INSTITUTIONAL INVESTORS AND CORPORATE RISK AT THE ORIGIN OF THE INTERNATIONAL FINANCIAL CRISIS

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Abstract

The 2007 financial crisis served as a stark reminder of the vulnerability in the relationship between institutions and companies, as it revealed that many companies collapsed despite government interventions. Two crucial factors that influenced the crisis's impact on firms were the level of creditor rights protection and corporate risk management. In this study, our aim was to investigate the impact of investment funds and banks on corporate risk prior to the 2007 financial crisis. We conducted an analysis across 21 countries to examine how institutional factors determined the influence of mutual funds and banks on corporate risk, ultimately leading to critical levels of collapse and the global spread of the financial crisis to the real economy. Additionally, we explored the role of mutual funds and banks as reference shareholders. The findings of our study reveal that the process of financial deregulation preceding the 2007 financial crisis contributed to an increase in corporate risk. In other words, financial deregulation facilitated greater involvement of institutional investors in companies, thereby encouraging the adoption of excessively risky and speculative strategies that were not necessarily aligned with the long-term sustainability of firms.

Keywords: Corporate Risk, Investment Funds, Banks

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1. INTRODUCTION

The financial crisis of 2007 had extensive repercussions that transcended economic and political domains. It led to the bankruptcy of numerous companies, with some managing to endure thanks to government aid. The insolvency of these firms had a deep-seated influence on worldwide credit markets, causing a halt in lending and financial operations. Governments stepped in to reinvigorate these markets and facilitate the recovery of the affected companies.

However, as companies emerged from this crisis, the effects were varied. While some were not severely impacted, others suffered significant damage to their financial and organizational structure. This was due to two essential factors:

- the protection of creditor's rights for the companies was defined according to the legislation of each respective country;
- the inefficient management of corporate risk undertaken by shareholders in the face of the crisis.

Both factors were crucial in measuring the impact of the crisis on organizations (Berger et al., 2013).

The implementation of restrictions on financial transactions and derivatives aimed to bolster solvency and foster stability in the international financial market for corporations. However, these measures have predominantly impacted institutional investors, positioning them as the primary players in today's capital markets (Revelli & Viviani, 2015; Beyer et al., 2014; Hutchinson et al., 2015; An et al., 2016). This shift is corroborated by various studies, given that most companies count institutional investors among their shareholders. In 2007, the ownership of shares by institutional investors held significant sway in several countries. To illustrate, institutional investors held 38% of shares in British companies, 31% in French companies, 28% in German companies, and 58% in American companies (McCahery et al., 2016). This data underscores the substantial presence of institutional investors as pivotal participants in investment endeavors, assuming critical roles in both participation and financing activities.

The level of participation and influence in project risk decision-making within companies can vary depending on the roles institutional investors assume (Walls et al., 2012). Furthermore, a firm's resource allocation can be influenced by different financial systems and cultural ideologies (Bobillo et al., 2011). For example, investment funds often adopt an active shareholder approach, encouraging managers to pursue riskier investment projects to maximize short-term profits. Conversely, other investors such as banks and insurance companies may hold distinct interests in companies, resulting in a more passive role. These investors may exhibit heightened sensitivity to corporate risk due to its potential impact on their business or financial objectives (Al-Malkawi & Pillai, 2018; Balachandran & Faff, 2015). As a result, their passive approach may prioritize the pursuit of private benefits overexerting pressure on project managers or organizations to assume higher levels of corporate risk while safeguarding their interests.

The financial crisis triggered a notable transformation in the prevailing consensus concerning the efficacy of conventional banking regulation, which primarily concentrated on safeguarding the solvency of individual institutions. The crisis laid bare the inherent deficiencies in this approach and called into question the idea that the banking system could autonomously "self-regulate" due to the prevailing lack of trust among financial institutions. The previous system operated under the premise that risk-based regulation was sufficient to gauge the overall well-being of banks, but it became increasingly evident that this assumption was flawed. As losses escalated, it became clear that the potential for losses had been significantly underestimated (Bezo & Dibra, 2003).

Indeed, during the financial crisis and the era of financial deregulation, the theoretical foundations of banking regulation faced significant challenges. As expected, investment funds, acting in their active shareholder capacity, frequently incentivized managers to make choices characterized by excessive risk-taking (Berger et al., 2016). This scenario resulted in a pronounced conflict of interest within the companies in which these funds held positions. The pursuit of immediate profits and the drive to maximize returns for their investors often came at the expense of the long-term stability and sustainability of the affected companies.

Moreover, during the financial crisis, there was a significant shift in the conduct of banks, which had traditionally maintained a passive stance as shareholders and creditors in companies. Banks transitioned into more assertive investors, taking on higher levels of risk (de Haan & Vlahu, 2016). This active approach adopted by banks as shareholders was driven by a decline in their net interest income and the ramifications of financial deregulation, which facilitated their embrace of more speculative positions in various companies. Consequently, institutional investors, including banks, assumed a pivotal role in transmitting the crisis to the real and corporate sectors, owing to their escalating influence and the distinctive characteristics of their investments (Berger et al., 2016; Manconi et al., 2012).

Based on this argument, our study aims to examine the influence of institutional investors on excessive risk-taking by companies. We utilize a sample of 1,015 firms from 21 Organisation for Economic Co-operation and Development (OECD) countries to analyze how the deregulation process implemented in the years preceding the 2007 financial crisis affected the behavior of institutional investors in non-financial firms. Our findings indicate that institutional investors heightened levels of corporate risk, particularly in situations where creditor rights were not adequately protected.

This paper makes two substantial contributions to the extant literature. Firstly, it furnishes empirical evidence regarding the influence of financial deregulation on the conduct of institutional investors, thereby enriching our comprehension of their role. The recent wave of deregulatory initiatives has spawned a host of agency-related challenges, as institutional investors have leveraged their augmented shareholder influence to prioritize greater returns, ultimately amplifying the risk profiles of companies. Within an unfavorable macroeconomic climate, this phenomenon has culminated in bankruptcies and inflicted considerable damage upon firms, both in terms of their valuation and their capacity to generate employment.

The adverse repercussions of financial deregulation are particularly pronounced in countries where companies boast substantial involvement from financial institutions or insurance companies as shareholders. In such scenarios, banks have adopted a speculative stance, departing from their conventional role as creditors and, in many instances, failing in their duties as shareholders. This shift, coupled with their comparatively lower level of financial expertise, especially when dealing with intricate financial products, has led to a more pronounced impact on the companies in which these banks hold stakes[1].

The paper develops a review of literature related to financial deregulation, creditor rights, and corporate risk, which gives rise to hypotheses related to whether the level of financial freedom in a country has a positive effect on corporate risk and whether the protection of creditor rights provided by the legal framework is negatively related to corporate risk.

[1] Banks in countries with an Anglo-Saxon legal tradition traditionally have an irrelevant weight; moreover, financial deregulation favored investment funds, which are responsible for most of the excessively risky decisions.

Likewise, it reviews the theory related to institutional investors and corporate risk, which gives rise to the third hypothesis related to whether the percentage of ownership by active institutional investors increases corporate risk.

A non-linear relationship is expected between the level of bank ownership and corporate risk: positive for low levels of ownership and negative for high levels.

The methodology used considers a sample under analysis that is made up of 1,015 companies from 21 OECD countries for the period 2001–2008, with a total of 7,981 observations.

Finally, the conclusions of this study show the influence of investment funds and banks on corporate risk before the 2007 financial crisis.

Therefore, the remaining structure of this paper is as follows. Section 2 reviews the relevant literature. Section 3 provides the methodology used for conducting the research. Section 4 presents the results and discussion of the findings. Finally, Section 5 concludes the paper.

2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

2.1. Financial deregulation, creditors' rights and corporate risk

Before the 2007 financial crisis, many Western countries embarked on a journey of financial deregulation. This involved a gradual liberalization of international capital flows and the integration of financial markets (Diez-Esteban, 2014). As a part of this transformative process, limitations on the convergence of activities and financial innovations were lifted, and comprehensive reforms were enacted in securities and derivatives markets.

Previous research has shown that firms tend to take on higher levels of risk during periods of financial deregulation (Srivastav & Hagendorff, 2016; Barry et al., 2011).

Undoubtedly, the creation of value stands as a paramount financial objective for companies. This pursuit not only grants them a competitive advantage but also paves the way for achieving superior returns (Balachandran & Faff, 2015). Frequently, companies are confronted with strategic choices that entail assuming elevated levels of risk. These choices are driven by the desire to seize opportunities that can augment their value proposition and cultivate competitive advantages (He & Tian, 2018). However, when adjusting for fluctuating demand and employing a refined set of fixed effects, no conclusive evidence emerges regarding insurers' ability to maintain company capitalization levels in line with market demands (Degryse, 2019, as cited in Kim et al., 2022).

On the other hand, there is debate about the reasons and mechanisms behind the international spread of financial crises (Jiang et al., 2020). One set of theories focuses on economic interdependence, where interconnected economic fundamentals such as trade and financial linkages between countries can create avenues for transmitting a crisis across borders, and studies show that countries with weak economic fundamentals are prone to this contagion (Kaminsky & Schmukler, 1999). Information asymmetries can cause uncertainty about a country's economic fundamentals and can draw the attention of international investors to reassess risks in other countries, leading to market co-movement (Goldstein, 1998).

The early 21st-century financial deregulation did foster an environment encouraging companies to embrace riskier strategies for value enhancement. However, it is essential to recognize that deregulation alone cannot be solely attributed as the root cause of the subsequent financial crisis. Another significant factor was the 2000 stock market crash, notably affecting technology companies and triggering a global economic slowdown. In response, major central banks implemented expansionary monetary policies, leading to a prolonged reduction in interest rates that directly impacted banks' core operations by reducing interest margins (Berggrun et al., 2023). This, in turn, incentivized financial institutions to innovate and introduce new products to boost profits, amplifying their influence over companies' financial structures.

To analyze the impact of financial deregulation on businesses, the Financial Freedom Index (FFI) provided by the Heritage Foundation can be used as a useful metric. This index serves as a measure of banking efficiency and the degree of independence from government control and interference in the financial sector. When banks and other financial institutions, such as insurance companies and capital markets, are owned by the state, it generally reduces competition and limits the availability of services. In an ideal banking and financial environment with minimal government interference, the central bank's role primarily revolves around supervising and regulating financial institutions to ensure compliance with contractual obligations and prevent fraud. In such an environment, credit allocation is primarily driven by market conditions, and there is no public ownership of financial institutions. Financial institutions offer a wide range of services to individuals and businesses, including credit extension, deposit acceptance, and foreign exchange transactions. Foreign financial institutions can operate without barriers and receive the same treatment as local financial institutions.

By examining the FFI, researchers can assess the level of financial deregulation and its potential impact on businesses, competition, and the overall efficiency of the financial sector. This analysis provides insights into the extent of government intervention and its implications for market dynamics and the availability of financial services. Thus, deregulation created new opportunities for growth, and the explosion of debt securitization encouraged firms to take on higher levels of pre-crisis risk (Berger et al., 2016). Despite the fact that managers tend to seek a lower level of risk than shareholders[2]. Deregulation created incentives for certain shareholders, such as institutional investors, to pressure executives to invest in riskier activities (de Haan & Vlahu, 2016).

Therefore, we formulate our first hypothesis as follows:

H1: The level of financial freedom in a country has a positive effect on corporate risk.

[2] Managers tend to seek a lower level of risk than shareholders due to their specific human capital in the firm and the private benefits of control (Laeven & Levine, 2009).

The consequences of the deregulation process leading up to the 2007 financial crisis varied among companies worldwide, with a significant factor influencing these outcomes being the level of creditor rights protection as defined by each country's bankruptcy law. The legal framework, encompassing the extent to which creditors' rights are safeguarded, plays a pivotal role in shaping a company's willingness to engage in higher-risk endeavors. In jurisdictions where creditors' rights receive robust protection, such as in common law systems, companies typically adopt a more cautious approach to corporate risk-taking. Conversely, in regions where creditor rights are comparatively weaker, businesses may be more inclined to assume higher levels of risk, driven by the belief that the consequences may be less severe or that accountability lies elsewhere.

In accordance with Acharya et al. (2011), it is observed that stronger creditor rights have the effect of prompting firms to partake in a higher frequency of diversified and value-reducing acquisitions.

In this context, we postulate that the effect of financial deregulation in firms on corporate risk depends on the country's legal framework and, in particular, on the orientation of bankruptcy law to cover creditors' rights.

Consequently, we propose our second hypothesis as follows:

H2: The protection of creditor rights provided by the legal framework is negatively related to corporate risk.

2.2. Institutional investors and corporate risk

As previously mentioned, the process of financial deregulation had a notable impact on institutional investors, as highlighted by Manconi et al. (2012). Investment funds experienced a substantial increase in their engagement with companies, while banks departed from their conventional market activities and ventured into new business pursuits (Revelli & Viviani, 2015; Beyer et al., 2014; Hutchinson et al., 2015; An et al., 2016). The relationship between the presence of institutional investors in a company's capital and corporate risk has been a subject of analysis in the literature from multiple angles. However, there is a lack of consensus regarding the effects of this relationship. While some studies propose that institutional investors might deter firms from making risk-reducing decisions (Hill & Snell, 1988), other research suggests that the presence of institutional investors in a firm's equity is positively correlated with the firm's willingness to take on risk (Berger et al., 2016; Hansen & Hill, 1991; Wright et al., 1996).

The divergent findings highlight the importance of recognizing that institutional investors should not be treated as a homogeneous group due to their differing objectives (Bona-Sánchez et al., 2017; Dong & Ozkan, 2008; Berger & Bouwman, 2013; Pound, 1988; Shleifer & Vishny, 1986). According to Black's (1998) definition, institutional investor activism refers to the active monitoring of firm performance and management by these investors. Consequently, institutional investors can be categorized as either active or passive, depending on their respective roles within firms (García-Meca et al., 2013; Walls et al., 2012).

Passive institutional investors, when acquiring securities, typically do not prioritize short-term gains stemming from price fluctuations. Instead, they adopt a long-term perspective and anticipate profitability to accrue over time. Their approach may be influenced by additional business and investment ties they maintain with the companies in which they hold shares, as noted by Brickley et al. (1988). In such instances, their capacity to exert control may be diminished due to the concurrent presence of commercial and financial relationships with these companies. As mentioned earlier, insurance companies, banks, investment funds, and various non-bank entities often assume a passive stance when fulfilling the role of shareholders.

In general, active investors tend to hold only shareholder positions in the companies they invest in, which grants them greater independence. Unlike passive investors, who are more prone to risk due to the nature of their investments, active investors typically encourage managers to undertake riskier projects to maximize short-term returns on their investments (Almazan et al., 2005). Investment funds, venture capital firms, and foundations often play an active role in companies. However, the deregulation process in the early 21st century has introduced distortions in the activities of institutional investors. The increasing influence of these investors in the capital of companies has brought the crisis that originated in capital markets into the real economy (Manconi et al., 2012). This shift raises the question of whether the theoretical propositions regarding active and passive institutional investors remain applicable in today's context.

Financial deregulation leading up to the 2007 financial crisis empowered investment funds to assert their active influence, motivating managers to enhance shareholder value by embracing higher levels of risk. In the case of institutional investors like mutual funds, it was advantageous to increase risk since they did not bear the social costs associated with potential company failures (Berger et al., 2016). With a combination of limited control, heightened influence, a speculative orientation, and an improved capacity to diversify their investment portfolios, mutual funds willingly assumed greater corporate risk in pursuit of abnormal returns within the capital markets.

Considering that mutual fund ownership is more relevant in Anglo-Saxon countries, where ownership is more dispersed, the process of financial deregulation, together with better protection of creditors' rights, encouraged mutual funds to pursue riskier investments. Therefore, regardless of their equity ownership, we believe that investment funds have played an active role in promoting excessive risk-taking[3].

Therefore, we formulate our third hypothesis as follows:

H3: In a period of financial deregulation, the ownership percentage of active institutional investors increases corporate risk.

[3] In common law countries, even when institutional ownership is not very high, the high dispersion of ownership encourages institutional investors to play an active role (Short et al., 2002).

2.3. The attitude of banks as institutional investors and corporate risk

As we mentioned earlier, commercial banks are considered to adopt a more passive attitude as shareholders in companies, given that they may have a financial relationship with them (Gambini & Zazzaro, 2013). In principle, they are not interested in promoting decisions that increase corporate risk (Edmans, 2014). It is important to keep in mind that the influence of banks as institutional investors is more relevant in countries with a civil legal tradition, where ownership is highly concentrated and creditors' rights are less protected (Posner & Weyl, 2014). However, during the process of financial deregulation carried out in most Western countries, banks acquired a role similar to that of investment funds.

According to de Haan and Vlahu (2016), banks adjusted CEO compensation packages to motivate executives to pursue new growth opportunities resulting from deregulation and the increase in debt securitization prior to the financial crisis. Furthermore, due to a decline in their core business, financial institutions were compelled to engage in higher-risk activities to achieve higher profitability. As a result, banks became active institutional investors, although their level of expertise and professionalism in capital markets was relatively lower compared to investment funds. It is important to note that the influence of bank ownership on corporate risk-taking is not consistent across all situations. Ownership concentration, particularly in countries where banks act as reference shareholders, plays a significant role in determining the impact of bank ownership on corporate risk-taking (Posner, 2014).

According to the convergence and entrenchment theory, which has been studied by researchers such as Morck et al. (1988), Johnson et al. (2010), and Ben-Nasr et al. (2015), there exists a quadratic relationship between firm value, managerial ownership, and ownership concentration. This intricate relationship stems from the fact that the monitoring capability and potential for expropriation are influenced by the ownership stakes held by major shareholders. Moreover, Chalaki et al. (2012) expanded this theory to institutional ownership and found that active institutional investors also exhibit a quadratic impact on firm value. Given the positive relationship between value creation and risk, it can be assumed that this nonlinear relationship extends to the association between bank ownership and firm risk-taking as well. However, when the level of bank ownership exceeds a certain threshold banks above a certain threshold, they will have greater incentives to protect their position as creditors and, therefore, will position as creditors and, therefore, will encourage decisions that reduce the firm's risk.

Therefore, we formulate our fourth hypothesis:

H4: A non-linear relationship is expected between the level of bank ownership and corporate risk: positive for low levels of ownership and negative for high levels.

3. METHODOLOGY

3.1. Sample, variables, and empirical model

The study analyzes a sample of 1,015 companies from 21 OECD countries for the period 2001–2008, resulting in a total of 7,981 observations. Although the financial crisis began in 2007, in some countries, the firm value was not affected until 2008, especially in Europe (Chen et al., 2019). The data used in the analysis were sourced from financial statements, including balance sheets and income statements, as well as information on the ownership structure and stock prices. The data was obtained from the Thomson One Banker database. The sample is divided based on the legal traditions of the countries, specifically common law and civil law, following the framework established by LaPorta et al. (1997, 1998, 2000). The summary of the data is presented in Table 1 of the study.

Table 1. Composition of the sample by country

Common law			*Civil law*		
Country	***No. of companies***	***No. of observations***	***Country***	***No. of companies***	***No. of observations***
Australia	38	296	Austria	7	54
Canada	82	647	Belgium	13	103
Great Britain	109	858	Switzerland	23	181
Ireland	3	24	Germany	72	567
United States	228	1.807	Denmark	9	70
			Spain	60	470
			Finland	11	84
			France	88	688
			Greece	6	47
			Italy	72	550
			Japan	137	1.089
			Luxembourg	3	22
			Netherlands	20	156
			Norway	9	71
			Portugal	11	86
			Sweden	14	111
Total	**460**	**3.632**	**Total**	**555**	**4.349**

The availability of comprehensive data on ownership structures for all listed companies in specific countries is often limited, which presents a significant challenge for analysis. To address this challenge, the sample proportion for each country was determined by assigning equal weight to both the country's gross domestic product (GDP) and the market capitalization of its financial markets.

This approach aimed to strike a harmonious balance between countries with common law and civil law legal systems. In the case of larger countries, the representation in the sample was adjusted based on the sectoral distribution within that country to mitigate any potential selection biases. Furthermore, care was taken to ensure that the sample encompassed companies of various sizes, thereby maintaining a well-rounded and representative dataset.

To measure corporate risk we use two alternative measures. First, consistent with the literature on corporate risk, we use as a proxy for a firm's risk, the risk of its stocks (de Haan & Vlahu, 2016; Khan et al., 2017; Balachandran & Faff, 2015). Specifically, a firm's risk is assumed to be associated with the variance of its daily stock returns[4]. Accordingly, we defined the corporate risk variable (*RTDT*) as the sum of the standard deviations of the daily returns of the company's shares for each year. Second, following Acharya et al. (2011), we constructed *DIFC* as the ratio of the total firm risk to the average risk per country each year (Lizarzaburu et al., 2021).

In order to investigate the impact of financial deregulation, we have incorporated the variable *DEREGUL* based on the FFI provided by the Heritage Foundation. This variable represents the level of financial freedom in each country, with higher scores indicating greater freedom. To capture the legal characteristics and creditor rights, we have included the variable *CRIGHTS*, which is the sum of five indices reflecting aspects such as entry ease, asset stay, secured creditors' priority, management continuity, and legal reserve requirement. A higher score on CRIGHTS indicates stronger bank regulation and better protection for financial institutions during times of corporate risk. We have also examined the ownership structure using two variables: *INVESTFUND*, representing the proportion of shares held by investment funds and pension funds, and *BANKOWN*, representing the proportion of shares held by banks. These variables provide insights into the distribution of power among institutional investors, allowing us to explore their influence on corporate risk-taking behavior.

In addition to the main variables of interest, our model incorporates several control variables to ensure robustness and comparability with previous research. These control variables provide valuable information and their inclusion helps mitigate potential biases. One such control variable is the market-to-book (*MB*) ratio, which captures a firm's growth opportunities and is widely used in the literature. The *MB* ratio is calculated as the sum of the market value of equity and the book value of debt divided by the book value of assets. Another control variable is the financial leverage ratio (*LEV*), which measures the capital structure of firms by assessing the ratio of debt to equity. Firm size is accounted for by including the logarithm of total assets (*LOGAST*) as a control variable, as it has been shown to influence international business. Additionally, sector dummies are included to account for the sectoral affiliation of companies. All control variables are measured for each company each year, ensuring a comprehensive analysis of their impact on corporate risk-taking.

The models are expressed as follows:

Model 1

$$RTDT_{i,t} = \beta_0 + \beta_1 DEREGUL_{i,t} + \beta_2 CRIGHTS_{i,t} + \beta_3 INVESTFUND_{i,t} + \beta_4 BANKOWN_{i,t} + \beta_5 MB_{i,t} + \beta_6 LEV_{i,t} + \beta_7 LOGAST_{i,t} + \eta_i + \varepsilon_{i,t} \quad (1)$$

Model 2

$$DIFC_{i,t} = \beta_0 + \beta_1 DEREGUL_{i,t} + \beta_2 CRIGHTS_{i,t} + \beta_3 INVESTFUND_{i,t} + \beta_4 BANKOWN_{i,t} + \beta_5 MB_{i,t} + \beta_6 LEV_{i,t} + \beta_7 LOGAST_{i,t} + \eta_i + \varepsilon_{i,t} \quad (2)$$

where, i denotes the firm; t denotes the time period; η_i is the firm-specific fixed effects term or unobservable and constant heterogeneity, and $\varepsilon_{i,t}$ is the stochastic error used to introduce possible errors in the measurement of the independent variables and the omission of explanatory variables.

3.2. Empirical method

The empirical analysis unfolds in two primary stages. Initially, a descriptive analysis is undertaken to scrutinize the essential characteristics of the sample and validate the data's consistency with prior research findings. This initial stage offers preliminary insights into the potential varying effects of financial deregulation on corporate risk-taking and potential distinctions among institutional investors. The second stage encompasses an explanatory analysis aimed at testing hypotheses and establishing the relationship between corporate risk, financial freedom, creditor rights, and institutional ownership, especially within the context of a financial crisis. To execute this analysis, a panel data set is created by amalgamating time series and cross-sectional data. The methodology employed is tailored for panel data analysis and draws upon the work of Arellano and Bond (1991), Arellano and Bover (1990), and Bond (2002).

This approach offers two main advantages. Firstly, it allows for the control of constant unobserved heterogeneity, considering that firm-specific characteristics can influence risk levels and persist over time. Secondly, it addresses potential endogeneity issues by utilizing the generalized method of moments (GMM) estimation. To address endogeneity, a system estimator, which is an improved version of the GMM estimator, is employed. This estimator employs differenced variables as instruments in the level equations, as proposed by Blundell and Bond (2000), Blundell et al. (2000), and Bond (2002). This methodology enhances the robustness of the analysis and helps account for potential endogeneity concerns.

The combination of time series and cross-sectional data results in the formation of a panel data set, which is analyzed using the corresponding econometric methodology for panel data (Arellano &

[4] We calculate the return on securities through the expression $R_i = (P_f - P_i) / P_i$, where P_f is the price of the share at the end of the day and P_i is the initial price. When a stock did not trade on a particular day, we exclude that day's data for the risk calculation.

Bond, 1991; Arellano & Bover, 1990; Bond, 2002). This technique has two important advantages. First, it allows controlling for the presence of unobserved constant heterogeneity, since firm-specific characteristics may influence their risk levels and persist over time. Second, it addresses the possible endogeneity of the variables by using the GMM. The system estimator is used, which is an improved version of the GMM estimator, where differenced variables are also used as instruments in the level equations (Blundell & Bond, 2000; Blundell et al., 2000; Bond, 2002).

The credibility of the GMM estimators hinges on two key factors: the absence of second-order serial autocorrelation in the error term and the validity of the instruments employed. Hence, Table 6 and Table 7 present the model specification tests. The soundness of the instruments is evaluated through the Hansen test of overidentification restrictions, which assesses their collective validity. Additionally, a second-order autocorrelation test (AR2) is conducted to ascertain whether a serial correlation exists in the regression error term. Given that the model's very nature suggests the possible presence of first-order correlation, it is crucial to investigate whether second-order correlation is also a factor.

4. RESULTS AND DISCUSSION

4.1. Descriptive analysis

Table 2 presents descriptive statistics for the main variables, including the mean, median, standard deviation, maximum, and minimum values. These statistics provide an overview of the central tendency, variability, and range of the variables. In Table 3, the Thomson One Banker database classifies institutional investors' attitudes as either active or passive during the period from 2001 to 2008. Consistent with the arguments discussed earlier, the data reveals that a higher proportion of institutional investors, both investment funds and banks, exhibit an active attitude. While the proportion of active investment funds displays a gradual decline over time, it is worth noting that nearly all banks maintain an active attitude throughout the entire period under consideration. These findings support the notion that banks tend to remain actively involved in their investments, even during times of financial turbulence.

Table 2. Descriptive statistics

Variable	*Mean*	*Standard deviation*	*Median*	*Minimum*	*Maximum*
RTDT	0.020	0.009	0.018	0.001	0.074
DEREGUL	4.227	0.282	4.248	3.401	4.499
CRIGHTS	1.810	1.121	2.000	0.000	4.000
INVESTFUND	0.145	0.121	0.128	0.000	0.916
BANKOWN	0.019	0.048	0.000	0.000	0.653
MB	2.613	1.835	2.092	0.171	11.945
LEV	0.587	0.188	0.613	0.001	0.987
LOGAST	22.488	1.535	22.552	17.114	28.289

Table 3. Active and passive institutional investors (%)

	2001	*2002*	*2003*	*2004*	*2005*	*2006*	*2007*	*2008*
INVESTFUND								
Asset	89.02	88.81	87.19	86.62	85.12	84.27	83.79	81.60
Liabilities	10.98	11.19	12.81	13.38	14.88	15.73	16.21	18.40
BANKOWN								
Asset	93.93	86.96	89.91	90.48	98.51	98.67	99.13	99.24
Liabilities	6.07	13.04	10.09	9.52	1.49	1.33	0.87	0.76

Table 4 provides the correlation matrix. As the results show, the correlation coefficients are low enough that multicollinearity is not a major concern. In addition, the pairs of variables with higher correlations are not put together as explanatory variables. It can be seen that *RTDT* is significant and positively related to *INVESTFUND* and *DEREGUL*, while negatively, but not significantly, related to *BANKOWN* and *CRIGHTS*. The high correlation between the ownership and environment variables warrants further separate analysis.

Table 4. Correlation matrix

Variable	*DEREGUL*	*CRIGHTS*	*INVESTFUND*	*BANKOWN*	*MB*	*LEV*	*LNAT*
RTDT	0.008	-0.006	0.033***	0.001	-0.061***	-0.007	-0.075***
DEREGUL		0.121***	0.488***	-0.418***	0.221***	-0.127***	-0.037***
CRIGHTS			0.035***	0.026**	-0.043***	-0.021*	-0.123***
INVESTFUND				-0.306***	0.143***	-0.091***	-0.041***
BANKOWN					-0.110***	0.036***	0.105***
MB						-0.001	0.298***
LEV							0.298***

*Note: *** indicates a confidence level higher than 99%, ** at 95%, and * at 90%.*

International differences in institutional ownership and risk-taking are revealed by comparing the mean values of our variables. To facilitate this comparison, a dummy variable, *DEREGULD*, has been devised for the FFI. It assumes a value of 1 for countries with higher scores (exceeding 80) and 0 for countries scoring between 30 and 70, ensuring balanced groups for analysis. Table 5 presents the differences in mean values of the variables between countries with more or less financial freedom. The t-test for the difference of means and the Mann-Whitney U-test is also included to check if there are significant differences between the groups into which the sample has been segmented.

Table 5. Descriptive statistics according to the level of financial freedom.

Variable	*DEREGULD = 0*	*DEREGULD = 1*	*T-test*	*Mann–Whitney U-test*
RTDT	0.020	0.021	-1.91**	1.89*
CRIGHTS	1.628	2.028	-16.01***	-6.65***
INSTIT	0.121	0.215	-38.15**	-40.25***
BANK	0.030	0.005	24.00***	26.81***
MB	2.220	3.080	-21.30***	-20.23***
END	0.606	0.565	9.68***	10.26***
LNAT	22.272	22.745	-13.79***	-13.02***

*Note: Mean values according to DEREGULD. The t-test and the Mann-Whitney U-test indicate, respectively, whether the means and medians in each of the groups show significant differences. *** indicates a confidence level greater than 99%, ** at 95% and * at 90%. The division within each legal environment was made according to the median MB ratio.*

The results in Table 5 indicate that, on average, companies in countries characterized by greater financial deregulation and enhanced protection of creditors' rights tend to exhibit higher levels of corporate risk. These results are consistent with the view that the financial deregulation process carried out before the 2007 crisis favored higher levels of risk-taking by companies, especially when the law better protects investors. Ownership variables show patterns of behavior. Institutional ownership is more important in more liberalized countries, where investment funds are more relevant, while bank ownership is almost exclusive to less liberalized countries.

4.2. Explanatory analysis

Our explanatory analysis is based on the results of the descriptive analysis. Table 6 and Table 7 present the results of the estimation of Eq. (1) and Eq. (2).

Table 6. Estimation results of Model 1

Variable	*Complete sample*			
	(1)	*(2)*	*(3)*	*(4)*
DEREGUL	0.0054**			
	(0.0026)			
CRIGHTS		-0.0058**		
		(0.0028)		
*CRIGHTS * DEREGULD*		-0.0037**		
		(0.0016)		
INVESTFUND			0.0092*	
			(0.0053)	
*INVESTFUND *DEREGULD*			0.0185**	
			(0.0048)	
BANKOWN				0.3865*
				(0.2246)
BANKOWN DEREGULD*				0.1773
				(0.4751)
BANKOWN²				-3.2393*
				(1.7649)
*BANKOWN² * DEREGULD*				-3.2366
				(4.7816)
MB	-0.0045*	-0.0031***	-0.0012**	-0.0056***
	(0.0009)	(0.0011)	(0.0008)	(0.0014)
LEV	-0.0044**	-0.0516**	0.0092*	-0.0056
	(0.0221)	(0.0215)	(0.0049)	(0.0098)
LOGAST	0.0034	-0.0026	-0.0029	-0.0038
	(0.0032)	(0.0037)	(0.0023)	(0.0048)
$RTDT_{(t-1)}$	-0.0369	0.2345	-0.0698	0.0010
	(0.1803)	(0.1657)	(0.1176)	(0.1634)
Constant	0.2124	0.4148	0.1951	0.8851
	(0.9784)	(0.3491)	(0.1815)	(0.5658)
Wald test (g.l.)	4.093.3*** (19)	6.041.6*** (19)	4.520.8*** (19)	2.417.3*** (22)
Model 1	-0.74	-2.20**	-0.67	-1.64
Model 2	-1.63	-0.77	1.37	-1.13
Hansen test (g.l.)	21.18 (20)	21.83 (20)	19.13 (20)	14.89 (18)

Table 7. Estimation results of Model 2

Variable	*Complete sample*			
	(1)	*(2)*	*(3)*	*(4)*
DEREGUL	0.0036**			
	(0.0025)			
CRIGHTS		-0.0559**		
		(0.0270)		
*CRIGHTS * DEREGULD*		-0.0449**		
		(0.0222)		
INVESTFUND			0.6898**	
			(0.3237)	
*INVESTFUND * DEREGULD*			0.9751**	
			(0.3835)	
BANKOWN				16.0196*
				(8.5695)
*BANKOWN * DEREGULD*				-0.3007
				(15.2663)
BANKOWN²				-91.3663*
				(51.0563)
*BANKOWN² * DEREGULD*				-83.0227
				(112.1942)
MB	-0.0050**	-0.0561***	0.0185	-0.0278
	(0.0009)	(0.0150)	(0.0215)	(0.0405)
LEV	-0.0034**	-0.1095	0.2632	0.4879
	(0.0218)	(0.5060)	(0.2488)	(0.4894)
LOGAST	0.0044	-0.0541	-0.0418	-0.0756
	(0.0033)	(0.0906)	(0.0852)	(0.1818)
$RTDT_{(t-1)}$	0.0215	0.0701*	-0.0614	0.2590
	(0.1234)	(0.0369)	(0.0378)	(0.0384)
Constant	0.1875	5.8482	9.6337	24.0602
	(0.8765)	(5.4495)	(11.1624)	(22.0671)
Wald test (g.l.)	3.915.3*** (19)	94.4*** (19)	127.8*** (19)	117.8*** (22)
Model 1	-0.54	-1.25	-1.43	-3.42***
Model 2	-1.43	-1.54	-1.33	-0.54
Hansen test (g.l.)	22.15 (20)	24.91 (20)	21.20 (20)	24.64 (20)

In column (1), the positive and statistically significant coefficient of the variable *DEREGUL* affirms that financial deregulation, coupled with the emergence of new growth prospects and increased debt securitization, indeed motivates shareholders to encourage managers toward riskier ventures. This substantiates the first hypothesis (*H1*), indicating a positive influence of economic freedom on corporate risk. Given the significance of the legal environment, both tables incorporate estimates of variables when *DEREGULD* is introduced as an interacted variable. The inclusion of the *DEREGULD* variable enables an exploration of the specific impact of institutional ownership in countries with greater economic freedom.

The second hypothesis (*H2*) delves into the connection between more robust creditor rights and reduced corporate risk. In column (2), a negative and significant relationship between *CRIGHTS* and corporate risk emerges, suggesting that stronger creditor rights are associated with lower risk-taking. Furthermore, when *CRIGHTS* interacts with *DEREGULD*, the negative and statistically significant coefficient implies that countries with stronger creditor rights experienced a mitigated impact of financial deregulation on corporate risk during the 2007 financial crisis. This underscores the differential effect of the crisis on companies based on the strength of their creditor rights and the influence of the legal framework.

The study's objective is to investigate how the conduct of institutional investors, specifically mutual funds and banks, impacts corporate risk-taking within the context of financial deregulation. The results, as presented in column (3) for the variable *INVESTFUND*, reveal a positive and statistically significant coefficient, even when interacting with *DEREGULD*. This implies that financial deregulation has spurred an active stance among mutual funds, which inherently tend to be more inclined toward risk-taking in their investments. Consequently, this active stance encourages managers to pursue riskier activities with the aim of maximizing short-term profits. These findings bolster the earlier results and provide robust support for the third hypothesis pertaining to the influence of institutional investors on corporate risk-taking.

The behavior of banks varies depending on the degree of financial freedom within a country. When analyzing the variables *BANKOWN* and *BANKOWN²* in conjunction with *DEREGULD* to examine their specific effects in highly deregulated environments, it is evident that banks only play a significant role in countries where financial deregulation has been less pronounced. In these cases, banks initially promote corporate risk-taking, but as the risk level reaches a certain threshold, they start reducing it to protect their dual status as owners and lenders, confirming our fourth hypothesis (*H4*). In countries with weaker creditor rights protection and less financial deregulation, banks have less incentive to engage in higher levels of risk in their investments. In summary, the results presented in Table 6 and Table 7 illustrate that banks function as active investors up to a specific threshold, particularly in countries marked by lower levels of financial deregulation. As for the control variables, both models show that market value (*MB*) is negatively related to corporate risk. This result provides evidence that companies with more growth opportunities present lower risk propensity. Regarding financial structure, *LEV* is negatively related to corporate risk. This coefficient can be explained by

the under-investment theory (Berger & Bouwman, 2013): excess corporate debt can have a negative effect on firm value as it can motivate managers to forgo profitable investment projects.

Finally, firm size (*LOGAST*) has a negative influence on corporate risk, which may be due to the fact that larger firms have more diversification capabilities and better opportunities to invest in unrelated businesses.

A series of sensitivity analyses were conducted to test the robustness of our results. First, indicators of systematic risk and specific risk from the capital asset pricing model (Balachandran & Faff, 2015; Fung et al., 2012) were used as alternative measures of risk. Estimation based on interacted variables was also replaced by estimates differentiated by levels of financial freedom. The results are analogous to those described above and are not presented to avoid an excessively wordy exposition.

4.3. Discussion

The study allows us to identify the effects derived from the subprime crisis and allows us to evaluate a second section from 2008 to 2019, prior to the COVID-19 pandemic, to analyze new impacts.

The deregulation of the markets has generated negative impacts on the markets, not only evident in this study, but also what happened, for example, with Enron in 2002 and what occurred in the COVID-19 pandemic, which has caused the design of new models to be able to better analyze not only portfolios but the consequences of actions on interest rates and floating exchange rates.

To have regulation that promotes integration, but above all allows financial gaps to be reduced, is evident. Likewise, the definition of risk appetite and tolerance will be key in the design of investment strategies and approval mechanisms by investors, with the aim of seeking a balance between risk-takers and conservative profiles.

5. CONCLUSION

This study investigated the influence of mutual funds and banks on corporate risk leading up to the 2007 financial crisis. It examined 21 countries to explore how institutional factors, such as deregulation and creditor rights protection, affect the relationship between institutional investors, banks, and corporate risk, particularly during moments of financial collapse that transmit the crisis to the real economy globally. The study also explored the role of institutional investors when they become influential shareholders.

The study's findings underscore that the pre-crisis era of financial deregulation played a role in intensifying corporate risk-taking. Deregulation facilitated greater involvement of institutional investors in companies, prompting the adoption of riskier and more speculative strategies that may not be conducive to long-term corporate sustainability. In particular, the research highlights a positive correlation between a country's degree of economic freedom and corporate risk-taking, with increased deregulation linked to elevated levels of corporate risk. Furthermore, it notes that stronger protection of creditor rights serves as a deterrent against excessively risky decisions.

Regarding institutional ownership, the study shows that the traditional distinction between different types of institutional investors is no longer significant, as both mutual funds and commercial banks have actively engaged in the companies, they invest in. This shift has led them to neglect their credit position and significantly increase the risk exposure of these companies, resulting in a critical period characterized by numerous bankruptcies.

The findings of this study have important implications for practitioners and policymakers. It highlights the transmission of the 2007 financial crisis from the financial markets to the real economy, emphasizing the role of market information. Policymakers can encourage less risky investment decisions by promoting balanced ownership structures and an effective legal environment that safeguards creditor rights. Furthermore, this study contributes to the academic understanding of factors influencing corporate risk, particularly during turbulent periods.

However, it is important to acknowledge the limitations of this study. The analysis focuses solely on the ownership of reference institutional shareholders, disregarding the influence of other significant shareholders on decision-making. Future research could consider incorporating the role of the board of directors and other internal corporate governance mechanisms to provide a more comprehensive analysis.

REFERENCES

1. Acharya, V. V., Amihud, Y., & Litov, L. (2011). Creditor rights and corporate risk-taking. *Journal of Financial Economics, 102*(1), 150–166. https://doi.org/10.1016/j.jfineco.2011.04.001
2. Adam, T., & Goyal, V. K. (2008). The investment opportunity set and its proxy variables. *Journal of Financial Research, 31*(1), 41–63. https://doi.org/10.1111/j.1475-6803.2008.00231.x
3. Aglietta, M. (1998). *Le capitalisme du demain*. Fondation Saint-Simon.
4. Al-Malkawi, H. A. N., & Pillai, R. (2018). Analyzing financial performance by integrating conventional governance mechanisms into the GCC Islamic banking framework. *Managerial Finance, 44*(5), 604–623. https://doi.org/10.1108/MF-05-2017-0200
5. Almazan, A., Hartzell, J. C., & Starks, L. T. (2005). Active institutional shareholders and costs of monitoring: Evidence from executive compensation. *Financial Management, 34*(4), 5–34. https://doi.org/10.1111/j.1755-053X.2005.tb00116.x
6. An, Z., Li, D., & Yu, J. (2016). Earnings management, capital structure, and the role of institutional environments. *Journal of Banking & Finance, 68,* 131–152. https://doi.org/10.1016/j.jbankfin.2016.02.007
7. Arellano, M., & Bond, S. (1991). Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations. *Review of Economic Studies, 58*(2), 277–297. https://doi.org/10.2307/2297968
8. Arellano, M., & Bover, O. (1990). La econometría de datos de panel. *Investigaciones Económicas, 14*(1), 3–45. https://www.fundacionsepi.es/investigacion/revistas/paperArchive/Ene1990/v14i1a1.pdf

9. Balachandran, B., & Faff, R. (2015). Corporate governance, firm value and risk: Past, present, and future. *Pacific-Basin Finance Journal, 35*(Part A), 1–12. https://doi.org/10.1016/j.pacfin.2015.07.002
10. Barry, T. A., Lepetit, L., & Tarazi, A. (2011). Ownership structure and risk in publicly held and privately owned banks. *Journal of Banking & Finance, 35*(5), 1327–1340. https://doi.org/10.1016/j.jbankfin.2010.10.004
11. Ben-Nasr, H., Boubaker, S., & Rouatbi, W. (2015). Ownership structure, control contestability, and corporate debt maturity. *Journal of Corporate Finance, 35,* 265–285. https://doi.org/10.1016/j.jcorpfin.2015.10.001
12. Berger, A. N., & Bouwman, C. H. S. (2013). How does capital affect bank performance during financial crises? *Journal of Financial Economics, 109*(1), 146–176. https://doi.org/10.1016/j.jfineco.2013.02.008
13. Berger, A. N., Imbierowicz, B., & Rauch, C. (2016). The roles of corporate governance in bank failures during the recent financial crisis. *Journal of Money, Credit and Banking, 48*(4), 729–770. https://doi.org/10.1111/jmcb.12316
14. Berggrun, L., Cardona, E., & Lizarzaburu, E. (2023). Industry momentum in Latin America. *Journal of Business Research, 158,* Article 113711. https://doi.org/10.1016/j.jbusres.2023.113711
15. Beyer, A., Larcker, D. F., & Tayan, B. (2014). *Does the composition of a company's shareholder base really matter?* (Rock Center for Corporate Governance at Stanford University Closer Look Series: Topics, Issues and Controversies in Corporate Governance and Leadership No. CGRP-42). https://ssrn.com/abstract=2474792
16. Bezo, A., & Dibra, R. (2003). Financial system audit and governance after the financial crisis. *Quality — Access to Success, 24*(194), 403–408.
17. Black, B. S. (1998). Shareholder activism and corporate governance in the United States. *The New Palgrave Dictionary of Economics and the Law, 3,* 459–465. https://doi.org/10.2139/ssrn.45100
18. Blundell, R., & Bond, S. (2000). GMM estimation with persistent panel data: An application to production functions. *Econometric Reviews, 19*(3), 321–340. https://doi.org/10.1080/07474930008800475
19. Blundell, R., Bond, S., & Windmeijer, F. (2000). *Estimation in dynamic panel data models: Improving on the performance of the standard GMM estimator* (IFS Working Papers No. W00/12). Institute for Fiscal Studies (IFS). https://doi.org/10.1920/wp.ifs.2000.0012
20. Bobillo, A. M., López-Iturriaga, F. J., & Gaite, F. T. (2011). Economic orientation and firms capabilities around the world: Does individualism and collectivism values matter? *Transformation in Business and Economics, 10*(22), 20–33. https://doi.org/10.2139/ssrn.1352417
21. Bona-Sánchez, C., Pérez-Alemán, J., & Santana-Martin, D. J. (2017). Sustainability disclosure, dominant owners and earnings informativeness. *Research in International Business and Finance, 39*(Part A), 625–639. https://doi.org/10.1016/j.ribaf.2016.07.020
22. Bond, S. R. (2002). Dynamic panel data models: A guide to micro data methods and practice. *Portuguese Economic Journal, 1,* 141–162. https://doi.org/10.1007/s10258-002-0009-9
23. Brickley, J. A., Lease, R. C., & Smith, C. W., Jr. (1988). Ownership structure and voting on antitakeover amendments. *Journal of Financial Economics, 20,* 267–291. https://doi.org/10.1016/0304-405X(88)90047-5
24. Chalaki, P., Didar, H., & Riahinezhad, M. (2012). Corporate governance attributes and financial reporting quality: Empirical evidence from Iran. *International Journal of Business and Social Science, 3*(15), 223–229. https://ijbssnet.com/journals/Vol_3_No_15_August_2012/25.pdf
25. Chen, M. W., Mrkaic, M. M., & Nabar, M. M. S. (2019). *The global economic recovery 10 years after the 2008 financial crisis* (IMF Working Paper No. WP/19/83). International Monetary Fund. https://doi.org/10.5089/9781498305426.001
26. de Haan, J., & Vlahu, R. (2016). Corporate governance of banks: A survey. *Journal of Economic Surveys, 30*(2), 228–277. https://doi.org/10.1111/joes.12101
27. Diez-Esteban, J. M., Garcia-Gomez, C. D., & Lopez de Foronda-Perez, O. (2014). Corporate risk taking and financial crisis: The role of institutional investors. *Transformations in Business & Economics, 13*(1(31)), 126–144. https://www.researchgate.net/publication/261994699_Corporate_Risk_Taking_and_Financial_Crisis_the_Role_of_Institutional_Investors
28. Djankov, S., McLiesh, C., & Shleifer, A. (2007). Private credit in 129 countries. *Journal of Financial Economics, 84*(2), 299–329. https://doi.org/10.1016/j.jfineco.2006.03.004
29. Dong, M., & Ozkan, A. (2008). Institutional investors and director pay: An empirical study of UK companies. *Journal of Multinational Financial Management, 18*(1), 16–29. https://doi.org/10.1016/j.mulfin.2007.06.001
30. Edmans, A. (2014). Blockholders and corporate governance. *Annual Review of Financial Economics, 6*(1), 23–50. https://doi.org/10.1146/annurev-financial-110613-034455
31. Fung, H.-G., Wen, M.-M., & Zhang, G. (2012). How does the use of credit default swaps affect firm risk and value? Evidence from US life and property/casualty insurance companies. *Financial Management, 41*(4), 979–1007. https://doi.org/10.1111/j.1755-053X.2012.01203.x
32. Gambini, A., & Zazzaro, A. (2013). Long-lasting bank relationships and growth of firms. *Small Business Economics, 40*(4), 977–1007. https://doi.org/10.1007/s11187-011-9406-8
33. García-Meca, E., López-Iturriaga, F. J., & Tejerina-Gaite, F. (2013). *Business ties in boards: The influence of institutional directors on financial policy*. Fundación de las Cajas de Ahorros.
34. Goldstein, M. (1998). *The Asian crisis, causes, cures, and systemic implications*. International Institute of Economic Sciences.
35. Hansen, G., & Hill, C. (1991). Are institutional investors myopic? A time-series study of four technology-driven industries. *Strategic Management Journal, 12*(1), 1–16. https://doi.org/10.1002/smj.4250120102
36. He, J., & Tian, X. (2018). Finance and corporate innovation: A survey. *Asia-Pacific Journal of Financial Studies, 47*(2), 165–212. https://doi.org/10.1111/ajfs.12208
37. Hill, C. W. L., & Snell, S. A. (1988). External control, corporate strategy and firm performance in research-intensive industries. *Strategic Management Journal, 9*(6), 577–590. https://doi.org/10.1002/smj.4250090605
38. Holder-Webb, L., Cohen, J., Nath, L., & Wood, D. (2009). A survey of governance disclosures among U.S. firms. *Journal of Business Ethics, 83*(3), 543–563. ttps://doi.org/10.1007/s10551-007-9638-3
39. Hutchinson, M., Seamer, M., & Chapple, L. E. (2015). Institutional investors, risk/performance and corporate governance. *The International Journal of Accounting, 50*(1), 31–52. https://doi.org/10.1016/j.intacc.2014.12.004
40. Jeffers, E., & Plihon, D. (2001). Investisseurs institutionnels et gouvernance des entreprises. *Revue d'économie Financière, 63,* 137–152. https://doi.org/10.3406/ecofi.2001.3674
41. Jiang, T., Levine, R., Lin, C., & Wei, L. (2020). Bank deregulation and corporate risk. *Journal of Corporate Finance, 60,* Article 101520. https://doi.org/10.1016/j.jcorpfin.2019.101520

42. John, K., Knyazeva, A., & Knyazeva, D. (2015). Governance and payout precommitment. *Journal of Corporate Finance, 33,* 101–117. https://doi.org/10.1016/j.jcorpfin.2015.05.004
43. Johnson, R. A., Schnatterly, K., Johnson, S. G., & Chiu, S.-C. (2010). Institutional investors and institutional environment: A comparative analysis and review. *Journal of Management Studies, 47*(8), 1590–1613. https://doi.org/10.1111/j.1467-6486.2010.00930.x
44. Kaminsky, G. L., & Schmukler, S. L. (1999). What triggers market jitters?: A chronicle of crises. *International Journal of Money and Finance, 18*(4), 537–560. https://doi.org/10.1016/S0261-5606(99)00015-7
45. Khan, M. S., Scheule, H., & Wu, E. (2017). Funding liquidity and bank risk taking. *Journal of Banking & Finance, 82,* 203–216. https://doi.org/10.1016/j.jbankfin.2016.09.005
46. Kim, J.-B., Liao, S., & Liu, Y. (2022). *Creditor rights, access to finance, and stock price crash risk*. https://doi.org/10.2139/ssrn.4219876
47. Laeven, L., & Levine, R. (2009). Bank governance, regulation, and risk taking. *Journal of Financial Economics, 93*(2), 259–275. https://doi.org/10.1016/j.jfineco.2008.09.003
48. LaPorta, R., López de Silanes, F., Shleifer, A., & Vishny, R. W. (1997). Legal determinants of external finance. *The Journal of Finance, 52*(3), 1131–1150. https://doi.org/10.2307/2329518
49. LaPorta, R., López de Silanes, F., Shleifer, A., & Vishny, R. W. (1998). Law and finance. *Journal of Political Economy, 106*(6), 1113–1155.
50. LaPorta, R., López de Silanes, F., Shleifer, A., & Vishny, R. W. (2000). Investor protection and corporate governance. *Journal of Financial Economics, 58*(1–2), 3–27. https://doi.org/10.1016/S0304-405X(00)00065-9
51. Lizarzaburu, E. R., Burneo, K., & Berggrun, L. (2021). Riesgo de insolvencia y devolución de acciones: Análisis empírico de la puntuación Z de Altman en el sector minero peruano entre 2008 y 2018 [Risk of insolvency and return of shares: Empirical analysis of Altman's Z-score in the Peruvian mining sector between 2008 and 2018]. *Revista Universidad y Empresa, 23*(40), 67–99. https://doi.org/10.12804/revistas.urosario.edu.co/empresa/a.8558
52. Manconi, A., Massa, M., & Yasuda, A. (2012). The role of institutional investors in propagating the crisis of 2007–2008. *Journal of Financial Economics, 104*(3), 491–518. https://doi.org/10.1016/j.jfineco.2011.05.011
53. McCahery, J. A., Sautner, Z., & Starks, L. T. (2016). Behind the scenes: The corporate governance preferences of institutional investors. *The Journal of Finance, 71*(6), 2905–2932. https://doi.org/10.1111/jofi.12393
54. McConnell, J. J., & Servaes, H. (1995). Equity ownership and the two faces of debt. *Journal of Financial Economics, 39*(1), 131–157. https://doi.org/10.1016/0304-405X(95)00824-X
55. Morck, R., Shleiffer, A., & Vishny, R. (1988). Managerial ownership and market valuation: An empirical analysis. *Journal of Financial Economics, 20,* 1071–1086. https://doi.org/10.1016/0304-405X(88)90048-7
56. Nguyen, T., Locke, S., & Reddy, K. (2015). Ownership concentration and corporate performance from a dynamic perspective: Does national governance quality matter? *International Review of Financial Analysis, 41,* 148–161. https://doi.org/10.1016/j.irfa.2015.06.005
57. Paligorova, T. (2010). *Corporate risk-taking and ownership structure*. https://doi.org/10.2139/ssrn.1364393
58. Plihon, D., & Ponssard, J. P. (2002). *Montée en puissance des fonds d'investissement: Quels enjeux por les entreprises?* La Documentation Française.
59. Posner, E. A., & Weyl, E. G. (2014). Quadratic voting as efficient corporate governance. *The University of Chicago Law Review, 81*(1), 251–272. https://chicagounbound.uchicago.edu/cgi/viewcontent.cgi?article=11400&context=journal_articles
60. Pound, J. (1988). Proxy contest and the efficiency of shareholder oversight. *Journal of Financial Economics, 20,* 237–265. https://doi.org/10.1016/0304-405X(88)90046-3
61. Revelli, C., & Viviani, J.-L. (2015). Financial performance of socially responsible investing (SRI): What have we learned? A meta-analysis. *Business Ethics, the Environment & Responsibility, 24*(2), 158–185. https://doi.org/10.1111/beer.12076
62. Shleifer, A., & Vishny, R. W. (1986). Large shareholders and corporate control. *Journal of Political Economy, 94*(3), 461–488. https://doi.org/10.1086/261385
63. Short, H., Zhang, H., & Keasey, K. (2002). The link between dividend policy and institutional ownership. *Journal of Corporate Finance, 8*(2), 105–122. https://doi.org/10.1016/S0929-1199(01)00030-X
64. Srivastav, A., & Hagendorff, J. (2016). Corporate governance and bank risk-taking. *Corporate Governance: An International Review, 24*(3), 334–345. https://doi.org/10.1111/corg.12133
65. Udayasankar, K. (2008). Corporate social responsibility and firm size. *Journal of Business Ethics, 83*(2), 167–175. https://doi.org/10.1007/s10551-007-9609-8
66. Villalonga, B., & Amit, R. (2006). How do family ownership, control, and management affect firm value? *Journal of Financial Economics, 80*(2), 385–417. https://doi.org/10.1016/j.jfineco.2004.12.005
67. Walls, J. L., Berrone, P., & Phan, P. H. (2012). Corporate governance and environmental performance: Is there really a link? *Strategic Management Journal, 33*(8), 885–913. https://doi.org/10.1002/smj.1952
68. Wright, P., Ferris, S., Sarin, A., & Awasthi, V. (1996). Impact of corporate insider, blockholder, and institutional equity ownership on firm risk taking. *The Academy of Management Journal, 39*(2), 441–463. https://doi.org/10.2307/256787