How Does Legitimacy Operate in Emerging Capital Markets? Investigating the Moderating Effects of Premium Listings and Firm Size on Risk

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Abstract

Drawing on an institutional theoretical perspective, we investigate the impact of the origins of organizational legitimacy on systematic risk using a sample of 358 Brazilian companies between the years 2002 and 2007. We regard three origins of legitimacy—formal–regulatory (presence in premium listings), cultural–cognitive (board of directors), and normative legitimacy (reputation)—to empirically investigate how a company's size and adherence to premium lists moderate other sources of legitimacy. Our results indicate that only under apparently better quality corporate governance conditions—presence in premium listings—do corporate reputation and the board of directors reduce systematic risk. In addition, we show that the effect of reputation on risk is positively moderated by firm size. Copyright © 2018 ASAC. Published by John Wiley & Sons, Ltd.

Keywords: legitimacy, systematic risk, corporate reputation, board of directors, corporate governance

Résumé

A partir d'une perspective théorique institutionnelle, nous étudions l'impact des origines de la légitimité organisationnelle sur le risque systématique à partir d'un échantillon de 358 entreprises brésiliennes entre 2002 et 2007. Nous considérons trois origines de la légitimité - la réglementation formelle (présence dans les listes de primes), la légitimité culturelle et cognitive (conseil d'administration) et la légitimité normative (réputation) - pour étudier empiriquement comment la taille d'une entreprise et l'adhésion aux listes de primes modèrent d'autres sources de légitimité. Nos résultats indiquent que ce n'est que dans des conditions de gouvernance d'entreprise apparemment de meilleure qualité - présence dans les listes de primes - que la réputation de l'entreprise et le conseil d'administration réduisent le risque systématique. De plus, nous montrons que l'effet de la réputation sur le risque est positivement modéré par la taille de l'entreprise. Copyright © 2018 ASAC. Published by John Wiley & Sons, Ltd.

Mots-clés: légitimité, risque systématique, réputation de l'entreprise, conseil d'administration, gouvernance d'entreprise

Introduction

There are signs that the capital market in emerging economies such as Brazil is inefficient, given its weak legal protection for investors (Black, Carvalho, & Gorga, 2010, 2012; La Porta, Lopez-de-Silanes, Shleifer, & Vishny, 1998), and the fact that it is culturally unsupported (Aguilera & Jackson, 2003; Fligstein & Choo, 2005).

Under such circumstances, and placing oneself in the position of investors, what parameters would be appropriate to assess whether a company is reliable for investment? In addition to the firm's level of corporate governance (Black & Kim, 2012) and the market factors commonly related to the economic-financial analysis of companies, studies indicate that investment decisions are based both on embeddedness in social relationships (Fracassi & Tate, 2012; Granovetter, 1985) and on beliefs and values that are institutionally legitimized in these markets (Bell, Filatotchev, & Aguilera, 2014; Davis, 2005; Fiss, 2008; Fligstein & Choo, 2005).

In this work, we touch on the issue of social embeddedness (Granovetter, 1985) but give prominence to dimensions of legitimacy as explanatory factors of one of the most relevant elements of investment decisions: the risk of stocks traded on the stock exchange (Delgado-García, Quevedo-Puente, & Díez-Esteban, 2013). Such an analysis is relevant because the strategy, performance and survival of companies are related to their capacity to raise funds, which is also conditioned by the risk of the assets (Certo & Hodge, 2007).

Legitimacy is an explanatory factor of risk because, if companies are part of a broader social system the behaviour of which is judged based on beliefs, values and assumptions, the judgment, acceptance, and credibility of these companies vis-à-vis their various stakeholders will likely condition their capacity for being badly evaluated or well evaluated by investors (Bansal & Clelland, 2004; Nguyen & Nguyen, 2015).

Therefore, we advocate that companies' securities risk is not only the result of a combination of funds and financial strategies within certain economic contexts, but that it is also conditioned by companies' capacity to validate their conduct vis-à-vis the public, having criteria that are legitimately accepted in society as the basis for this capacity. In other words, in this study, we emphasize that companies become legitimate by incorporating legitimized artifacts (Deephouse & Suchman, 2008; Meyer & Rowan, 1977), such as corporate governance practices, which have implications for the risk of securities traded on the stock exchange.

Of the types of risk to be explained, we approach the systematic risk of the stocks of listed companies, which means the fluctuation of returns caused by the macroeconomic factors that affect all risky assets (Han, 2011).

In conceptual terms, we understand that listed companies, when companies have a link with legitimate elements, are legitimate (Higgins & Gulati, 2006). Therefore, if they are legitimate, their stocks are more easily accepted in the market, which increases their liquidity (Zuckerman, 1999). While they tend to be more tradable, the fact that these companies are legitimized guarantees them greater credibility, which consequently reduces the risk perception of their stocks.

With greater liquidity and less risk, a company's value tends to be high and the company finds it easier to attract capital (Cohen & Dean, 2005; Deeds, Mang, & Frandsen, 2004), which increases its chances of survival and profitability (Deephouse & Suchman, 2008; Meyer & Rowan, 1977; Pfeffer & Salancik, 1978; Scott, 1995; Suchman, 1995).

We choose the Brazilian capital market, which is one of the most relevant but least studied emerging capital markets (Black et al., 2010; Mendes-da-Silva & Onusic, 2014). Emerging markets with a civil-law legal system, such as Brazil's market, tend to provide little protection for investors, which leaves room for various asymmetries (Carvalho & Pennacchi, 2012; La Porta et al., 1998).

Given the risks and uncertainties arising from the poor investor protection in Brazil (Black et al., 2010; Mendes-da-Silva & Onusic, 2014), we assume that investors base their decisions on other legitimized artifacts in the capital market (Fiss, 2008), such as premium listings and corporate governance (Black et al., 2012; Carvalho & Pennacchi, 2012), boards (Cohen & Dean, 2005; Fracassi & Tate, 2012; Higgins & Gulati, 2006) and the firm's reputation (Delgado-García et al., 2013; Roberts & Dowling, 2002).

Given the above, in this study, we investigate the impact of organizational legitimacy origins on systematic risk using data from 358 companies listed in a relevant emerging market between 2002 and 2007. First, we considered how formal regulatory origin provides legitimacy to voluntary adherence to stricter rules of corporate governance by way of the Brazilian stock exchange premium listing: The New Market. We consider participation in these premium listings to offer formal regulatory legitimacy (Scott, 1995) because it is directly linked to endorsement by and the normative control of an external organization over the rest, thus guaranteeing the companies a special status (Capron & Guillén, 2009; Fiss, 2008). Consequently, we expect that companies that adhere to premium listings have a lower systematic risk because they are directly associated with best corporate governance practices (Aguilera & Jackson, 2003; Carvalho & Pennacchi, 2012).

Second, as one of the origins of cultural-cognitive legitimacy, we consider the position of the board relative to the other companies (based on board interlocking). Although the fact that boards are key elements of corporate governance (Cohen & Dean, 2005; Davis, 1996; Higgins & Gulati, 2006) and that their structures and processes have a significant effect on market value (Black et al., 2012; Black & Kim, 2012) is nothing new, few concentrated on analyzing the effects of board interlocking in emerging markets (Higgins & Gulati, 2006; Mizruchi, 1996; Santos, Silveira, & Barros, 2012) on systematic risk.

Additionally, few studies consider such interlocking based on methods and relational theories commonly associated with the social network analysis (Sánchez & Barroso-Castro, 2015; Shipilov, Greve, & Rowley, 2010). Given these limits, we propose a theoretical justification of the effects of a board social capital on the reduction in systematic risk, particularly emphasizing the proportion of structural holes (Burt, 1992) because they may be signals of how the board is valued by the market and investors (Cohen & Dean, 2005; Higgins & Gulati, 2006; Wade et al., 2006).

Third, as the origin of normative legitimacy, which is derived from the rules and values found in firms' corporate environment (Ruef & Scott, 1998), we include the effects of the companies' reputation on systematic risk. Furthermore, beginning from the assumption that companies with greater visibility tend to acquiesce to market and stakeholder rules and expectations (Julian, Ofori-Dankwa, & Justis, 2008), which may lead to a greater prominence of reputation

(Rindova, Williamson, Petkova, & Sever, 2005), we assess the moderating effect of the size of the company on the relation between reputation and systematic risk.

Finally, and based on the role of the prominence of organizations (Julian et al., 2008), we assess whether adopting formal governance practices by way of premium listings moderates the effect of other origins of legitimacy on systematic risk. This hypothesis is the result of the understanding that the emphasis given to the formal regulatory dimension by companies and investors (Fligstein & Choo, 2005) is due to the belief that the adoption of formal practices of corporate governance guarantees greater quality in the corporate governance (Carvalho & Pennacchi, 2012).

Theory and Hypotheses

Legitimacy has been considered the most important concept in organizational institutionalism (Deephouse & Suchman, 2008; Scott, 1995; Suchman, 1995), because, as initially noted by Parsons (1956) and Pfeffer and Salancik (1978), ever since organizations have used environmental resources, society has been continuously assessing whether their actions are appropriate and if their products or results are socially useful within legitimately defined criteria.

Therefore, organizational legitimacy is a consequence of the interpretation of actions based on a comparison with socially legitimate values. So, we understand that "legitimacy is the perception or generalized assumption that the actions of an entity are desirable or appropriate within some socially constructed system of rules, values, beliefs and definitions" (Suchman, 1995, p. 574).

The elementary problem is that the legitimacy is not directly observable (Ruef & Scott, 1998). Therefore, organizations' legitimacy is conventionally evaluated based on their links with objects and origins (Deephouse & Suchman, 2008). By organizational objects, we understand, for example, the practices, structure, governance system, body of executives, relationships, or the organization itself that can be evaluated in terms of legitimacy (Cohen & Dean, 2005; Deeds et al., 2004; Deephouse & Suchman, 2008).

An object is considered legitimate if it refers to an origin that is held to be legitimate (Bitektine, 2011). Therefore, the degree to which organizations are related to origins and objects considered to be legitimate in the environment reduces turbulence and maintains stability, which may lead to a greater likelihood of success and survival (Meyer & Rowan, 1977). This occurs because, by incorporating legitimized elements into their structures, organizations increase the commitment of internal participants (employees, business units, and so on) and external constituents (stockholders, the public, the state, partners, and so on), thus protecting the organization from having its conduct questioned (Deephouse & Suchman, 2008).

So, in accordance with the assumption that organizational legitimacy increases the organizational stability, the attitude of which reflects on the behaviour of the companies' assets, greater stability means less risk for such assets. Empirical evidence that legitimacy reduces asset risk is seen in Bansal and Clelland (2004), who study the effect of legitimacy on unsystematic risk in the American capital market, Delgado-García et al. (2013), who study how reputation reduces systematic and unsystematic risk between Spanish quoted firms in the period from 2001 to 2007, and in Certo and Hodge (2007), who assess investor risk perception by way of a survey.

There is also evidence that the stock price of legitimized companies tends to be less volatile because such companies attenuate the negative news and events with which they are faced (Pfarrer, Pollock, & Rindova, 2010). However, if there are different origins of legitimacy, there is evidence that each can affect risk differently because each may have different degrees of acceptance within its reference systems (Ruef & Scott, 1998).

Thus, most recent studies about the discussion of corporate legitimacy and risk have been characterized by studies on norms of behaviour, including environmental responsibility, sustainability, and corporate governance (Nguyen & Nguyen, 2015). These studies find evidence that increased investment in companies with good performance in sustainability and corporate governance can also reduce these companies' systematic risk.

The New Market as the Origin of Formal Regulatory Legitimacy

Analytically, the origins of legitimacy can be basically summed up in three dimensions: formal regulatory, cultural–cognitive and normative legitimacy. Generally, the basis of formal regulatory legitimacy lies in compliance with the rules: legitimate organizations are those that are legally established or that operate in accordance with the laws, regulations, and rules created by governments, regulatory agencies, and influential organizations (Ruef & Scott, 1998; Scott, 1995).

We based our analysis of formal regulatory legitimacy on the formal adoption of the corporate governance practices, which are "the whole set of legal and cultural means and institutional arrangements that determine what publicly-quoted companies can do, who can control them, how control is exercised and how the risks of and returns on the activities for which they are responsible are allocated" (Blair, 1995, p. 3).

Because of the peculiarities of the Brazilian capital market, such governance practices were institutionalized in the country in a singular way, especially in comparison to other emerging markets. This resulted in the country having its own form of governance: premium exchange listings, in which the highest level is found in the New Market,

although there are two others with fewer requirements, Levels 1 and 2, and the Traditional Market.

Inspired by the German experience (the *Neuer Markt*), on December 11, 2000, the São Paulo Stock Exchange (B3, then called the BM&FBOVESPA)[1], created a separate listing for companies, called the *Novo Mercado* (New Market), which comprises companies that voluntarily agreed to greater demands related to good governance practices, such as voting rights for all shareholders and the compulsory participation of independent board members.

Such rules expand shareholder rights, improve the quality of the information usually provided by companies, and extend equity dispersion. By determining corporate conflict resolution by way of a Chamber of Arbitration, these rules offer investors the security of a more agile and specialized alternative.

For these reasons, the creation of alternative listings is an important mechanism for guaranteeing that the normative content of corporate governance practices is incorporated by listed companies (Carvalho & Pennacchi, 2012; Fiss, 2008). In addition to the coercive character of formal obligations, the adherence of companies to listings or special markets is associated with more trust from investors, simply because they are subject to rules that are accepted as legitimate (Capron & Guillén, 2009), even though their adherence is voluntary.

Therefore, companies that are linked to a legitimized element also tend to be legitimate. In the specific case of the Brazilian stock market, adherence to the New Market provides these companies with greater credibility vis-à-vis investors because the belief that companies that form part of this market are better managed, more transparent, and more trustworthy (Black et al., 2010).

Consequently, such elements can lead to investors perceiving less risk, as Tuschke and Sanders (2003) have already noted for Germany's capital market. Therefore, we expect that companies that adjust to the formal legitimacy standards, and specifically to the BM&FBOVESPA's New Market, have less risk than listed companies in the Traditional Market; this leads us to formulate the following hypothesis:

> *H1: Companies that form part of BM&FBOVESPA's New Market present less risk than companies listed in the Traditional Market.*

Board Interlocking as the Origin of Cultural–Cognitive Legitimacy

Cultural–cognitive legitimacy derives from compliance with socially accepted models and standards within the organizational environment (Ruef & Scott, 1998; Scott, 1995). Such standards are taken as being right when their characteristics are part of the reality, free from judgment, and necessary or inevitable (Scott, 1995). Therefore, organizations are legitimate because they follow such standards, which are considered right.

Among the standards present in the capital market is the belief that company boards are fundamental to corporate governance (Cohen & Dean, 2005; Davis, 1996; Higgins & Gulati, 2006). From this perspective, studies indicate that the quality (Higgins & Gulati, 2006; Payne et al., 2009), prestige (Certo & Hodge, 2007), certification (Wade et al., 2006), and social capital of board members (Rossoni, Aranha, & Mendes-da-Silva, 2018; Kim, 2007) are evidence of their legitimacy because such elements are recognized as related to board effectiveness.

Among the ways to evaluate the legitimacy that originates on the board, we based our work on Davis (1996) and Mizruchi (1996), who point to the importance of analyzing the structure of relationships between boards, which is known as board interlocking. These studies begin with the premise that good board members tend to participate in many companies, such as in different groups, and the centrality and position of these directors within the network is a proxy of their prestige.

Furthermore, if boards are heavily embedded in a network of relationships, they suffer greater social pressure to act in a responsible way (Davis, 1996; Sánchez & Barroso-Castro, 2015). Given these reasons, we believe that the better-positioned board members in the network tend to have a greater capacity for receiving information, resources, and knowledge because of their privileged access to different, unconnected groups (Davis, 1996).

In other words, these board members have greater social capital (Burt, 1992; Kim, 2007). Indeed, the openness of the relationships that prestigious board members have (Burt, 1992) is also related to the fact that they are external board members (Kang, Cheng, & Gray, 2007; Kim, 2007), which increases control over the organization (Mizruchi, 1996).

These characteristics of board members' ties are incorporated into the board (Mizruchi, 1996), which is why we understand that boards with a larger number of non-redundant ties, in other words, with greater structural holes, tend to be valued by the market and investors, thus indicating their legitimacy (Cohen & Dean, 2005; Higgins & Gulati, 2006, Wade et al., 2006). Based on these reasons, we argue that companies with boards that have a greater proportion of structural holes are more legitimate, which makes for less risk for its stocks, which is in line with previous studies (Certo & Hodge, 2007). We therefore propose the following:

> *H2: As the proportion of structural holes on the board increases, risk decreases.*

Reputation as the Origin of Normative Legitimacy

Normative legitimacy derives from the standards and values of society or from the social environment that is

relevant to the business (Ruef & Scott, 1998; Scott, 1995). Standards specify how things should be done by defining which means are legitimate for achieving ends; values establish which standards are used for comparing and accessing existing structures and practices (Scott, 1995). Therefore, an organization is accepted and wanted when it meets such standards and values, which means it obtains a positive normative assessment from society and its stakeholders (Suchman, 1995).

Since organizations meet these standards and values in a variable way, we can differentiate them by reputation, which is nothing more than a generalized expectation regarding firm behaviour based on collective perceptions of behaviour and past performance (Deephouse & Suchman, 2008), reflecting the success of some organizations in exceeding the expectations of multiple stakeholders. In fact, if reputation involves the judgment of an audience about what is tolerable or not as conduct, the terms of this judgment derive from that which is legitimately accepted as being good or bad. Therefore, companies have a good reputation because they incorporate elements that have been legitimized in the environment (Deephouse & Suchman, 2008).

In the case of the stock market, investors' interpretation of the information given by each company is conditioned by the assumptions they have about each firm (Fombrun & Shanley, 1990). Therefore, in the stock market, certain facts reflect very badly on some companies and not as badly on others (Pfarrer et al., 2010).

According to empirical studies (Fombrun & Shanley, 1990; Pfarrer et al., 2010; Rindova et al., 2005; Roberts & Dowling, 2002), this differentiated response regarding companies' reputation may lead to less risk and long-lasting rates of return. Therefore, we expect companies with a good reputation to present less systematic risk because they are considered legitimate (Delgado-García et al., 2013).

However, there is evidence that the effect of reputation on investor reactions may be moderated by the visibility of the company. As Julian et al. (2008) note, larger firms have greater visibility, which attracts greater attention from the public, the media, and regulatory agents, giving these firms prominence. Therefore, when they have a good reputation and are at the same time more visible, larger firms acquiesce more to the demands of stakeholders and society, thus reducing any uncertainty the latter may have regarding their conduct (Rao, Greve, & Davis, 2001; Rindova et al., 2005). Given the above, we present two hypotheses:

H3a: As the reputation of the company improves, risk decreases.

H3b: The size of the company moderates the effect of reputation on risk, so that as the company increases in size, the influence of reputation on risk increases.

We also understand that the visibility and prominence of companies is not derived only from the size. Thus, we propose that the New Market, as the formal regulatory origin of legitimacy, is also a factor of prominence because when agents support other companies, whether by way of certification, availability of information, or regulation, those that receive such support tend to be more prominent (Rao et al., 2001; Rindova et al., 2005). In other words, they tend to be judged more positively.

At least in the Brazilian case, the New Market tends to be a legitimate entity because it is a bastion of formal rules and mechanisms that are legitimately defined and constructed in the market and that must be followed by the companies that adhere to this level of governance. Therefore, we argue that companies that are part of the New Market are more prominent, thus moderating the effect of board legitimacy and the reputation of such companies on systematic risk.

Prominence and visibility reduce the uncertainty of investors and provide a greater guarantee and confidence in decision-making (Rao et al., 2001; Rindova et al., 2005). In the absence of prominence, the reverse is true, because in such circumstances of uncertainty and mistrust, the influence of social factors such as the reputation of the company and the prestige of board members tends to decrease (Haleblian & Finkelstein, 1993). So, we formulate the following hypotheses:

H4: The presence of BM&FBOVESPA's New Market moderates the effect of structural holes on risk so that, when it is present, the effect of structural holes on reducing risk is greater.

H5a: The presence of BM&FBOVESPA's New Market moderates the effect of reputation on risk so that, when it is present, the effect of reputation on reducing risk is greater.

H5b: The size of the company moderates the effect of reputation on risk more intensely for companies in the New Market than for companies in the Traditional Market.

Methodological Procedures

Population, Sample and Data

To test our theoretical model (Figure 1), this study considers companies listed on the São Paulo Stock Exchange, B3, currently the only stock exchange operating in Brazil, which restricts our data collection to 2002, the year the first companies adhered to the New Market. Out of a total 2,306 observations that occurred between 2002 and 2007, some

Figure 1. Theoretical model
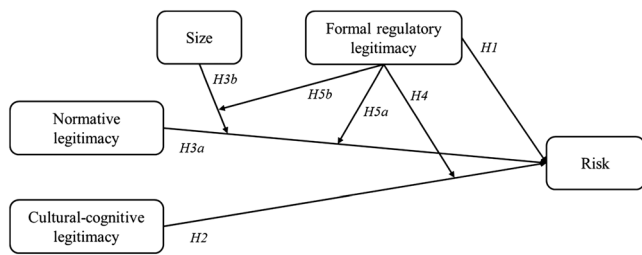
had to be removed due to the absence of information about our dependent variable (β), that is generated only from a minimum level of liquidity in the stock market. Our sample size in the analyses was 1,004 observations generated from 358 companies.

We collect data from four different sources: the Brazilian Securities Exchange Commission (CVM); B3's own information database; the Economatica® financial and market database; and the annual survey of the most admired companies in Brazil conducted by *Carta Capital* magazine.

Dependent Variable

Systematic Risk (β). Systematic risk refers to the risk that affects the whole stock market, and which therefore cannot be reduced or diversified. Considering that the rational investor does not assume diversifiable risk, as presented in the financial literature, it becomes relevant to study systematic risk.

According to previous studies (Delgado-García et al., 2013; Fombrun & Shanley, 1990; Silveira, Leal, Barros, & Carvalhal da Silva, 2010), we evaluate the systematic risk of assets by way of the coefficient β, which can define via *CAPM* 1:

$$\widetilde{R}_a = \beta_a + \widetilde{R}_m + \widetilde{\varepsilon}_{sa} \tag{1}$$

in which $\widetilde{R}_a =$ the Napierian logarithm of the expected weekly return of asset a, $\widetilde{R}_m$ is the Napierian logarithm of the expected weekly return on the market assets portfolio, in our case the IBovespa Index; β_a is the term that indicates systematic risk (non-diversifiable) and $\widetilde{\varepsilon}_{sa}$ is the proxy of the unsystematic risk inherent to the company.

The value of the β of reference for the market is equal to 1, with the β of the assets of listed companies considered relative to this value. Therefore, as the value of β increases, the stock's systematic risk increases. The β coefficient for each observation covering the interval of one year.

Moderating Variables

Formal Regulatory Legitimacy. We use three indicators of the participation in BM&FBOVESPA's premium listings: presence in the New Market, in Governance Level 2, and in Governance Level 1. We consider as the category of comparison the Traditional Market of BM&FBOVESPA, which is the modality governed only by Brazilian legislation. It needs to be emphasized that Brazil is recognized as having legislation that demands very little in terms of governance quality. Thus, we assume that companies that fit in this modality tend to have less well-developed governance mechanisms.

We define each of the indicators by way of dummy variables, which had a value equal to 1 if the company was part of the market indicated (New Market, Level 2, or Level 1) in a year, and a value of 0 for other cases (see Mendes-da-Silva & Onusic, 2014; Procianoy & Verdi, 2009; Silveira et al., 2010). It is worth pointing out that we adopt the New Market as both an independent variable and a moderating variable.

Company size. We assess company size relative to the book value of total assets (see Silveira et al., 2010). This variable also serves as a control variable, and as a moderating variable, it was mean-centred to avoid collinearity problems.

Independent Variables

Cultural–Cognitive Legitimacy. Following previous studies (Cohen & Dean, 2005; Certo & Hodge, 2007; Higgins & Gulati, 2006; Wade et al., 2006), we operationalize the cultural–cognitive dimension based on board legitimacy. Such legitimacy was assessed by way of the position of boards relative to the boards of other companies, which shows the existence of board interlocking (Mizruchi, 1996).

In this assessment, we use the social network analysis method to map out the corporate relationship among companies and consider the sharing of board members and executives to be ties among them (Davis, 1996; Mizruchi, 1996). We specifically use the Structural Holes indicator, which are types of non-redundant relationships between two contacts (Burt, 1992). Therefore, as the number of redundant ties decreases, the number of structural holes increases, with less information redundancy.

We specifically use the efficiency measure of ties (Burt, 1992, p. 53), which measures the number of non-redundant, *EffSize* contacts in relation to the total number of contacts n of a player i. As we were working with binary data, we use the simplified form of the equation developed by Borgatti (1997). Formally, considering that a player i has n number of contacts, we could assess the number of redundant contacts via 2:

$$D_{\text{alters}} = 2\frac{l}{n}, \tag{2}$$

in which l is the number of ties between n (*alters*). Since D_{alters} indicates the total number of redundant ties, we

consider non-redundant *EffSize* ties as $n - D_{alters}$. Therefore, the proportion of non-redundant *Efficiency* ties is given by EffSize/n. Because there is annual variation in an companies' board members, we calculate this measure for each year the company is quoted on the stock exchange. We use structural holes as a proxy for board legitimacy because they are evidence of board characteristics that are widely accepted as valid and desirable.

Among these characteristics are the existence of external board members (Kang et al., 2007; Kim, 2007) and the presence of very well positioned board members, which is an indication of their prestige and social capital (Certo & Hodge, 2007; Davis, 1996); additionally, board members who are on various boards are under more pressure to act in accordance with market standards (Davis, 1996).

Normative Legitimacy. In accordance with previous studies, normative legitimacy was operationalize by way of the *reputation* of the organization vis-à-vis its public (Deeds et al., 2004; Deephouse & Carter, 2005; Fombrun & Shanley, 1990). As a measure of reputation, we use the score of As Empresas Mais Admiradas no Brasil (the most admired companies in Brazil), according to the annual survey carried out in Brazil by *Carta Capital* magazine.

The survey, inspired by *Fortune* magazine's Most Admired Companies (the source of studies, such as those by Deephouse & Carter, 2005, Fombrun & Shanley, 1990, and Pfarrer et al., 2010), which has been conducted for more than 10 years, was developed by *Carta Capital/InterScience*, incorporating the perception of the business community in regard to the economic and financial criteria of companies that operate in Brazil, and aspects related to image (brand, attitudes, quality, administration, and so on); the survey involves approximately 1,224 cases a year.

We operationalize this variable by considering the position of the company in the general ranking of most admired companies in each of the six years assessed (2002–2007). However, we highlight only the first twenty on the list because, from that point on, the discrimination between them is less accurate. We also highlight the best companies in each industry.

After this, we verify which companies were quoted on the BM&FBOVESPA, linking the results of the survey to the other indicators. To maintain the ordered nature of reputation (Deephouse & Suchman, 2008), we attribute the greatest value to companies that are first in the ranking in each year and reduce the value by one unit for each lower position (*value of the variable = 22 - position in the ranking*). To companies that were among the top 20 in the general analysis we attribute a value of 1, and to all other companies we attribute the value 0.

Control Variables

Return on assets (ROA). In addition to the size of the company, which was previously defined in the moderating variables, we control the effect of the independent variables based on the profitability of assets, as follows: $ROA = EBIT/TAT$, in which EBIT = earnings before interest and taxes, TA = book value of the total assets.

Age. We define the age of companies based on the natural logarithm of the number of years since their Initial Public Offering in the Brazilian stock market (Mendes-da-Silva & Onusic, 2014).

Financial leverage. We operationalize this indicator by assessing the total financial debt of the company relative to total assets (Silveira et al., 2010). It indicates the extent to which an company uses third-party capital to finance its operations.

Industry. In accordance with previous studies (Procianoy & Verdi, 2009; Silveira et al., 2010), we control the industry effect because there is evidence that it precedes several of the variables used. We therefore create $(s - 1)$ dummy variables in which s is the number of industries identified in Economatica®, considering the Others industry as a reference category because it had the largest number of observations.

Year. To avoid effects related to seasonality and temporal tendencies, we control the time effect by way of dummy variables (Procianoy & Verdi, 2009; Silveira et al., 2010). Therefore, the first year is the reference category, in which we have $(y - 1)$ dummy variables representing each of the other years, and y is the number of years evaluated in the study.

Method

We use Panel Data Analysis to verify our hypotheses (Greene, 2000). In addition, we use moderation analysis, based on two different methods, to evaluate the moderating effect of company size on reputation (see descriptive statistics in Table 1). First, we follow Jaccard, Turrisi, and Wan's (1990) procedure to avoids collinearity problems. We then use the Arnold (1982) procedure, which consists of dividing the sample into two groups: one comprising companies participating in the New Market, and another by companies from the Traditional Market. Having analyzed the panel data for each of the samples, we subtract the coefficient of each variable in the New Market sample by the coefficient of the same variable in the sample of companies in the Traditional Market. After this procedure, we evaluate the significance of each of the differences between coefficients by way of the chi-square test, as follows 3:

$$Chi^2_{emp} = \frac{(beta_2 - beta_1)^2}{(se_2^2 + se_1^2)} \qquad (3)$$

in which the value of $beta_1$ is the coefficient of the variable of Group 1 (New Market); the value of $beta_2$ is the coefficient of the variable of Group 2 (Traditional Market); se_1 is the standard error of the coefficient of Group 1; se_2 is the standard error of the coefficient of Group 2. With the value

Table 1
Descriptive statistics

	Mean	S. D.	Tolerance	VIF	1	2	3	4	5	6	7	8	9	10
1. Beta	.525	.947												
2. New Market (dummy)	.082	.274	.806	1.241	-.075**									
3. Level 2 (dummy)	.024	.154	.969	1.032	.039	-.047**								
4. Level 1 (dummy)	.089	.285	.829	1.207	-.025	-.093***	-.049**							
5. Structural holes	.387	.402	.900	1.111	-.077***	.148***	.076***	.143***						
6. Reputation	.42	2.43	.253	3.956	.021	.036	.030	.254***	.090***					
7. Size × Reputation	1.435	8.854	.260	3.853	-.010	-.024	-.008	.237***	.063***	.878***				
8. ROA	-1.204	22.779	.604	1.657	-.072**	.081***	.040	.095***	.118***	.087***	.042			
9. Age (ln)	2.563	1.034	.808	1.238	.013	-.372***	-.049**	.077***	-.156***	-.029	.010	-.079***		
10. Size (ln assets)	13.372	2.381	.716	1.396	-.056	.106***	.092***	.327***	.255***	.244***	.167***	.300***	-.054**	
11. Leverage	53.96	307.66	.669	1.495	-.003	-.033	-.016	-.023	-.075***	-.014	.003	-.529***	.067***	-.127***

Note: $N = 1,004$;
**$p < 0.05$;
***$p < 0.01$.

of chi-square calculated, we accept the moderating effect when the probability of error of the test is less than 0.05.

To check the robustness of the results of the Arnold (1982) procedure, particularly regarding the moderating effect of the New Market, we interact both independent variables and the product between size and reputation by the New Market dummy variable in the full sample. The results converged in both fixed and random models, with the latest one obtaining a better fit. Robustness checks are shown in Model 3 (Table 2).

Results

The effect of legitimacy indicators on systematic risk can be seen in Table 2, where Model 1 shows only the control variables, while in Model 2, all the independent variables are included. Both models give more robust results for the random panel data model because the Hausman and Breusch-Pagan tests indicate the superiority of the GLS model over the OLS and Fixed models. Moreover, the non-significance of the White Test refers to the fact that heteroskedasticity problems do not exist.

Considering the control variables, only the return on assets is significant ($p < 0.1$), where a 1% increase in profitability is related to a 0.3% reduction in systematic risk. With the independent variables, on the other hand, the one related to formal regulatory legitimacy is significant ($p < 0.05$): stocks of companies listed on the New Market have, on average, a systematic risk that is 24.8% less than that of companies listed on the Traditional Market, thus corroborating Hypothesis 1.

With regard to the other levels of governance, the stocks of Level 1 companies showed a significant difference from stocks of companies listed on the Traditional Market, while stocks related to Level 2 companies gave a greater risk ($p < 0.05$). In the case of the indicators related to cultural–cognitive legitimacy, companies with a greater proportion of non-redundant ties show a greater risk, thus corroborating Hypothesis 2. An increase of 10% in structural holes is related to a drop of 1.78% in systematic risk. Regarding normative legitimacy, unlike what we expected, we see that an company's reputation does not influence the drop in systematic risk.

In contrast, there is evidence that companies with a one-degree increase in reputation tend to have a 4.4% increase in risk, thus rejecting Hypothesis 3a. We must consider that this same variable was also assessed based on the moderation of company size, which was not significant, leading to a rejection of Hypothesis 3b.

As there is evidence of pronounced heterogeneity in the Brazilian capital market, we carry out the same analyses, separating the companies listed on the New Market (Models 4 and 5) from those in the Traditional Market (Models 6 and 7). Based on the results of the adjusted tests of the estimators

Table 2

Panel data models with the effect of legitimacy on systematic risk (beta)

					Sub-samples			
	Aggregated			New Market		Traditional Market		New Market vs. Traditional Market
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Moderation
Independent variables								
New Market (*dummy*)		-0.248**	-0.184					
		(0.124)	(0.141)					
Level 2 (*dummy*)		0.350**	0.365*					
		(0.196)	(0.198)					
Level 1 (*dummy*)		-0.129	-0.091					
		(0.127)	(0.128)					
Structural holes		-0.178**	-0.152*		-0.872***		-0.143	-0.729***
		(0.081)	(0.084)		(0.252)		(0.094)	[7.357]
Reputation		0.044*	-0.004		0.428***		0.019	0.409***
		(0.026)	(0.033)		(0.044)		(0.125)	[9.470]
Size × Reputation		-0.012	0.001		-0.508***		-0.005	-0.504***
		(0.008)	(0.009)		(0.047)		(0.025)	[91.291]
New Market × Structural holes			-0.491**					
			(0.294)					
New Market × Reputation			0.402***					
			(0.093)					
New Market × Size x Reputation			-0.449***					
			(0.119)					
Control variables								
ROA	-0.003*	-0.003*	-0.003*	0.001	-0.011	-0.002*	-0.002*	-0.008
	(0.001)	(0.001)	(0.002)	(0.009)	(0.011)	(0.002)	(0.002)	[0.534]
Age (ln)	-0.017	-0.044	-0.055	-0.136	-0.037	0.010	0.001	-0.038
	(0.037)	(0.039)	(0.039)	(0.090)	(0.085)	(0.056)	(0.057)	[0.136]
Size (ln total assets)	-0.018	-0.002	-0.002	0.301***	0.030	-0.016	-0.008	0.037
	(0.019)	(0.021)	(0.022)	(0.093)	(0.081)	(0.022)	(0.026)	[0.193]
Leverage	0.000	-0.001	-0.001	-0.009	-0.010	0.000	0.000	-0.010
	(0.001)	(0.001)	(0.001)	(0.008)	(0.007)	(0.001)	(0.001)	[2.035]
Constant	0.725***	0.685**	0.792***	-1.397	3.047***	0.625**	0.601*	2.446**
	(0.271)	(0.285)	(0.293)	-1.391	(0.997)	(0.308)	(0.340)	[5.389]
White test	67.75	270.87	354.27	41.68**	50.25**	93.53	142.42	-
Chow F-test	1.01	0.98	1.03	0.41	0.53	1.17	1.17	-
Breusch–Pagan test	3.95**	5.10**	4.91**	2.44	1.78	1.22	1.27	-
Hausman test	3.45	5.67	12.27	9.14**	9.40	1.71	3.87	-
Model	*GLS*	*GLS*	*GLS*	*OLS*	*OLS*	*OLS*	*OLS*	Arnold (1982)
Number of cases	1004	1004	1004	87	87	708	708	-
Companies	358	358	358	66	66	235	235	-
Akaike criterion	2722.1	2715.0	2708.1	266.1	242.6	1860.3	1863.8	-
F	-	-	-	1.26	2.33***	1.14	1.11	-
Wald	24.67	42.44**	65.60***	-	-	-	-	-
R^2	0.026[1]	0.045[1]	0.066[1]	0.340	0.530	0.045	0.048	-
Δ R^2	-	0.018	0.021	-	0.190	-	0.003	0.482
Adjusted R^2	-	-	-	0.070	0.303	0.006	0.005	-

Note: Standard error in brackets. Dummies for Industries and Years hidden. Chi-square test between square brackets.

***$p < 0.01$;

**$p < 0.05$;

*$p < 0.1$.

[1]Overall Pseudo R^2.

and the errors, the ordinary least squares (OLS) method was the most appropriate for all models. However, Models 4 and 5 required the use of robust standard errors because the White Test was significant.

As seen in Model 5, all the variables proved significant, which is in line with our hypothesis of prominence. The structural holes of companies in the New Market were strongly related to a drop in systematic risk ($p < 0.01$), in which an increase of 10% in structural holes is related to a drop of 8.72% in risk. Unlike our hypothesis, reputation is associated with greater risk; a one-position increase in the rankings of the most admired companies leads, on average, to a 42.8% increase in risk ($p < 0.01$).

However, when moderated by company size, the same shift in ranking position reduces the risk by 50.8% ($p < 0.01$). Due to the greater value of the coefficient of the moderated variable, we understand that size is a necessary predictor of the effect of reputation on risk, in line with Hypothesis 3b. For companies with low levels of corporate governance listed in the Traditional Market (Model 7), we find that none of the independent variables is significant. This clearly shows that, in the absence of formal regulatory legitimacy, which can be attributed to corporate governance and which gives prominence to companies, cultural–cognitive and normative origins lose their influence.

However, to corroborate the existence of the moderating effect of the New Market, the difference between the coefficients of the variables in Model 5 (New Market) need to be evaluated with those in Model 7 (Traditional Market). As observed in the latter model (Arnold Model), in the New Market, the influence of structural holes on systematic risk is much more intense than in the Traditional Market (difference of -0.729 points, $p < 0.01$), confirming Hypothesis 4. This result is supported by the Model 3, which also shows converging results of the interaction term between New Market and Structural Holes $\left(\widehat{\beta} = -0,152; p < 0,05\right)$.

Because it addresses reputation, the effect is contrary to the one we had expected, even though the difference is significant (a difference of 0.409 points, $p < 0.01$); this leads us to reject Hypothesis 5a. Finally, when we compare the effect of reputation moderated by size (Size vs. Reputation variable), in the New Market, this variable is related to a much more pronounced drop in risk than in the Traditional Market (difference of -0.504 points, $p < 0.01$), thus corroborating Hypothesis 5b. In Model 3, the results are also the same: a positive effect of the interaction term between New Market and Reputation $\left(\widehat{\beta} = 0,402; p < 0,01\right)$ and a negative effect of the triple interaction between New Market, Reputation and Size $\left(\widehat{\beta} = -0,449, p < 0,01\right)$.

To facilitate the interpretation of the results, in Figure 2 we graphically present the influence of structural holes and reputation on systematic risk. The solid lines represent the relationship between the variables in the sample of companies that are part of the Traditional Market, while the dashed lines represent the relationship between the same variables, but incorporating companies that are part of the New Market only.

As observed, the more pronounced negative inclination of the dashed lines indicates that the influence of structural holes and reputation on risk is greater among companies with special levels of governance. In addition, in the graph on the right, the relationship between reputation and risk is separated into two groups: one for smaller companies (ln $assets = 11.27$) and the other for bigger companies (ln $assets = 14.9$).

As observed, while the moderation of size is irrelevant in the Traditional Market (solid overlapping lines), among companies in the New Market, there is a greater drop in risk for bigger companies (line with markers) than for smaller ones. This finding stresses our hypothesis of the moderation of prominence and size on the relationship between reputation and the drop in systematic risk.

Figure 2. Effect of the variables on market value, moderated by the governance level
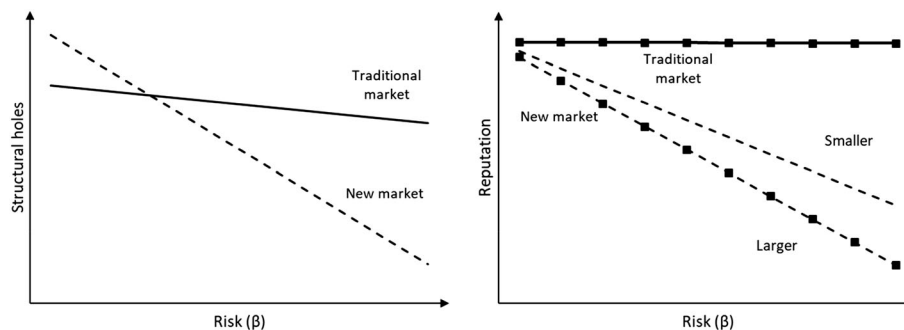
Discussion

Summary

In this article, we seek to show how the origins of a formal regulatory, cultural–cognitive, and normative order of legitimacy decrease the systematic risk of listed companies in Brazil. To do so, we consider different origins, each related to the three dimensions or pillars of institutions (Scott, 1995): adherence to the New Market as the origin of formal regulatory legitimacy, the board as the origin of cultural–cognitive legitimacy, and the reputation of the company as the origin of normative legitimacy.

In addition, we evaluate the influence of the visibility of the company, measured by its size, as a moderator of the relationship between reputation and systematic risk. Finally, we evaluate whether the prominence generated by presence in the New Market moderates the effect of the other origins of legitimacy on systematic risk.

In accordance with our results, companies that are part of the New Market have less systematic risk. In line with the theoretical picture of the reference of organizational institutionalism, we understand that those companies that have sought to adjust to formal established rules have enjoyed greater credit with investors. Therefore, the New Market functions as a type of certification of the good corporate conduct of those companies that form part of the list, thus generating greater investor confidence, which is probably related to less risk. This result converges with other empirical studies that show a relationship between lower perceived risk and the adoption of legitimate practices and rules (Bell et al., 2014; Haleblian & Finkelstein, 1993; Pfarrer et al., 2010; Tuschke & Sanders, 2003).

Concerning the board social capital, evaluated by structural holes, the origin of cultural cognitive legitimacy is strongly related to less systematic risk. Based on an institutional explanation, we understand that this relationship between risk and a board social capital is the result of the widespread belief that boards are fundamental elements of corporate governance (Cohen & Dean, 2005; Davis, 1996; Judge et al., 2008; Higgins & Gulati, 2006; Mizruchi, 1996).

Furthermore, results indicate that this relationship is not significant for companies that form part of the Traditional Market. This result is evidence that only when there is a minimum number of recognizably effective safeguards to good board functioning does the market better evaluate the risk to the assets of companies traded on the stock exchange.

Our assessment of normative legitimacy, at least in the full sample, gives no evidence of any relationship between company reputation and less systematic risk, not even when moderated by the size of the company. This relationship is significant only for companies that form part of the New Market, which underscores the importance of the prominence of formal legitimate rules as a factor that precedes reputation (Delgado-García et al., 2013; Rao et al., 2001; Rindova et al., 2005).

The results show that the prominence of the New Market explains not only the increase in the influence of reputation on the drop in systematic risk but also the existence of this relationship. It must be emphasized that this result is valid only when reputation was moderated by company size. Therefore, for bigger companies, the drop in systematic risk tends to be greater it is than for other companies, which is in line with the proposition of Julian et al. (2008) that only when some organizational characteristics are minimally visible do they influence performance. Nevertheless, the most intriguing finding is the relationship between a stronger reputation and an increase in risk for smaller companies both in the complete sample and in the New Market sample.

The only way we find to explain this relationship is that, for smaller companies with less visibility, spending resources to meet the demands of various stakeholders may even lead to the firm having a better reputation, but this may be seen by investors as a deviation from the firm's objective function, which is to maximize shareholder wealth (Jensen, 2001). Finally, the results indicate that the New Market, as the formal regulatory origin of legitimacy and an outstanding factor of prominence, moderates the relationship between other origins of legitimacy and systematic risk, which is in line with previous empirical studies (Delgado-García et al., 2013; Rao et al., 2001; Rindova et al., 2005).

Comparing the results of the influence of structural holes and legitimacy in the New Market with the Traditional Market, we perceive that, in the presence of the former, the variables had a significant and more intense influence on systematic risk, while for the latter, none is significant. These results underscore the importance of legitimacy related to the mechanisms that have been formally instituted in the New Market by the BM&FBovespa for reducing the stocks' systematic risk. As noted previously, the only result that was opposite to the one expected is that for reputation when not moderated by company size.

Contributions to the Literature

First, our study contributes to the literature on organizational institutionalism generally and to the field of corporate governance studies specifically because it highlights the importance of companies acquiescing to environmental pressures. There is strong evidence that social approval and legitimacy are important mechanisms for reducing risk and gaining access to funds (Deephouse & Suchman, 2008; Meyer & Rowan, 1977).

Evidence of this phenomenon is the greater explanatory power of variables related to institutional environment than other control variables. The second theoretical contribution is our evaluation of the multifaceted nature of legitimacy in capital markets by using elements from the three institutional pillars, like that of Judge et al. (2008).

This contribution is important because, even though Scott (1995) notes that the distinction between the different dimensions of legitimacy is only analytical, empirically,

they are different (see the author in Ruef & Scott, 1998). This phenomenon occurs because legitimacy, as a structural dimension incorporated in agents and objects, includes its origin.

Therefore, if legitimacy can vary by origin, its influence on companies can as well. Third, we evaluated a little-studied variable, asset risk, which is directly related to the capacity of the companies to raise funds. Moreover, if we add the results of the influence of legitimacy on the reduction in risk (Bansal & Clelland, 2004; Certo & Hodge, 2007; Delgado-García et al., 2013) to those for its influence on the increase in market value (Roberts & Dowling, 2002; Tuschke & Sanders, 2003), we can infer that there is an additional premium paid by the market for stock price that goes beyond incorporated risk.

Finally, the last theoretical contribution involves the moderating effect of visibility on reputation and prominence related to presence in the New Market on the other dimensions of legitimacy. These elements show that the different origins of legitimacy present complex interactions that may affect companies in different ways.

Applied Implications

Among practical implications, our study shows that executives should pay special attention to the values and standards legitimately instituted in the market because they lead to less risk for the assets. Because legitimate companies tend to have access to resources and to weather crises with less difficulty, they have better market valuation. In the contemporary capital market, investors are not concerned only with profitability and transparency; they also care about firm sustainability and corporate social responsibility (Nguyen & Nguyen, 2015).

Limitations and Future Research Directions

Our study evaluated risk using only a single indicator. Future studies could seek different ways of evaluating risk in addition to the ß of CAPM by including indicators such as unsystematic risk. Moreover, other variables related to organizational performance could be analyzed, including the cost of capital and abnormal returns. Other indicators related to the origins discussed here could also be evaluated, as could other origins of legitimacy. Elements related to ownership structure and pyramidal structures can be incorporated because there is evidence of their influence on performance (Tuschke & Sanders, 2003). Furthermore, the influence of cross-ownership relationships on legitimacy and the performance of publicly quoted companies can also be evaluated, as could ties with governments, banks, and pension funds. Finally, we suggest that meta-analyses be carried out to look for more consistent evidence of the relationship between legitimacy and performance, considering the characteristics of the variables studied and those of national markets.

Endnotes

1 Although the São Paulo stock exchange changed its name in June 2017 to B3, the present paper concerns data gathered before this change, and the authors therefore refer to BM&FBOVESPA throughout.

JEL Classifications: G32, G34, N26, O16, Z10

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