedom, i.e., the higher the degree of freedom of the financial institutions from various legal and financial restrictions in pursuing their business, the more efficiently they organize their operations in order to minimize costs (Claessens and Laeven, 2004; Homes, 2008; Chortareas et al. 2013; 2016; Gropper et al., 2015). Claessens and Laeven (2004) point out that greater economic freedom can improve banking profitability because banks tend to lend more as economic freedom increases competition across firms and hence the scope for bank lending. In line with this, Holmes et al. (2008) find that countries with higher levels of economic freedom generally have higher levels of real income which in turn leads to a higher demand for banking services. Chortareas et al. (2013; 2016) report evidence that banks operating in states that enjoy a higher degree of economic freedom are more cost efficient. Consistently, Gropper et al. (2015) find that US bank performance is positively related to state economic freedom as well as political connections. There is also evidence that economic freedom encourages opportunity entrepreneurship[4] (Angulo-Guerrero et al., 2017), reduces regulatory uncertainty and the likelihood of market crashes (Blau, 2017), as well as reduces analysts' forecast bias (Chieh-Tse Hou and Gao, 2021). In addition, it has been found that economic freedom increases bilateral (Xu, 2019) and foreign (Tag and Degirmen, 2022) direct investment, boosts profitability and banking stability (Asteriou et al., 2021), and enhances corporate innovations (Zhua and Steven, 2017).

Nevertheless, despite the evidence that economic environments that provide firms with greater freedom to invest can enhance the firms' equity value (Chen et al., 2015), international corporate finance research has had little to state about the implications of weak economic freedom for corporate investment decisions. The first aim of this study is to fill this gap by examining the effect of economic freedom on corporate investment.

On the other hand, in line with the evidence that greater economic freedom increases bank lending and demand for banking services (Claessens and Laeven, 2004; Holmes, 2008), a

[4]Creating a business in order to pursue an opportunity to earn more money.

firm's cash and leverage should be considered as being affected by the level of external financing: the comparison between the actual levels of cash holdings, leverage, and investment relative to their corresponding target levels should be informative about a firm's ability to finance its target level of investment and we expect this to be affected by the country's level of economic freedom. This is particularly true in countries with low credit market freedom, where financial markets tend to be more underdeveloped and the costs of external financing is higher (Qi et al., 2010; Ben-Nasr et al., 2012; Boubakri et al., 2014). Therefore, the second aim of our study is to examine the effect of credit market freedom on corporate target levels of cash and leverage.

While the Economic Freedom Index as computed by the Fraser Institute is the sum (averaged) of several components (see Table 1), we focus on "Regulation of credit market", which we simply call Credit Market Freedom (CMF hereafter). CMF is a variable that measures the independence of financial markets from government control. It includes the parameters of bank ownership, banking competition, extension of credit to private sector, and the presence of interest rate control. The value of this variable ranges from 0 to 10 with 10 indicating the most negligible government interference in the banking and financial sector.

-Insert Table 1-

We focus on the CMF counterpart of the Economic Freedom Index for a number of reasons. First, because, despite on average CMF is high, there is substantial heterogeneity in CMF across US states, as illustrated in Table 2. Second, previous empirical evidence suggests that CMF significantly affects the efficiency of the banking system which is an important driver of economic growth and development. Third, we expect that the efficiency of the banking system will translate in a major availability of liquidity for firms and therefore it will affect the firm level of cash, leverage, and investment. Finally, since the Economic Freedom Index is made up by a number of components which may have conflicting effects on the different corporate decisions, using the whole index in our empirical analysis may lead to misleading results, and also it may lead to lose the nuance that better explains the impact of each single component of the economic freedom, such as the CMF.

Our study contributes to the economic and finance literature because the relationship between economic freedom and the level of investment helps to explain the link between

economic freedom and a country's level of economic growth; extensive empirical research has found that economic freedom is positively correlated with economic growth[5] and the entry (exit) of new (existing) firms in (from) the market as a result of increased competition (Campbell et al., 2008). Nonetheless, the effect of economic freedom on corporate decisions has not yet been explored and remains an empirical question. The underlying idea is that, if low economic freedom is associated with a less stable economic environment and higher costs of external financing (Boubakri et al., 2013; Qi et al., 2010; Ben-Nasr et al., 2012), firms may reduce current investment and increase debt capacity as well as cash holdings for precautionary motives or for financing future profitable investment opportunities (Huang et al., 2015). Guedhami et al. (2017) find that when a country experiences a major deterioration in political freedom status, firms tend to pay out more past excess of cash, and the increase in payout is correlated with future investment cuts. Thus, we already know that weak political freedom is an important obstacle to corporate investment and in turn economic development. We investigate whether the effect of economic freedom on investment, cash and leverage decision is similar.

In addition, if higher economic freedom is associated with less economic, legal, and financial restrictions and better expected investment opportunities (Karabegovic et al., 2003), we expect it to affect the level of a firm's investment. Research suggests that CMF may increase the speed of adjustment of the firm investment to its target because CMF increases the cost efficiency and then the ability to rapidly reach the target capital investment (Chortareas et. al., 2013, 2016).

Moreover, CMF gives managers the freedom to adjust existing operations to the most favourable investment opportunities, by enhancing the investment response to the current or projected profitability (Chen at al., 2015). If this is true, we can expect a higher sensitivity of investment to the Tobin's q under greater economic freedom. Finally, economic freedom, by reducing the government interference in the banking and financial sector, it can facilitate the firm's access to external financing (Greenwood and Jovanovic, 1990). Therefore, we can expect firms to face a lower degree of financing constraints in more economically free environments.

In this study, therefore, we test all the predictions above while studying the influence of CMF on corporate financing and investment decisions. Using a large panel dataset of 41,712 firm-

[5] DeVanssay and Spindler, 1994; Gwartney et al., 1996; Alesina, 1998; De Haan and Siermann, 1998; Nelson and Singh, 1998; De Haan and Sturm 2000; Adkins et al., 2002; Karabegovic et al. 2003; Cole, 2003; Atukeren, 2005; Xu and Haizheng, 2008; Nystrom, 2008; Feldmann, 2009.

year observations from 50 US states over the period 2000-2019, we find that higher credit market freedom is associated with a friendlier corporate environment, characterized by more investment and less cash and leverage. Our empirical findings show that economic and political institutions are an important factor explaining cross-country differences in corporate policies.

The chapter is organized as follows: In Section 2 we present the data and the empirical methodology used in our analysis. In Section 3 we discuss our empirical results, while Section 4 presents some concluding remarks.

2. Data and Empirical Methodology

We use a large and representative sample of US public firms. We begin with the set of North American (US and Canada) Compustat public firms in existence over the period 2000-2019. Following the relevant finance literature, we exclude firms that have less than three years of full observations. In addition, we eliminate financial firms (SIC Codes 6020-6799) and regulated utilities (SIC Codes 4011-4991) to get a sample of firms well diversified across industries. Our final unbalanced sample contains 8,903 firms of different size and age and 41,712 firm-year observations.

As it is customary in corporate finance studies, firm-year observations were deleted if the value for either total assets or investment was zero or missing. All variables are inflation-adjusted to year 2019. Most of our independent variables at firm-level are normalized by the firm's total asset in order to control for firm's size: Firm's Investment (measured by capital expenditures), Cash Flow (defined as earnings before extraordinary items and depreciation), Profitability (measured by earnings before interest payments and taxes), Cash holdings (measured by the Cash item in Compustat), Leverage (defined as the sum of long- and short-term debt), Liquidity (measured as current assets minus current liabilities and cash), are all divided by total assets. Furthermore, market-to-book ratio is calculated as book value of assets minus book value of common equity minus deferred taxes plus market value of equity, all divided by total assets, Tangibility is measured as inflation-adjusted net fixed assets, Dividends (as total annual dividend payments) are divided by inflation adjusted total assets, and Size is defined as the log of inflation adjusted total assets. All relevant variables are winsorized to the 1st and 99th percentile to control for outliers due to possible data entry mistakes.

Data on Economic Freedom (EF hereafter) are collected from the Economic Freedom of

North America 2021 Annual Report, provided by the Fraser Institute. This is the only comprehensive EF dataset that provides ratings by state. More specifically, the Economic Freedom of North America Index rates EF on a 10-point scale (with 0 standing for no EF and 10 for the maximum EF) at all-government level. The index captures the impact of restrictions on EF posed at all levels of government (federal, state/provincial, and municipal/local). Data are collected at the state level in the United States and Canada for six different areas, namely: Government Spending, Taxes, Regulation, Legal System, Sound Money, and Freedom to Trade Internationally. The EF index is a weighted average of all area components which are described in detail in Table 1.

We estimate the target level of investment by using the standard Q model of investment (Tobin, 1969; Hayashi, 1982),

$$(Eq.1) \quad I_{it} = \beta_0 + \beta_1 Q_{it} + \eta_i + \eta_t + \varepsilon_{it},$$

where η_i and η_t represent firm-specific and time effects, respectively. The firm-specific effect, η_i gauges all unobservable and time-invariant factors influencing firm investment and varying across firms. η_t are all unobservable factors that vary over time and are common to all firms; it captures the impact on investment of all factors which are beyond a firms' control, such as variation in the exchange and/or interest rates. $\varepsilon_{it.}$ is the iid error term.

There is evidence that in countries with low political freedom, financial markets tend to be underdeveloped and the costs of external financing are high (Qi et al., 2010; Ben-Nasr et al., 2012; Boubakri et al., 2014). Since cash is the most efficient source of firm financing, firms may stockpile more cash that their optimal level in order to finance future investment opportunities or meet the precautionary demand for cash (Huang et al., 2015). Studying the behavior of cash holdings under different regimes of economic freedom would give information about the firm's long-term investment. Therefore, we estimate the target levels of cash holdings and leverage using the Opler et al. (1999) model of cash holdings (Eq. 2) and the Rajan and Zingales (1995) model for leverage (Eq. 3), respectively, as follows:

$$(Eq.2)\ CASH_i = \beta_0 CASH_{it-1} + \beta_1 Cash\ FLOW_i + \beta_2 LIQ_i + \beta_3 LEV_i + \beta_4 CAPEX_i + \beta_5 MTB_i + \beta_6 SIZE_i + \eta_i + \eta_t + \varepsilon_{it},$$

where CASH stands for the ratio of holdings of cash and cash equivalents to total assets; CFLOW is the ratio of pre-tax profits plus depreciation to total assets; LIQ is the ratio of current assets minus current liabilities and total cash to total assets; LEV is the ratio of total debt to total assets; CAPEX stands for the ratio of capital expenditures to total assets; MTB is the market-to-book value, i.e., the ratio of book value of total assets minus the book value of equity plus the market value of equity to book value of assets; and SIZE is the logarithm of total assets in constant prices.

The leverage model by Rajan and Zingales (1995) is specified as follows:

$$(Eq.3)\ LEV_i = \pi_0 LEV_{it-1} + \pi_1 FIXAST_i + \pi_2 MTB_i + \pi_3 CASH_i + \pi_4 PROFIT_i + \pi_5 SIZE_i + \eta_i + \eta_t + \varepsilon_{it},$$

where NFA denotes the ratio of tangible assets to total assets and PROFIT denotes the ratio of earnings before interest payments and tax to total assets. To test the hypothesis that CMF affects the target level of investment, cash, and leverage, we add into Equations (1), (2) and (3)'s models the CMF to the set of regressors. Empirical results are discussed in the following section.

3. Empirical results

In this section we present some descriptive statistics, and we discuss the results of our regression analysis. Table 2 reports the mean value of the Economic Freedom index (EFI) and most of its constituent components: Credit market freedom (CMF), Sound money (SM), Efficacy of Legal System (ELS), Freedom to Trade Internationally (FTI) and Labour Market Freedom (LMF). Means are calculated for the 59 States in the US and Canada over the 2000-2019 period. The average level of CMF over the 59 States and the period 2000-2019 is 9.05. CMF and SM are the component counterparts of the EFI with the highest mean score (9.05 and 9.66, respectively). The lower Panel reports the total variance of the EFI and its components, calculated over the 2000-2019 period.

Notice that among all economic freedom components, CMF records the highest variance (0.34), that is, it is the most heterogeneous across states and years.

-Insert Table 2-

Table 3 reports the descriptive statistics for the main variables used in our empirical analysis. It is worth pointing out that for these medium-large firms of our sample cash and leverage account for a relevant proportion of their total asset (0.1459 and 0.2655, respectively). While this may not be surprising, as in general medium-large firms are more capable of getting funding, the levels of cash and leverage may be substantially impacted by the level of a state's CMF.

-Insert Table 3-

Table 4 reports the correlations among CMF and the main financial variables used in our analysis. Correlations are in line with our expectations. CMF is negatively and significantly correlated with cash and leverage. These correlations suggest that the exposure to a greater level of CMF may reduce the level of cash that firms need to stockpile for precautionary, speculative or financing constraints motives. At the same time, it suggests that greater CMF can reduce the level of debt that a firm needs to finance its first best level of investment. The non-significant correlation with the level of investment might also suggest that the exposure to a different level of CMF does not necessarily affect the level of investment because firms operating in an environment which facilitates the access to sound money may want to use the reserves of cash to repay the debt rather than to invest more. However, since correlation analysis does not test neither determination nor causation, only our regression analysis will be able to determine whether and in what direction CMF affects the target level of corporate investment, cash, and leverage.

-Insert Table 4-

Nevertheless, before we proceed to our regression analysis, it is worth investigating

whether the level of investment, cash and leverage are statistically significantly different between regimes of high and low CMF. In this study, a regime of high CMF is a state characterized by a level of CMF equal to or higher than its median value. Contrarily, a regime of low CMF is a state where CMF is lower than the median. Table 5 displays the results from the test (with unequal variances) for differences in mean of investment, cash, and leverage, between regimes of low and high economic freedom, respectively. All the differences found are significant at 1% level. Notice that companies located in states with low CMF invest less than those located in states with high CMF (0.041 vs 0.045) consistently with previous studies (Azman-Saini et al., 2010; Chen et al., 2015; Angulo-Guerrero et al., 2017; Xu, 2019). More importantly they stockpile more cash (0.163 vs 0.131) and have a higher level of debt (0.286 vs 0.247). These results are in line with Guedhami et al. (2017) reporting that, when a country experiences a major deterioration in political freedom status, firms tend to cut investment. However, contrary to Guedhami et al. (2017) these firms do not increase payouts, but rather they retain more earnings as cash stocks.

-Insert Table 5-

All estimation results are reported in Tables 6 to 8. In estimating the models of Investment, Cash, and Leverage, we use the Within Group estimator (hereafter *WG*) by omitting the lagged dependent variable. While the WG estimator takes into consideration both firm and time fixed effects, the estimator is based on the assumption that the explanatory variables used in the regression are exogenous determinants of investment. Because causality may run in both directions, the regressors may be correlated with the error term (in other words, there might be an endogeneity issue). Therefore, we switch to the bias-corrected method of moments (BCMM herefater) estimator by Breitung et al. (2021). This estimator has several advantages: first, it directly corrects the dynamic panel data bias (Nickell bias) of the conventional fixed-effects (FE) estimator. Second, with this procedure, a formula of the asymptotic variance-covariance matrix for the calculation of standard errors is readily available, unlike the bias-corrected estimator by Kiviet (1995). Yet another advantage is that the BCMM estimator can accommodate higher-order lags of the dependent variable.

Table 6 reports the regression results of the estimated investment model (Eq. 1) by using an unbalanced panel of 41,712 firm-year observations over the period 2000-2019. More specifically,

Column 1 reports the estimated coefficients of the investment model (Eq. 1) by means of the Within Group Estimator, by omitting the lagged dependent variable to avoid the Nickell bias of the conventional fixed-effects estimator. Column 2 displays the Within Group estimated coefficients of the investment model when we add the CMF to the set of regressors. Finally, Column 3 reports the estimated coefficients of the augmented investment model by using the Bias-Corrected Method of Moments Estimator (Breitung et al., 2021). In line with the theory, the estimated coefficient of the MTB is positive and statistically significant under all three estimated models. Moreover, its value is quite consistent across all estimations. Importantly, the WG regression results of the augmented model show that CMF positively and significantly affects the target level of corporate investment. This means that CMF moves up the target level of investment by improving the firms' financial health and their ability to undertake more profitable projects. Consistent with this view, when we use the BCMM estimator (Column 3), all WG results hold: MTB and CMF positively affect investment, but the coefficient of CFM is much higher, which signals that regression (2) was underestimating its impact. This outcome supports the view that the presence of CMF increases the responsiveness of a firm's investment to an increase in profitable investment opportunities, captured by the MTB ratio.

-Insert Table 6-

Table 7 reports the regression results of the estimated Cash model (Eq. 2) by using an unbalanced panel of 41,712 firm-year observations over the period 2000-2019. As above, Column 1 reports the estimated coefficients of the Cash model (Eq. 2) by means of the Within Group Estimator, by omitting the lagged dependent variable to avoid the Nickell bias of the conventional fixed-effects estimator. Column 2 displays the Within Group estimated coefficients of the model when we add the CMF to the set of regressors. Finally, Column 3 reports the estimated coefficients of the augmented cash model by using the Bias-Corrected Method of Moments Estimator by Breitung et al. (2021). Results in Column 1 show that all estimated coefficients are statistically significant and with the sign as predicted by the theoretical model of cash of Opler et al. (1999). The fixed effect estimated coefficients of the augmented model (Column 2) show that CMF does not affect the sign, the magnitude, and the statistical significance of any of the model's parameters. Moreover, CMF negatively and significantly affects the target level of Cash holdings (-0.0819). This result suggests that greater CMF, by creating a friendlier

financial environment, does reduce the need of stockpiling cash stock for speculative or precautionary motives, therefore reducing a firm's target level of cash. Albeit small in size, the negative effect of CMF on target cash holdings holds when we use a BCMM estimator (Column 3).

-Insert Table 7-

Finally, Table 8 reports the estimation results of the Leverage Model in Eq. (3). We display in Column (1) the estimation of the baseline leverage model by using a WG estimator (Rajan and Zinglaes, 1995). Column 2 reports the Within Group estimated coefficients of the leverage model when we add the CMF to the set of regressors. Finally, Column 3 displays the estimated coefficients of the augmented leverage model by using the Bias-Corrected Method of Moments Estimator by Breitunget al. (2021).

Estimation results of the target model of leverage (Column 1) show that all estimated coefficients are statistically significant and with the sign as predicted by Rajan and Zingales (1995). The within fixed effect estimated coefficients of the augmented model (Column 2) show that CMF does not affect the sign, the magnitude, and the statistical significance of all model parameters. Moreover, CMF negatively and significantly affects the target level of Leverage (-0.3497). This result confirms that greater CMF, by creating a friendlier financial environment, does reduce the need of raising debt in the financial market, by therefore reducing a firm's target level of debt. The negative effect of CMF on the target level of leverage holds when we use a BCMM estimator (Column 3).

-Insert Table 8-

Overall, our findings suggest that CMF improves a firm's financial health: firms operating in States that experience a higher level of CMF do invest more and have lower target levels of cash and leverage. They seem to have less need to accumulate cash and raise debt to guarantee financial flexibility. This is in line with previous empirical evidence that economic freedom encourages investment opportunities, reduces regulatory uncertainty, increases direct investment, boosts profitability, and enhances corporate innovations (Angulo-Guerrero et al. 2017; Blau, 2017;

Chieh-Tse Hou and Gao, 2021; Asteriou et al., 2021; Tag and Degirmen, 2022).

4. Conclusions

In this study, we used a large and heterogeneous sample of North American non-financial firms over the period 2000-2019, to investigate whether Credit Market Freedom (CMF) affects a firm's target level of investment, cash, and leverage. Our empirical results suggest that a firm's exposure to a higher level of credit market freedom increases its target level of investment and decreases its target level of cash and leverage. These findings support the view that greater CMF leads to healthier capital structure, to higher financial flexibility and to a friendlier investment environment. Our empirical findings also support that economic and political institutions are an important factor explaining cross-country differences in corporate policies.

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Table 1

Components of the Economic Freedom of North America Index

1. Government Spending

1A. General Consumption Expenditures by Government as a Percentage of Income

1B. Transfers and Subsidies as a Percentage of Income

1C: Insurance and Retirement Payments as a Percentage of Income

1D: Government Enterprises and Investment

2. Taxation

2A. Income and Payroll Tax Revenue as a Percentage of Income

2Bi. Top Marginal Income Tax Rate and the Income Threshold at Which It Applies

2Bii. Top Marginal Income and Payroll Tax Rate

2C. Property Tax and Other Taxes as a Percentage of Income

2D. Sales Taxes as a Percentage of Income

3. Regulation

3A. Labor Market Freedom

3Ai. Full-time Minimum Wage Income as a Percentage of Per Capita Income

3Aii. Government Employment as a Percentage of Total State/Provincial Employment

3Aiii. Union Density

3Aiv. Hiring regulations and minimum wag

3B. Regulation of Credit Markets (CMF)

3C. Business Regulations

4. Legal System and Property Rights (ELS)

5. Sound Money (SM)

6. Freedom to Trade Internationally (FTI)

Table 2
Economic Freedom Components by State

State	(1) EFI	(2) CMF	(3) SM	(4) ELS	(5) FTI
AL	8.18	9.06	9.66	7.88	8.16
AR	8.04	9.04	9.66	7.87	8.14
AZ	8.16	9.04	9.66	7.86	8.13
CA	8.04	9.05	9.66	7.85	8.11
CO	8.14	9.03	9.65	7.82	8.08
CT	8.09	9.03	9.65	7.85	8.12
DE	7.99	9.06	9.66	7.89	8.16
FL	8.24	9.07	9.66	7.87	8.13
GA	8.18	9.04	9.66	7.86	8.14
HI	8.03	9.03	9.66	7.88	8.16
IA	8.16	9.07	9.66	7.89	8.16
ID	8.16	9.03	9.65	7.85	8.12
IL	8.06	9.04	9.66	7.85	8.12
IN	8.17	9.04	9.65	7.85	8.12
KS	8.15	9.05	9.66	7.85	8.12
KY	8.02	9.02	9.66	7.82	8.08
LA	8.06	9.02	9.65	7.84	8.11
MA	8.08	9.08	9.67	7.85	8.10
MD	8.12	9.07	9.67	7.85	8.10
ME	8.10	9.04	9.66	7.84	8.11
MI	8.10	9.05	9.66	7.87	8.14
MN	7.99	9.05	9.66	7.87	8.14
MO	8.13	9.09	9.67	7.89	8.17
MS	8.08	9.02	9.65	7.89	8.17
MT	8.14	9.10	9.66	7.83	8.08
NC	8.18	9.07	9.67	7.88	8.14
ND	8.10	8.99	9.64	7.80	8.05
NE	8.17	9.06	9.66	7.87	8.14
NH	8.33	9.05	9.66	7.89	8.17
NJ	8.04	9.06	9.66	7.86	8.13
NM	8.05	9.05	9.65	7.87	8.15
NV	8.21	9.05	9.65	7.85	8.12
NY	7.92	9.06	9.66	7.87	8.14
OH	7.99	9.05	9.66	7.88	8.14
OK	8.15	9.04	9.66	7.85	8.12
OR	8.08	9.06	9.66	7.89	8.16
PA	8.10	9.06	9.66	7.86	8.13
RI	7.95	9.02	9.65	7.85	8.12
SC	8.17	9.05	9.66	7.85	8.11
SD	8.22	9.03	9.65	7.88	8.15
TN	8.19	9.06	9.66	7.86	8.12
TX	8.17	9.04	9.66	7.85	8.11
UT	8.19	9.06	9.66	7.84	8.10
VA	8.19	9.05	9.66	7.87	8.15
VT	8.10	9.07	9.66	7.90	8.18
WA	8.12	9.05	9.65	7.86	8.12
WI	8.10	9.06	9.66	7.89	8.16
WV	8.01	8.92	9.62	7.78	8.03
WY	8.11	8.95	9.61	7.87	8.17
Mean	8.10	9.05	9.66	7.86	8.12
Variance	0.04	0.34	0.03	0.11	0.12

Table 2 reports the Mean value of the Economic Freedom Index and some Economic Freedom components by State. Means are calculated for 59 States (State/Province)

over the 2000-2019 period. In the lower panel it also reports the total variance over the entire period.

Table 3

Descriptive Statistics: All sample

Variable	Obs	Mean	Std. Dev.	Min	Max
Investment	41,712	0.043	0.055	0.000	0.335
Cash	41,712	0.146	0.185	0.000	0.834
Leverage	41,712	0.266	0.418	0.000	2.798
Cash flow	41,712	-0.273	1.720	-21.770	0.338
Liquidity	41,712	0.123	0.674	-4.576	1.103
NFA	41,689	0.264	0.252	0.000	2.228
MTB	41,712	3.847	16.953	0.398	278.790
Profitability	41,712	-0.358	6.188	-741.067	2.628
Size	41,712	5.846	2.704	-0.987	11.737

Table 3 shows the descriptive statistics of the sample of this study.

Table 4

Correlations

	CMF	Invest	Cash	Leverage	Cash Flow	Liquidity	NFA	MTB	Profitability	Size
CMF	1									
Investment	0.004	1								
Cash	-0.057*	-0.147*	1							
Leverage	-0.015*	0.107*	-0.090*	1						
Cash Flow	0.007	-0.105*	-0.126*	-0.461*	1					
Liquidity	-0.001	-0.154*	0.095*	-0.636*	0.595*	1				
NFA	0.006	0.575*	-0.340*	0.114*	0.047*	-0.128*	1			
MTB	-0.021*	0.128*	0.112*	0.345*	-0.663*	-0.452*	-0.033*	1		
Profitability	0.008	-0.093*	-0.047*	-0.205*	0.480*	0.262*	0.010	-0.445*	1	
Size	-0.012	0.040*	-0.297*	-0.155*	0.382*	0.260*	0.243*	-0.283*	0.145*	1

Table 4 reports the correlations across all variables used in our analysis. *** p<0.01, ** p<0.05, * p<0.1

Table 5

Corporate Decisions under Credit Market Freedom Regimes

	Observations Low CMF	Observations High CMF	Mean Low CMF	Mean High CMF	Difference	t-value	p-value
Investment	20,172	21,540	0.041	0.045	-0.004	-6.600	0.000
Cash Holdings	20,172	21,540	0.163	0.131	0.033	17.900	0.000
Leverage	20,172	21,540	0.286	0.247	0.039	9.600	0.000

Table 5 presents the Mean and the two-sample t test (with unequal variances) for difference in mean of the main Target variables used in our analysis, between the regimes of high and low CMF. A regime of high CMF is characterized by a level of CMF equal to or higher than its median. While a regime of low CMF is characterized by a level of EF lower than its median. ***, **, and * indicate that the null hypothesis of equality of means is rejected at the 1%, 5%, and 10% confidence level, respectively.

Table 6

Credit Market Freedom and Corporate Investment

Dependent Variable: Investment	WG	WG	BCMM
	(1)	(2)	(3)
MTB	0.0004***	0.0004***	0.0005***
	(0.0000)	(0.0000)	(0.0002)
CFM		0.0078***	0.0551***
		(0.0017)	(0.0117)
Firm FE	Yes	Yes	Yes
Time FE	Yes	Yes	Yes
Cred Mark Freedom	No	Yes	Yes
Dynamic Panel	No	No	Yes
R^2	0.0269	0.0269	
Obs.	41,712	41,712	30,266

In Table 6 we report the estimated coefficients of the investment model by using CMF and an unbalanced panel of 41,712 firm-year observations over the period 2000-2019. Column 1 reports the estimated coefficients of the baseline target model of investment by means of a Within Group Estimator. Column 2 reports the Within Group estimated coefficients of the investment model when we add the CMF to the set of regressors. Finally, Column 3 displays the estimated coefficients of the augmented investment model by using the Bias-Corrected Method of Moments Estimator by Breitung, Kripfganz, and Hayakawa (2021). ***, **, * stand for statistical significance at 1%, 5%, 10% confidence level, respectively. Standard errors, robust to heteroskedasticity, are reported in parentheses.

Table 7

Credit Market Freedom and Corporate Cash Holdings

Dependent Variable: Cash Holdings	WG	WG	BCMM
	(1)	(2)	(3)
Cash Flow	0.0025*	0.0025*	0.0108***
	(0.0013)	(0.0013)	(0.0032)
Liquidity	0.0075**	0.0075**	-0.0746***
	(0.0037)	(0.0037)	(0.0084)
Investment	-0.2166***	-0.2166***	-0.2762***
	(0.0230)	(0.0230)	(0.0225)
Leverage	-0.0466***	-0.0466***	-0.0454***
	(0.0056)	(0.0056)	(0.0066)
MTB	0.0008***	0.0008***	0.0002
	(0.0001)	(0.0001)	(0.0003)
Size	-0.0217***	-0.0217***	-0.0079***
	(0.0021)	(0.0021)	(0.0016)
CFM		-0.0819***	-0.0231***
		(0.0065)	(0.0038)
Firm FE	Yes	Yes	Yes
Time FE	Yes	Yes	Yes
Cred Mark Fr	No	Yes	Yes
Dynamic Panel	No	No	Yes
R^2	0.0492	0.0492	
Obs.	41,712	41,712	30,266

In Table 7 we report the estimated coefficients of the cash model by using CMF and an unbalanced panel of 41,712 firm-year observations over the period 2000-2019. Column 1 reports the estimated coefficients of the baseline target model of cash by means of a Within Group Estimator. Column 2 reports the Within Group estimated coefficients of the cash model when we add the CMF to the set of regressors. Finally, Column 3 displays the estimated coefficients of the augmented cash model by using the Bias-Corrected Method of Moments Estimator by Breitung, Kripfganz, and Hayakawa (2021). ***, **, * stand for statistical significance at 1%, 5%, 10% confidence level, respectively. Standard errors, robust to heteroskedasticity, are reported in parentheses.

Table 8

Credit Market Freedom and Corporate Leverage

Dependent Variable: Leverage	WG	WG	BCMM
	(1)	(2)	(3)
NFA	0.2544***	0.2544***	0.1813***
	(0.0379)	(0.0379)	(0.0287)
MTB	0.0046***	0.0046***	0.0011
	(0.0005)	(0.0005)	(0.0013)
Cash	-0.2533***	-0.2533***	-0.0739***
	(0.0279)	(0.0279)	(0.0205)
Profitability	-0.0035**	-0.0035**	-0.0486***
	(0.0018)	(0.0018)	(0.0110)
Size	-0.0861***	-0.0861***	-0.0058
	(0.0073)	(0.0073)	(0.0047)
CFM		-0.3497***	-0.4150***
		(0.0161)	(0.0973)
Firm FE	Yes	Yes	Yes
Time FE	Yes	Yes	Yes
Cred Mark Fr	No	Yes	Yes
Dynamic Panel	No	No	Yes
R^2	0.142	0.142	
Obs.	41,689	41,689	30,237

In Table 8 we report the estimated coefficients of the Leverage model by using CMF and an unbalanced panel of 41,712 firm-year observations over the period 2000-2019. Column 1 reports the estimated coefficients of the baseline target model of leverage by means of a Within Group Estimator. Column 2 reports the Within Group estimated coefficients of the leverage model when we add the CMF to the set of regressors. Finally, Column 3 displays the estimated coefficients of the augmented leverage model by using the Bias-Corrected Method of Moments Estimator by Breitung, Kripfganz, and Hayakawa (2021). ***, **, * stand for statistical significance at 1%, 5%, 10% confidence level, respectively. Standard errors, robust to heteroskedasticity, are reported in parentheses.