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Article

The Effect of Board Links, Audit Partner Tenure, and Related Party Transactions on Misstatements: Evidence from Chile

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Abstract: Companies restate when material misstatements are identified in previously issued financial statements. Misstatement research in Latin America is sparse, even though they are an important context to study this phenomenon. Chile's corporate governance regulations are considered exemplars for Latin American countries but its auditing profession is not well developed. Thus, Chile provides an interesting context to study the complementary roles of audit and board governance affecting misstatements. Using a sample of 104 Chilean listed firms over seven years, our study finds that the board links and audit partner tenure negatively affect misstatements. Specifically, given the prevalence of related party transactions (RPTs) in conglomerates, the finding suggests that cross directors monitor high-value RPTs, but that this is not a substitute for auditor expertise. The findings raise questions about the advisability of mandating audit partner rotation to strengthen auditor independence because the results indicate that a short audit partner tenure leads to the auditor not developing client-specific knowledge. The study makes contributions to the corporate governance literature by highlighting that board monitoring is not a good substitute for auditor monitoring of financial reporting integrity, and suggesting the need for having licensing requirements to become an auditor.

Keywords: corporate governance; audit governance; board independence; related party transactions; misstatements; financial reporting integrity

JEL Classification: G30; G38; G39

1. Introduction

Chile's capital market and corporate governance regulations are considered exemplars for Latin American countries (OECD 2003; Gjerde et al. 2013). For example, Gjerde et al. (2013) find that board independence, corporate disclosures, and outside monitoring by creditors moderate the informational effects that insiders have on trading costs and the liquidity of shares traded on the Santiago stock exchange. Mahenthiran et al. (2020) find that board independence influences the likelihood of paying excess dividends, and they find an interesting dichotomy between the impacts of public versus private debt on the size of excess dividends. Specifically, the correlation between the size of excess dividends and the use of private debt is positive, but the relationship between the size of excess dividends and the use of public debt is negative. These Chilean governance studies suggest that the independent board of directors and outside creditors play important monitoring roles, but the role of the external auditors monitoring the financial reporting integrity is relatively unexplored in Latin American (LA) countries.

Accounting researchers have emphasized the importance of well-functioning auditing institutions to exist in a country for the legal enforcement of financial reporting integrity (Kothari et al. 2010; Ball et al. 2003). The external auditors perform an important corporate governance role in ensuring the quality of financial reporting in less developed countries (Fan and Wong 2005), and the impact of audit partner tenure on audit quality has been debated within academia and by regulators in the US and globally. According to Laurion et al. (2017) and Reid and Carcello (2017), audit partner rotation is intended to maintain auditor independence and to bring a fresh look to the audit engagements, while balancing the need to maintain continuity and audit quality (SEC 2003). Thus, the partner rotation requirements must balance the need to achieve a fresh look of financial reporting and auditor independence against the need for an audit engagement team to obtain the necessary experience to do their job effectively.

In Chile, audit firms are regulated at the state level through the supervision of the Comisión para el Mercado Financiero (referred to as CMF) and the Superintendent of Banks and Financial Institutions (SBIF). According to professional accounting regulator Colegio de Contadores de Chile, there are no licensing requirements to practice as an auditor and there is no independent audit oversight authority like the Public Company Accounting Oversight Board that exists in the US. But the regulators are empowered to require audit firms to establish their own quality control requirements, and audit reviews such as peer reviews are conducted only when suspicious activities are identified¹. Thus, Chilean institutions seem to promote auditor self-regulation, but it does not have a well-developed accounting profession. Consequently, the study examines how this weak accounting environment, along with the mandatory audit partner rotation requirement, affects the integrity of financial reporting in a developing country like Chile.

Studies have emphasized the importance of testing the effects of mandatory audit partner rotation in a country that has experience with it, which is not possible in developed countries such as the US, since the disclosure of partner names was not required before 2017. Nevertheless, there is no evidence that misstatements are directly related to partner rotation (Laurion et al. 2017), even though the auditor's incentive is affected by his or her potential for future re-appointments by the client firm (Cameran et al. 2017; Ball et al. 2003). Restatement and auditor rotation research in LA countries are non-existent, and Chile provides a unique context with its vibrant stock market to study the issue of mandatory audit partner rotation on financial reporting integrity². Further, restatements have significantly increased in Chile since 2009 from 12 to 25 firms in 2015. Hence, there is concern among investors about the board and the auditor monitoring the reporting quality of the Chilean listed companies (Pizzaro et al. 2007; Gjerde et al. 2013).

The study's objective is to use restatements to identify Chilean firms that have financial reporting integrity issues and examine the effect of board governance, audit partner tenure, and related party transactions (RPTs) on restatements. Auditing studies find that audit partner tenure and client-specific knowledge is associated with audit quality, but it must be studied with an understanding of the institutional context (Goodwin and Wu 2016; Chi et al. 2017). In Spain, Gracia-Blandon and Argiles-Bosch (2017) failed to find a significant impact of a partner's expertise on audit quality, whereas, in China, the auditor's industry specialization and experience improved the audit quality (Chi and Chin 2011; Chi et al. 2017). The contradictory findings emphasize the importance of a country's institutional context affecting the monitoring by external auditors, the quality of audits, and the engagement partner's interaction with the client firm's personnel which affects the lead audit partner's expertise and audit judgments (Knechel 2000; Bedard et al. 2012). Thus, it is believed that due to auditor incentives, board governance, and the institutional context being country-specific, replication studies

¹ For details see (www.ifac.org/about-ifac/membership/country/chile).

² In Chile, for example, the private institutional investors invest the citizens' contributions into their social security retirement system in Chilean listed companies.

in previously uninvestigated audit markets could make a significant contribution to understanding the implications of mandating audit partner rotation.

Audit governance and board governance of firms are interrelated. For example, US studies find restatement announcements are associated with improved corporate governance as evidenced by changes to the board of directors (Johnstone et al. 2011), to the audit committee members (Carver 2014), that can result in changing the audit firm (Mande and Son 2013). In Germany, Brocard et al. (2018) find that auditor changes are more likely to occur before the announcement of the restatement, and firms tend to change from non-Big4 to Big4 auditors. This finding suggests that misstatement clients seek the reputation of Big4 auditors, and Ebner et al. (2017) find similar results supporting the “labeling” effect of auditor change resulting in the switch to a more reputable auditor. The findings that Big4 auditors do not hesitate to take over as clients the misstatement firms has been attributed to the limited auditor liability in Europe by Brocard et al. (2018), and in Asia by Hasnan et al. (2013). Thus, non-US studies provide mixed evidence as to whether the benefits of mandatory auditor partner rotation outweigh the costs. It could be that in non-US firms’ director independence and reputation play an important board monitoring role that complements the auditor’s reputation.

The Chilean stock market has about 125 actively traded firms, and our sample consists of 104 firms over the years from 2009 to 2015. This provides a sample of 728 firm-years of which 75 firm-years had voluntary misstatements and 32 firm-years had mandatory misstatements that were required by the regulators. Further, in emerging capital markets the ownership is concentrated and different types of blockholders hold the firms closely. Lefort and Walker (2007) find that a highly concentrated ownership structure in conglomerates formed as an economic group is a defining character of Chilean listed companies. Hence, the study controls for ownership by insiders and institutions, and board governance mechanisms, such as director independence, the board size, and board links that are used as predictors of restatements in Chilean listed firms.

Our results find that, after controlling for insider ownership and company characteristics, the board links or cross directorships in multiple corporate boards and the tenure of the lead audit partner negatively affects misstatements. Additionally, the board links interact with the value of RPTs to negatively affect the probability of misstatements by Chilean firms. The results suggest that longer audit partner tenure, board links, and monitoring of high-value RPTs by independent directors help to avoid misstatements. Given the weak audit environment, our findings raise important questions about the advisability of mandating audit partner tenure as part of a strategy to improve financial reporting quality in Chile because a shorter partner tenure is associated with a higher probability of restatements. Additionally, the findings provide some evidence that independent board members when it is associated with the proxy the number of board links may improve financial reporting quality. However, the results about the monitoring role of cross directors are not as consistently statistically significant as our results regarding lengthening audit partner tenure. Hence, our findings do not conclusively prove that board monitoring can compensate for auditor monitoring of financial reporting integrity in a less developed country where the accounting profession and the auditing institutions are not well developed.

2. Chilean Institutional Context and Motivation

Chile has mandatory regulations on audit partner rotation, which allows a maximum of a five-year term for an audit partner–client firm relationship, which is similar to the current US standards. There are two main reasons for a listed firm to change an auditor. First, when the firm’s board is not satisfied with the quality of the audit and second when it is necessary to follow the recommendation of Act 18045, article 239 and 243. According to the act, if a company works with the same lead audit partner for more than five years there is the presumption that there is a lack of independence between the auditor and the client firm. Hence, a typical Chilean company, within the five-year tenure of the engagement partner would likely change its lead audit partner to meet the spirit of the mandatory audit-partner rotation law. Additionally, for an audit firm, the Chilean audit market is a low litigation

risk market that can result in the audit partners not having the incentive to provide high-quality audits before being replaced by a new engagement partner. In addition, this lack of incentive may be severe if the audit partner tenure is very short and the audit firm rotation is only among the Big N firms so as to maintain the reputational benefits of labeling.

According to Act 18046, a listed Chilean company may only enter into transactions with related parties (e.g., with firms that belong to the same group) that contribute to the firm's social interest and are within the purview of the external auditor's scrutiny. This social interest provision of the law for RPTs seems to have resulted in stakeholders, such as active labor unions, requiring disclosures of related party transactions that provide contractual services to the firms that belong to the same group of companies in the conglomerate structure. The result is that Chilean listed firms seem to emphasize the form rather than the substance of RPTs that make disclosures less transparent. For example, refer to the snippet below, where unionized labor is calling into question the propriety of RPTs.

"Multirut" practice is the main issue that affects unions in related party transactions. Under this practice, the company is divided into two or more companies, so that there is a lesser number of workers in a company that results in less power for the unions to negotiate. The head of the national union association (Barbara Figueroa) states, "Not only do we understand MultiRut as an abusive practice in the diversification of companies' resources ... but in practice, for us, it has a direct implication for the possibility of stronger negotiations, he warned" (Herrera 2019). Thus, it seems that multirutting increases the demand for disclosure about related party transactions, particularly by the trade unions in Chile.

The Chilean CMF and the regulation Standard of General Character NCG 30 (CMF 1989)³ establish the information disclosure obligations of the listed companies. This regulation obliges Chilean listed firms to send the financial statements to the CMF, along with a declaration of the responsibility regarding the veracity of the information delivered annually to CMF⁴. Additionally, the CEO and the majority of the directors are required by law to adopt a board resolution confirming the accuracy of the filed financial statements. For these reasons, the investment community in Chile perceives that the listed firms' board governance is strong, and Chilean accounting research has not found evidence of earnings management (Pizzaro et al. 2007; Mahenthiran et al. 2020)⁵.

The Chilean CMF has legislated two forms of misstatements referred to as voluntary and mandatory restatements of financial statements. This misstatement categorization is similar to the categorization of restatements due to either errors or irregularity in the US (Hennes et al. 2008; Chiu et al. 2013), and only the irregularities are subject to fines. The mandatory audit partner rotation combined with difficulties of auditing RPTs can affect the audit quality, which in turn may affect the financial reporting integrity and increase the probability of misstatements. Hence, these unique backgrounds of Chilean regulations, institutions, and the audit environment motivate our study.

3. Literature Review

Corporate governance studies have examined different situations that contribute to strengthening board governance. For example, Giround and Mueller (2011) hypothesized that the benefits of good governance would be smaller for firms in competitive industries due to the economic discipline of competition. Accordingly, they find that only in noncompetitive industries weak governance firms have lower equity returns, operating performance, and firm value. Masud et al. (2019) find that the presence of professional expert directors on the board affects the extent of corporate corruption disclosures by firms in the Bangladeshi financial sector. Li's (2014) findings suggest that boards should

³ <http://www.cmfchile.cl/portal/principal/605/w3-channel.html>

⁴ Chilean regulations require company management to complete Form No. 385 and certification of the presence of good corporate governance practices. However, in practice, it is difficult to verify the information in this form.

⁵ We could not find published studies reporting poor earnings quality associated with weak board governance. The study by Mahenthiran et al. (2020) suggests that this might be due to the mandatory dividend regulation.

encourage monitoring by the number two executive in the firm to mitigate the agency problems of the CEO. [Li et al.'s \(2018\)](#) study finds that the risk-adjusted metric of insider debt has a stronger correlation with corporate conservatism in firms facing credit defaults. In Chile, [Mahenthiran et al. \(2020\)](#) find that public debt, rather than private debt, plays a monitoring role in determining the amount of the dividends paid. Our research contributes to this stream of corporate governance research to examine the complementary nature of the board and auditor monitoring on financial reporting integrity.

3.1. Audit Governance Literature

Auditors play a critical role in lowering the probability of material misstatements and in protecting investors ([Fan and Wong 2005](#)), and the lead audit partner is the first line of defense against misstatements ([Dechow et al. 2011](#)). The US studies show an association between proxies for audit quality, such as Big4 auditor, audit firm tenure, auditor industry expertise, and favorable Public Company Accounting Oversight Board inspection opinions that reduce the likelihood of firms misstating ([Lim and Tan 2010](#)). [Lin and Liu \(2009\)](#) find that shareholders of restating companies tend to ratify resolutions calling for the dismissal of the auditor associated with the misstatement. However, auditors may also blame the client (e.g., for poor internal controls) for the misstatement, and proactively sever the ties with the client firm to preserve the audit firm's reputation and its litigation exposure ([Sharma and Iselin 2012](#)). [Mande and Son \(2013\)](#) find evidence that misstating firms dismiss their auditor to increase the audit quality and to restore their reputation following restatements. [Files et al. \(2014\)](#) find that repeat restatements are more likely among clients of non-Big N auditors and those with lower earnings quality, which may cause non-US firms to switch to a Big N audit firm. However, in Chile, the Big 5 audit firms monopolize the auditing of the Chilean listed firms; hence, the labeling benefit associated with switching audit firms may not be significant. Moreover, this might be a salient feature of smaller audit markets in less developed countries where the benefits from economies of scale are not significant for the audit firm, and the lengthening of audit partner tenure with a client firm might be the primary means to obtain the needed experience.

[Myers et al. \(2003\)](#) and [Gul et al. \(2009\)](#) argue that long audit partner tenure is associated with higher-quality audits due to the possibility of developing higher levels of client-specific knowledge. On the other hand, [Carey and Simnett \(2006\)](#) and [Bedard and Johnstone \(2010\)](#) argue that short tenure leads to higher quality audits because planned engagement and audit effort increases following audit partner rotation. [Laurion et al. \(2017\)](#) and [Singer and Zhang \(2018\)](#) suggest greater benefits are gained by audit partner rotation due to the provision of obtaining a fresh look from a new auditor. For example, partner rotation is associated with more conservative estimations such as increases in expense allowances ([Laurion et al. 2017](#)), which should help reduce misstatements. [Singer and Zhang \(2018\)](#) find that the longer the auditor tenure, the greater the magnitude of the misstatements, which argues for a shorter audit partner tenure.

Non-US studies suggest that switching an auditor is a proxy for poor audit quality because auditor change happens before the misstatement year. In Malaysia, [Hasnan et al. \(2013\)](#) find that fraudulent financial reporting is more likely during the first two years of an auditor's tenure that leads to an auditor change subsequently after the fraud year. Hence, they argue that auditor change is an indicator of poor audit quality ex-ante. In Australia, [Ball et al. \(2015\)](#) find a negative relationship between the length of tenure of the lead audit partner and the client firm's CEO and audit quality, and a positive relationship between the length of the audit firm-client firm relationship and audit quality. The findings by [Ball et al. \(2015\)](#) suggest that the close relationships between the lead audit partner and the client firm's senior executive undermine auditor independence, but as the audit firm tenure increases the audit expertise improves the audit quality. In Italy, [Corbella et al. \(2015\)](#) find that the audit quality of non-Big4 audit firms improved following the mandatory audit firm rotation. Thus, studies make the distinction between the benefits of audit-partner tenure and audit firm tenure, suggesting that partner-level experience can strengthen the effects of audit-firm expertise and vice versa ([Gul et al. 2013](#); [Chin et al. 2014](#); [Knechel et al. 2015](#)), which can be another reason for lengthening

the audit partner tenure. Besides, it is argued that it is difficult for the lead audit partner to share his or her client-specific knowledge with other partners within the same audit firm because it is inseparably tied to the individual audit partner's private human capital (Knechel 2000; Gul et al. 2013). Hence, in smaller audit markets, the cumulative evidence suggests that there may be a negative association between short audit partner-client firm tenure and audit quality because a short tenure leads to a lack of client-specific knowledge and experience necessary to develop the audit expertise. Thus, we hypothesize that:

Hypothesis 1. *Ceteris paribus, longer (shorter) audit partner-tenure is negatively (positively) associated with the probability of misstatements by Chilean firms.*

3.2. Board Governance Literature

Board independence is a key mechanism to monitor the senior managers of firms (Beasley 1996; Shleifer and Vishny 1997). Furthermore, cross directorship means that a board member of one company sits on the board of another company, and there is debate if such board links strengthen board governance. The initial view was that board links are beneficial because board members with cross directorship are more experienced reputable directors; hence, many companies would like to have them on their boards (Fama and Jensen 1983; Ferris et al. 2003). According to these researchers, multiple independent directorships can provide directors with the opportunity to compare management policies and practices, provide insights into how other companies pursue new approaches, and expose them to effective management styles. On the contrary, cross directorship may not be beneficial because linked directors may promote empire building and engage in inter-corporate collusion and co-optation (Shleifer and Vishny 1997; Chiu et al. 2013). Further, Ferris et al. (2003) and Hasnan et al. (2013) find that serving on multiple boards could result in board members becoming distracted because their efforts and time are thinly spread across multiple company directorships making effective monitoring less likely.

In the US, Chiu et al. (2013) find that board links are associated with poor earnings quality contagion whereby a firm is more likely to have poor quality earnings when it shares a common director with a firm that is manipulating its earnings. Further, they find that when a firm has a board of directors who is linked to a non-restating firm it is less likely to manipulate earnings. In Malaysia, where concentrated ownership is present, Hasnan et al. (2013) find that multiple directorships significantly contribute to fraudulent financial reporting that they attribute to distracted directors on firm boards. Thus, empirical evidence of the effect of cross directorships on financial reporting integrity is mixed, and we provide a non-directional hypothesis that states:

Hypothesis 2. *Ceteris paribus, board links in Chilean firms are associated with the probability of misstatements.*

3.3. Related Party Transactions Literature

According to Gordon et al. (2004), transactions between a firm and its principal owners, its owner-managers, directors, or affiliates are classified as RPTs. Claessens et al. (2000) posit that concentrated family ownership, conglomerate firm structure, and weak institutions in developing countries are related to high levels of RPTs. Family ownership, conglomerate structures, and economic groups are common in Chile that have been shown to affect firm value (Lefort and Walker 2007), stock market liquidity (Gjerde et al. 2013), and dividend policy (Mahenthiran et al. 2020). Marchini et al. (2018) find that RPTs with the ultimate parent company are associated with lower quality earnings, and the decision to engage in earnings management is associated with lower disclosure quality too. Hence, RPTs between companies that belong to the same economic group affect the transparency of disclosures, the earnings quality, and could be related to the probability of misstatements.

Agency theory provides two views of the effects RPTs on earnings. The first view is known as the conflict of interest perspective that emphasizes the regulator's view of RPTs as non-arm's length

inefficient transactions that compromises the management's agency responsibility to their shareholders (Gordon et al. 2004; Marchini et al. 2018). The second view is the efficient transaction hypothesis, which argues that RPTs are efficient transactions because they reduce the transaction cost and facilitate smoother activities between parties fulfilling the economic demands of a firm operating in difficult institutional environments (Khanna and Palepu 2000; Abdul Rasheed et al. 2019). According to these studies, the efficient transaction perspective dominates in a developing country like India where the market imperfections (e.g., labor market frictions) are problematic, and firms that belong to an economic group reap transactional advantages by using RPTs. In Malaysia, Hasnan et al. (2013) find that a higher number and value of RPTs are associated with less probability of fraudulent financial reporting. Hence, it is probably necessary to interpret the effect of RPTs on misstatements bearing in mind the country's institutional environment.

Standard setters and regulators have exercised oversight over RPTs by requiring extensive disclosures, assuming that information about them would be useful to investors to assess their efficacy. Chile adopted the International Financial Reporting Standard or IFRS in 2009, and the International Accounting Standard 24 on "Related Party Disclosures" issued by the International Accounting Standards Board requires transactions and outstanding balances with other entities in the same economic group to be disclosed. However, most companies generally disclose that their contracts with related parties are conducted on terms at least as favorable as with unrelated parties that make it difficult for the auditors to directly assess the efficacy of RPTs. Hence, the effectiveness of audit and board governance is probably related to the effective monitoring of RPTs.

Kohlbeck and Mayhew (2017) find that, for the S&P firms in the US, RPTs are associated with future financial misstatements and the probability of restatement of the financial accounts was high when firms engage in more RPTs. They also find that RPT firms in their US sample have lower audit fees, suggesting that RPTs are associated with low audit quality. Restatements are not fraud and most Chilean firms' misstatements were not mandatory, nor were they subject to fines. Moreover, in the Chilean context, a principal owner or director is presumably affiliated with the listed company that provides (or receives) goods or services to (from) a non-listed firm in the group. Hence, based on RPT disclosures it is probably difficult to infer if it is a conflict of interest or an arm's length transaction. Thus, in terms of RPTs affecting misstatements, it is unclear which view of RPTs would prevail. Accordingly, we state the following non-directional hypothesis:

Hypothesis 3. *Ceteris paribus, the amount and value of related party transactions affect the probability of misstatements by Chilean firms.*

It is important to study the effect of board monitoring on RPTs, because as the insiders' control rights over the firm increase so does the volume of RPTs (Kang et al. 2014). Moreover, studies find that insiders use RPTs to tunnel resources for their private interests causing agency conflicts between majority and minority shareholders (Bona-Sánchez et al. 2017; Marchini et al. 2018). Hence, board governance, the volume of RPTs, and the value and nature of RPTs disclosed affect the audit risk (Al-Dhamari et al. 2018). In Chilean listed firms, Buchuk et al. (2014) find that the influence of insiders in tunneling activities through intragroup loans is minimal because the resources tend to be allocated down to the subsidiaries where they are used productively to provide the highest return on equity. Hence, a good board monitoring mechanism such as having independent directors could result in the monitoring of RPTs that can help Chilean firms to avoid misstatements.

We observed that most of the cross-directors in Chilean firms are independent (i.e., ex-military personnel), which provides validity to the argument that they may be appointed to the board for their reputation, integrity, and their political connections. Remmer (1989, p. 149) noted that "all recent southern cone military regimes have shared a formal commitment to monetary orthodoxy and market-oriented development policies, nowhere has this commitment been translated into reality more rapidly or consistently than in Chile". Thus, the independence of the cross-directors might affect

the board monitoring of the RPTs. Accordingly, based on our inductive reasoning, we explore two interaction hypotheses of whether cross directors being independent and its interaction with RPTs affect the probability of misstatements.

Hypothesis 4a. *Ceteris paribus, cross directors being independent affects the probability of misstatements by Chilean firms.*

Hypothesis 4b. *Ceteris paribus, related party transactions, and board links interact to affect misstatements by Chilean firms.*

4. Methodology

4.1. Sample

The sample period is from January 2009 to December 2015, which is after the adoption of IFRS⁶. During this period, we obtained a complete set of panel data of the firm characteristics and ownership variables for 104 firms⁷. Hence, the sample is a panel data set of 104 companies over 7 years, and we use fixed-effect models that control for firm and industry fixed effects in all our multivariate analyses. Additionally, since most of the hypotheses (except Hypothesis 1) are non-directional we use two-tailed statistical tests to infer significance. The firms belong to seven industries consisting of agriculture, fishing, forestry; mining; manufacturing including food production; energy and utilities, building and real estate, tourism and health services, and transportation.

4.2. Research Design

The US studies use accounting and auditing enforcement releases to identify restatements that provide unambiguous ex-post evidence that financial reports have not been prepared in accordance with US GAAP (Palmrose et al. 2004; Hennes et al. 2008). These authors proposed a simple method to classify the cause of restatements as either error (unintentional) or irregularity (intentional). Accordingly, the CMF regulation results in the following categories of misstatements. First, no misstatement is coded as “0”, a voluntary restatement of the financial statements that is requested by the listed company itself is coded as “1”, and misstatements required by the regulator due to the errors, omissions, or irregularities in the initially submitted financial reports are referred to as mandatory misstatement and is coded as “2”. However, for hypotheses testing, we combine the voluntary and mandatory misstatement because we only had 32 firm-years of mandatory misstatements, and we reference the companies belonging to these two categories as misstatement firms. Thus, for the initial analysis, the dependent variable is binary: no-misstatement coded as “0” and voluntary as well as mandatory misstatements coded as “1”.

We hypothesize three explanatory variables the board links, the audit partner tenure, and RPTs as being associated with the probability of misstatements. The first explanatory variable, board links (Cross_Dir) is coded as “1” if one of the directors on the firm’s board has at least one additional directorship on the board of another company and if otherwise it is coded as “0”. Prior studies by Chiu et al. (2013) and Hasnan et al. (2013) have used this same definition of board links. A second variable, the audit-partner tenure is a measure of the length in years of the lead audit partner with the same client-firm (Part_Ten) and it is the proxy for an auditor’s expertise with a client firm.

The third explanatory variable RPTs is measured using both the number of RPTs (#RPT) and the value of RPTs (\$RPT). According to Gordon et al. (2004), most RPTs fall into five categories. First, RPT is the direct service between a related party and the company (e.g., a transaction with a relative

⁶ An author collected the data during his sabbatical in 2016–2017, and 2015 is last fiscal year for which data was available. In Chile, the calendar year is the fiscal year for all listed firms.

⁷ Financial data were downloaded from the Economatica database and non-financial information such as the volume and value of related party transactions were hand collected.

of an executive serving on the company's board), second, is the contracted service acquired from a related party including management services, legal services, real estate, or other services. This also includes contracted services for the purchase of any goods or services from a related party including "Multirut" type transactions. Third, is loans to related parties for the purchase of stocks or other tangible assets, fourth, are other loans to related parties (e.g., executives) that are not identified, and fifth relates to other related party transactions including shared services with an affiliated company including an agreement that provides preferential rights to certain senior executives or directors for providing services. Additionally, given that #RPTs and \$RPTs are not normally distributed we use their log transformations in our analyses. Furthermore, to facilitate the interpretation of the results and given that the dependent variable, no-misstatement vs. misstatement is binary; to test the interaction effect of RPTs with board links, we categorized the RPTs as high versus low based on their median values. Accordingly, if the #RPTs log value is 2.1 or greater, it is coded as "1", and if otherwise, it is coded as "0" and are referred to as #RPT_Dum⁸. Similarly, if the log value of \$RPTs is 15 or higher, it is coded as "1", and if otherwise it is coded as "0" and is referred to as \$RPT_Dum.

We control for nine variables that proxy for the firm characteristics, corporate governance, and the institutional context. Prior research has shown that four firm characteristics, namely firm size (Tot_Ass), leverage (Lev), capital intensity (Cap_Int), and firm performance (ROA) affect the integrity of financial reporting (Chiu et al. 2013; Ball et al. 2015). These studies show that financial reporting quality is higher in larger companies and firms with less financial distress (e.g., Hasnan et al. 2013). The firm's size is measured as the log of firms' total assets, and leverage is the proxy for financial distress that is measured as the total liabilities divided by total assets. The capital intensity which can also be related to firm age is measured as the proportion of fixed assets to total assets. Firm performance is measured as the log of return on assets (ROA). The ROA is calculated as net income for the period divided by lag total assets. Additionally, since there are negative values for ROA, to calculate the log of ROA we added the minimum value of it plus 1 to each firm's ROA making the minimum ROA value zero. Studies have shown that firm characteristics such as leverage and insider debt levels are also related to earnings quality (Hasnan et al. 2013, Li et al. 2018). Thus, we use total accruals measured as the operating income less cash flow from operations as a proxy for earnings quality. To control for the effect of extreme values, these firm characteristic variables are winsorized at the 1 percent cutoff level of the highest and lowest values.

We measure each firm's board governance using four proxies. The directors' profiles in the annual reports are read to determine the number of independent directors on the board, and those who owned more than 10 percent of the equity shares as disclosed in the top shareholder's list are cumulated to obtain the insider ownership variable (Ln_Insider). The second and third proxies are the board size (BoD_Size) and the percentage of independent directors on the board (%Ind_Dir). Due to the Chilean institutional context, we also control for AFP ownership that is the percentage of blockholdings of equity shares held by the private pension funds.

4.3. Models

Appendix A describes the variable labels and definitions used in the models. Two models are tested with direct and interaction effects using the number of RPTs (#RPT_Dum) or the value of RPTs (\$RPT_Dum) separately, which results in four separate models. Below, we express the base model and the interaction model with #RPT_Dum as the proxy for RPTs:

$$Y(\text{Misstate}_{i,t}) = \alpha_0 + \alpha_1 \text{Ln_Tot_Ass}_{i,t} + \alpha_2 \text{Lev}_{i,t} + \alpha_3 \text{Cap_Int}_{i,t} + \alpha_4 \text{ROA}_{i,t} + \alpha_5 \text{Ln_Insider}_{i,t} + \alpha_6 \% \text{AFP}_{i,t} + \alpha_7 \text{BoD_Size}_{i,t} + \alpha_8 \% \text{Ind_Dir}_{i,t} + \alpha_9 \text{Cross_Dir}_{i,t} + \alpha_{10} \text{Part_Ten}_{i,t} + \alpha_{11} \text{\#RPT_Dum}_{i,t} + \varepsilon_{i,t} \quad (1)$$

⁸ All variable labels are defined in Appendix A.

$$\begin{aligned}
Y(\text{Misstate}_{i,t}) = & \beta_0 + \beta_1 \text{Ln_Tot_Ass}_{i,t} + \beta_2 \text{Lev}_{i,t} + \beta_3 \text{Cap_Int}_{i,t} + \beta_4 \text{ROA}_{i,t} + \\
& \beta_5 \text{Ln_Insider}_{i,t} + \beta_6 \% \text{AFP}_{i,t} + \beta_7 \text{BoD_Size}_{i,t} + \beta_8 \% \text{Ind_Dir}_{i,t} + \\
& \beta_9 \text{Cross_Dir}_{i,t} + \beta_{10} \text{Part_Ten}_{i,t} + \beta_{11} \# \text{RPTit_Dum}_{i,t} + \\
& \beta_{12} \text{Cross_Dir} * \% \text{Ind_Dir}_{i,t} + \beta_{13} \text{Cross_Dir} * \# \text{RPT_Dum}_{i,t} + \varepsilon_{i,t}
\end{aligned}
\tag{2}$$

Equation (1) is the base model of the direct effects, and Equation (2) extends it with two additional two-way interaction terms (i.e., $\text{Cross_Dir} * \% \text{Ind_Dir}$ and $\text{Cross_Dir} * \# \text{RPT_Dum}$) to test the incremental effects of a cross-director being independent separately from the incremental effect of cross-directorship on RPTs⁹. Moreover, in Table 4 we also show the results including total accruals (Acc) as an additional control variable in the interaction Models 5 and 6 that includes the Cross_Dir interaction with $\# \text{RPTs}$ and $\$ \text{RPTs}$, respectively. We are attempting to predict the probability of misstatements using a categorical variable; hence, we use binary logistic regression analysis. The logistic regression analysis utilizes the maximum likelihood estimation to evaluate the probability of a categorical membership into the misstatement group, and the Wald statistics uses a z-value to calculate the significance of the coefficients.

5. Results

5.1. Descriptive Statistics and Univariate Analysis

Table 1 reports descriptive statistics. It shows that, on average, 19 percent of our sample consists of misstated firms. A typical Chilean firm's total assets are financed 37.7 percent by debt (Lev), and 72.4 percent of the assets consists of long-term assets (Cap_Int), and the average ROA is 5.4 percent. Additionally, insiders (Ln_Insider) own about 60 percent of the equity shares, and institutional investors (%AFP) own 6.5 percent of the shares. The typical Chilean firm's board (BoD_Size) consists of seven directors and about 13 percent of them are independent (%Ind_Dir). Furthermore, a typical board is likely to have board links (Cross_Dir) with at least a director serving on another firm's board. The median audit partner tenure (Part_Ten) is 2 years, which is well below the 5-year term allowed by the mandatory audit-partner rotation regulation. The average number of related party transactions (#RPT) is 20 and their average value (\$RPT) is 70 million Chilean pesos, and the mean log transformations of \$RPT are 15.7. The mean total accrual (Acc) as a percent of assets is negative 1 percent, which means the cash flows from operations are higher than the accrual income.

Table 1. Descriptive statistics.

Variable	N	Mean	Std. Dev.	Median	Minimum	Maximum
Misstate	728	0.192	0.496	0	0	2
Ln_Tot_Ass	728	18.512	2.683	18.957	8.079	22.419
Lev	728	0.377	0.174	0.38	0	1.27
Cap_Int	728	0.724	3.757	0.4	0	71.12
ROA	728	5.373	19.339	4.735	−101.35	403.94
Acc	728	−0.007	0.1	0	−0.42	0.43
Ln_Insiders	728	0.599	0.273	0.615	0	1
%AFP ¹⁰	728	0.0652	0.174	0	0	1
BoD_Size	728	7.432	1.514	7	2	12
%Ind_Dir	728	0.133	0.13	0.142	0	0.667
Cross_Dir	728	0.802	0.399	1	0	1
Part_Ten	728	1.809	1.083	2	0	7
#RPT	728	20.293	23.465	12	1	140
\$RPT	728	15.71	2.805	15.74	3.91	21.76

⁹ The two-way interaction with partner tenure is not significant, hence we omitted the interaction between $\text{Part_Ten} * \# \text{RPT_Dum}$, and including it has no effect on the reported results.

Table 2 shows the Pearson correlations between our variables. The results show that larger (Ln_Tot_Ass) firms are less likely to have misstatements, and the larger the value of RPTs (\$RPT) the more likely the firm is to misstate. Additionally, although not significant, a shorter audit partner tenure (Part_Ten) is likely to be associated with misstatements. Furthermore, Part_Ten is positively and significantly associated with institutional ownership by AFPs (%AFP). The \$RPT is significantly and positively associated with leverage (Lev) and the #RPTs at the 1 percent significance level. However, \$RPT is negatively and significantly associated with the level of insider ownership (Ln_Insiders) and board independence (%Ind_Dir) at the 5 percent significance level. A lower percentage of directors are likely to be independent (%Ind_Dir) in larger (Ln_Tot_Ass), more capital intensive (Cap_Int), and in lower ROA firms. ROA itself is significant and negatively associated with %Ind_Dir at the 5 percent significance level. Board links (Cross_Dir) is significant and positively associated with %AFP, BoD_Size, and %Ind_Dir at the 5 percent level, but it is negatively and significantly associated with Cap_Int at the 1 percent level. Furthermore, as expected, firm size or Ln_Tot_Ass is positive and significantly associated with Lev, Cap_Int, Ln_Insiders, and BoD_Size, but it is negative and significantly associated with %AFP and %Ind_Dir at the 1 percent level. The univariate analysis shows the importance of controlling for these variables to determine the incremental effect of audit partner tenure, board links, board independence, and RPTs on misstatements.

Table 3 compares Chilean misstatement firms with no-misstatement firms using a two-tailed *t*-test of group means. It shows that along three dimensions the misstatement firms are significantly different than firms that do not misstate. The misstatement firms are significantly smaller, have smaller boards, and a shorter audit partner tenure. Additionally, misstatement firms have higher board links (Cross_Dir), higher number of RPTs, and higher value of RPTs (Ln_\$RPT), but they are not significantly different.

5.2. Multivariate Results

Hypothesis 1 stated that shorter audit partner-tenure is associated negatively with misstatements. The rationale being that the longer the lead audit partner's client-specific audit experience it is more likely to be associated positively with his or her expertise and the integrity of financial reporting. Table 4—Models 1 through 6 shows that the Part_Ten variable is negative and significantly associated with misstatements at the 5 percent level in all the models except in Model 2, where it is significant at the 10 percent level. Hence, these results support Hypothesis 1. A short lead audit partner tenure is associated with less experience with the client-firm, which is more likely to be associated with Chilean firms misstating. This result is consistent with findings of Ball et al. (2015) and Gul et al. (2017), which have shown that a longer audit partner tenure with a client is positively associated with higher audit quality that is unlikely in Chile's audit environment because the median partner tenure is only 2 years.

¹⁰ The statistics show that the variable %AFP exhibits a right skewness. This is because only a minority of Chilean listed firms are owned by AFPs. However, AFPs have large ownership stakes in companies that they do invest-in.

Table 2. Pearson correlations.

Variables	Misstate	Ln_Tot_Ass	Lev	Cap_Int	ROA	Ln_Insiders	%AFP	BoD_Size	%Ind_Dir	Cross_Dir	Part_Ten	#RPT	\$RPT
Misstate	1.000												
Ln_Tot_Ass	−0.146 ***	1.000											
Lev	0.029	0.219 ***	1.000										
Cap_Int	−0.042	0.164 ***	0.061 *	1.000									
ROA	−0.018	−0.036	−0.044	−0.120 ***	1.000								
Ln_Insiders	−0.011	0.141 ***	−0.006	−0.059	−0.018	1.000							
%AFP	−0.007	−0.107 ***	−0.157 ***	−0.036	−0.027	−0.138 ***	1.000						
BoD_Size	−0.052	0.134 ***	−0.033	−0.217 ***	0.004	0.152 ***	0.104 ***	1.000					
%Ind_Dir	−0.005	−0.189 ***	−0.044	−0.104 ***	−0.079 **	0.027	−0.010	0.074 **	1.000				
Cross_Dir	−0.002	0.059	−0.041	−0.122 ***	−0.054	−0.038	0.075 **	0.281 ***	0.275 ***	1.000			
Part_Ten	−0.047	0.011	−0.008	0.056	0.005	−0.054	0.097 ***	0.035	−0.014	0.018	1.000		
#RPT	0.056	0.013	0.326 ***	0.059	−0.040	−0.020	−0.070 *	0.077 **	0.043	0.028	−0.013	1.000	
\$RPT	0.068 *	0.042	0.220 ***	−0.005	−0.018	−0.162 ***	−0.030	−0.014	−0.086 **	−0.025	0.033	0.473 ***	1.000

Note: ***, **, * refers to being significant at the 1%, 10%, and 5% levels, respectively. Appendix A describes the variable labels and definitions.

Table 3. Comparison of misstatement versus no-misstatement firms.

Variables	Misstatement Firms (N = 107)		No-Misstatement Firms (N = 621)		t-Test
	Mean	SD	Mean	SD	
Ln_Tot_Ass	17.538	2.973	18.679	2.596	4.110 ***
Lev	0.385	0.161	0.375	0.176	−0.520
Cap_Int	0.319	0.252	0.793	4.063	1.205
ROA	4.425	11.671	5.536	20.372	−0.217
Acc	0.006	0.085	0.007	0.091	−0.101
Ln_Insider	0.582	0.264	0.602	0.274	0.275
%AFP	0.058	0.149	0.066	0.178	0.421
BoD_Size	7.196	1.417	7.473	1.527	1.751 **
%Ind_Dir	0.133	0.125	0.133	0.131	0.007
Cross_Dir	0.822	0.384	0.798	0.401	−0.568
Part_Ten	1.672	0.959	1.832	1.102	1.409 *
#RPT	23.495	26.108	20.456	28.232	−1.036
Ln_\$RPT	16.153	2.330	15.633	2.873	−1.775
Cross_Dir*%Ind_Dir	0.125	0.128	0.120	0.129	−0.403

Note: SD refers to the standard deviation of the variable. Also ***, **, * refers to being significant at the 1%, 10%, and 5% levels, respectively.

Table 4. Logistic regression of board links, partner tenure, and related party transactions on misstatements (Wald statistics shown in parenthesis).

Parameter	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Ln_Tot_ass	−0.078 * (0.043)	−0.066 (0.044)	−0.082 * (0.044)	−0.089 ** (0.044)	−0.139 ** (4.382)	−0.135 ** (4.144)
Lev	0.688 (0.605)	0.721 (0.598)	0.608 (0.613)	0.854 (0.632)	1.775 *** (9.049)	1.703 *** (8.505)
Cap_Int	−1.126 ** (0.573)	−1.227 ** (0.575)	−1.067 * (0.573)	−1.049 * (0.580)	−1.843 *** (12.869)	−1.884 *** (13.447)
ROA	−0.005 (0.008)	−0.004 (0.008)	−0.005 (0.009)	−0.007 (0.009)	0.251 (0.654)	0.285 (0.858)
Acc.	-	-	-	-	−0.205 (0.030)	−0.222 (0.035)
Ln_Insiders	0.196 (0.427)	0.0777 (0.432)	0.242 (0.424)	0.177 (0.427)	−0.035 (0.101)	−0.036 (0.099)
%AFP	−0.206 (0.732)	−0.238 (0.735)	−0.167 (0.732)	−0.201 (0.739)	0.321 (2.027)	0.279 (1.554)
BoD_Size	−0.386 (0.413)	−0.260 (0.426)	−0.414 (0.412)	−0.634 (0.456)	0.016 (0.038)	0.008 (0.010)
%Ind_Dir	−1.104 (0.979)	−0.887 (3.148)	−1.150 (0.928)	−2.727 (3.160)	−4.033 (1.602)	−4.483 (1.794)
Cross_Dir	0.345 (0.323)	−0.408 (0.510)	0.335 (0.312)	−1.144 * (1.655)	−0.578 (1.244)	−0.994 * (1.654)
Part_Ten	−0.229 ** (0.115)	−0.215 * (0.116)	−0.226 ** (0.115)	−0.230 ** (0.116)	−0.299 ** (5.917)	−0.278 ** (5.165)
#RPT_Dum	−0.034 (0.313)	−1.019 (0.635)	-	-	0.829 (2.295)	-
\$RPT_Dum	-	-	0.202 (0.240)	1.135 * (0.612)	-	0.637 (1.355)
Cross_Dir*%Ind_Dir	-	−0.317 (3.290)	-	1.819 (3.281)	3.495 (1.107)	3.769 (1.204)
Cross_Dir*#RPT_Dum	-	1.414 * (0.747)	-	-	1.162 ** (3.620)	-
Cross_Dir*\$RPT_Dum	-	-	-	−1.149 * (0.669)	-	−0.962 ** (3.051)
N	728	728	728	728	622	527
Cox & Snell R ²	0.552	0.555	0.553	0.557	0.442	0.441

Note: ***, **, * refers to being significant at the 1%, 10%, and 5% levels, respectively.

Hypothesis 2 states that the board links proxy cross directorships are associated with misstatements. In Table 4 in Models 4 and 6, there is marginal significant support for the Cross_Dir variable that is negative and significantly associated with misstatements at the 10 percent level. Hence, this finding provides limited support for Hypothesis 2. Furthermore, it means that the greater the number of board links the lower the likelihood of misstatements. Additionally, the finding suggests that the contagion phenomenon due to board links documented by [Chiu et al. \(2013\)](#) in the US firms is not a likely contributor to Chilean firms' misstating. Hence, we conclude that Chilean listed firms with board links are less likely to misstate, but this finding is not as consistent as the effect of a short audit partner tenure on misstatement.

Hypothesis 3 stated that the number and value of related party transactions affect the probability of misstatements. Table 4—Model 4 shows that firms with a higher value of RPTs (\$RPT_Dum) have a significant and positive association with misstatements at the 10 percent level, but there is no evidence that the higher numbers for RPTs (#RPT_Dum) as shown in Models 1, 2, and 5 are associated with misstatements. Thus, we conclude that our results only provide limited support for Hypothesis 3. The findings suggest that firms engaging-in high value of RPTs may not be doing so using arm's length transactions, which is consistent with regulators' belief that more disclosures about the value RPTs are important. The Chilean result is similar to the findings of [Jian and Wong's \(2010\)](#) study of Chinese firms that showed controlling owners use RPTs for tunneling activities¹¹. However, [Buchuk et al. \(2014\)](#) noted that in Chilean listed firms, the influence of insiders in RPTs through intragroup loans is minimal that is a reason we believe that most RPTs are transactions between the firms belonging to the same conglomerate. Nevertheless, we find that the disclosure of the value RPTs by Chilean firms that belong to a conglomerate could be beneficial to predict misstatements.

Hypothesis 4a states that the cross director being independent affects the probability of misstatements. Table 4—Models 2, 4, 5, and 6 shows that the interaction variable Cross_Dir*Ind_Dir is not significant, and neither is the variable Ind_Dir significant in any of the models. Thus, we conclude that there is no support for Hypothesis 4a. Hypothesis 4b states that the RPTs and board links interact to affect misstatements. Table 4, Models 2 and 5 show that the interaction variable Cross_Dir*#RPT_Dum is positive and significant at the 10 percent and 5 percent levels, respectively. Moreover, Models 4 and 6 shows that Cross_Dir*\$RPT_Dum is negative and significant at the 10 percent and 5 levels, respectively. Thus, we conclude that there is support for Hypothesis 4b. However, the interpretation of results is complex because it is cross directors monitoring the few numbers of high-value RPTs that lowers the probability of misstatements. However, board links seem not to help to monitor the many numbers of RPTs conducted by the Chilean firms belonging to the same economic group. Hence, the results provide support for the conflict interest perspectives as well as the efficient transaction perspective of RPTs depending on how Chilean directors use their influence to choose the high-value RPTs to monitor to avoid reporting issues.

6. Discussion

6.1. Findings Significance

Table 4 results show that Model 4 with the complete panel data set and the value of RPTs (\$RPT_Dum) is the strongest predictor of misstatement (i.e., Cox & Snell R² score of 55.7 percent). This model's overall predictive accuracy is 86 percent with all 621 non-misstatement firm-years being correctly classified, but it only correctly classified three out of the 107 misstatement firm-years. We use the exponent betas from this interaction model to calculate the odds ratio to discuss the economic significance of our findings. If the lead partner tenure increases by one year the probability of belonging

¹¹ Chinese researchers [Jian and Wong \(2010\)](#) use "other receivables" amount disclosed in the balance sheet as the proxy to measure tunneling. However, Chilean firms do not disclose this information in their annual reports.

to the no-misstatement group increases by 56%. Additionally, in the presence of board links in a firm having the above-average value of RPTs (i.e., $Cross_Dir * RPT_Dum$), the probability belonging to the misstatement decreases by 22 percent suggesting that RPTs can be efficient when cross director's board link help to monitor high-value RPTs. Thus, to avoid misstatements promoting the lead audit partner's tenure to gain client-specific expertise should be encouraged because the board monitoring of RPTs is not consistent.

6.2. Contribution and Restatement Analysis

In the misstatement literature, regulator (i.e., CMF) initiated or mandatory restatements are more serious than those initiated voluntarily by the company (Chin and Chi 2009). Thus, we recorded the firms with only mandatory misstatements as "1", and the remaining firms (no-misstatements and voluntary misstatements) as "0" to test the findings based on the severity of the misstatements. Results (not shown) find the explanatory power of the models is higher (i.e., Cox & Snell R^2 for Model 4 in Table 4 increase to 60.5% compared to 55.7%), but only the partner tenure remains negative and significant. Therefore, we conclude that short audit partner tenure is of concern for both mandatory and voluntary misstatements due to the difficulty of the lead audit partner obtaining the client-specific knowledge when the tenure with a client is very short. Therefore, our result supports the evidence in the literature that the lead audit partner's client-specific knowledge, which is not easily transferable to another partner is invaluable to maintain audit quality. Furthermore, a median lead audit partner tenure of 2 years is not sufficient to develop it to monitor the financial reporting integrity of Chilean firms.

Table 5—Panels A and B show the reasons why Chilean firms restate their financial statements and the frequency of misstatements. Appendix B categorizes the misstatements into six groups, which are: directors failing to declare their responsibility (coded as reason 1), misplacement of texts and figures including correct notes about RPTs (coded as reason 2), correcting errors including transcription errors (coded as reason 3), modification required to the accounts (coded as reason 4), correction to the external auditor's report or opinion (coded as reason 5), and other reasons (coded as 6). Table 5 finds that the first three reasons that are not mandatory misstatements are why 61% of the firms restate their financial statements, and 18% of the firms restate for reason 4 that includes most firms that were subject to mandatory restatements. Further, ten restatements are due to corrections related to external auditor reports (i.e., coded as 5). These findings along with the fact that Chilean listed firms were adopting IFRS during the study period provides us confidence that the majority of the restatements are due to lead audit partners' not obtaining client-specific knowledge due to their short tenures¹². Therefore, Chilean regulators might have been too ambitious in regulating auditor independence that increased the cost in terms of financial reporting integrity, particularly due to the weak accounting and auditing institutions and the lack of auditor incentive to expend the needed effort to develop the necessary expertise.

¹² The study period is soon after majority of Chilean firms adopting IFRS in 2009, but the transition period was 2009–2010. This may have exacerbated the number of misstatements because unprepared firms may have adopted early due to the influence of their peer firms' choice of adopting sooner, which Burnett et al. (2015) have shown is the primary determinant of the standard choice.

Table 5. Restatement analysis (The reasons for restatement shown in Appendix B).

Restatement Reasons	Number of Firms
1	24
2	19
3	20
4	19
5	10
6	12

6.3. Robustness Tests

Studies have used explanatory variables in the year ($t - 1$) to predict misstatement in year t (e.g., [Dechow et al. 2011](#); [Hasnan et al. 2013](#)). Such a methodological improvement is said to establish the causal direction from the hypothesized variables to misstatements that help to address possible endogenous relations. However, in our study, it did not seem appropriate to use board links, audit partner tenure, and RPTs of the year before the misstatement year as determinants of misstatements. Moreover, after controlling for firm fixed effects, doing so resulted in a significant reduction in the model's explanatory power¹³. Additionally, given that the highest correlation between the variables is only 0.473 that is between #RPTs and \$RPTs we concluded that endogenous relations between the variables are not a major concern.

7. Conclusions

Research on restatements and audit quality in the LA countries are nonexistent, due to the difficulty of collecting the data, the lack of incentives to collate the data, and the absence of the capacity to do such research. Despite this, the Chilean economy is the most market-driven, and its citizenry should be interested in the quality of financial statements of their listed firms because they invest their private pension savings in the firms listed on the Santiago stock exchange. Thus, we had two main objectives: first, to study if and how mandatory audit-partner rotation affected misstatements; second, to examine the determinants of misstatements to evaluate if auditors and boards are effective monitoring mechanisms in this hemisphere. To this end, the Chilean regulators helped us collect the data, and we find results that are consistent with existing developed country studies on board governance, auditing, and restatement. The study finds that longer audit partner tenure and the interaction between board links and the value of RPTs negatively affects the probability of misstatements. Hence, the results suggest that stronger audit governance by encouraging the lead audit partner to develop client-specific knowledge and the monitoring of high-value RPTs by cross directors are important for Chilean listed firms to avoid misstatements.

Our results raise important questions about the Chilean Companies Act 18045, article 239, and 243¹⁴. According to the act, if a lead audit partner audits a listed company for more than 5 years there is a presumption that he or she lacks independence. Hence, the Chilean audit firms, to avoid the appearance of violating the act seem to rotate and keep their lead engagement partner's association with the client firm to an average of 2 years, which we find is not sufficient to obtain the necessary client-specific knowledge to deliver high-quality audits. Furthermore, in a country like Chile, where the size of the audit market is small to obtain the scale benefits of applying audit technologies and there is the presence of conglomerates with concentrated ownership engaging in a high volume of

¹³ We find that the fixed effect model rather than a random effect model performs more reliably probably because it allows for parameter heterogeneity while simultaneously reaping the benefits of pooled estimation ([Hausman 1978](#); [Frondel and Vance 2010](#)).

¹⁴ Details can be found in <http://www.cmfchile.cl/portal/principal/605/w3-article-25284.html>

RPTs, external auditors need to play a significant monitoring role without which other changes to strengthen board governance such as encouraging board independence are not likely to materialize because audit governance and board governance are complementary and not substitutes in developing countries with weak audit institutions.

The study's findings have policy implications for improving the audit quality by encouraging longer audit partner tenure that is closer to the maximum 5 years allowed, and for strengthening board governance by monitoring the reputation and expertise of cross directors. Furthermore, it may be time to consider introducing licensing requirements based on obtaining the necessary experience to practice as an auditor. These policy refinements may be particularly important to strengthen the audit and board governance in other LA countries even though there are significant institutional differences between the countries in this hemisphere. For example, countries that make up the Integrated LA Market, of which Chile is a member, include Peru, Colombia, and Mexico, which have securities regulations that affect the restatement of financial statements. In Peru, restatements could be for facts of importance, financial information, and reserved information, but the distinction between voluntary versus mandatory misstatements is not very clear¹⁵. In Mexico, voluntary modifications are allowed in the information entered into the system referred to as the Securities Information Transfer System, but the distinction between voluntary and mandatory misstatements is difficult to determine. The results of our study suggest that in LA countries, there could be dysfunctional effects due to mandatory audit partner rotation because the accounting and the auditing professions are not well developed and there are no strict licensing requirements for auditors to acquire the needed expertise. However, when securities regulations in LA try to mimic those auditing regulations in developed countries such as the US, this could have unintended consequences on the financial reporting integrity of listed firms.

There are could be other channels of governance such as external public debt which together with audit governance can help strengthen corporate governance of insider boards in developing countries. Thus, we encourage similar studies to be conducted in other LA countries, and we encourage future research to improve on the variables used to predict misstatements using more precise measures of earnings quality and external debt level proxies. These are some of the limitations of our single country study that could not correctly predict the majority of firms that misstated. Nevertheless, our prediction models could be the basis for developing more complex models to predict misstatements in less developed countries with small audit markets.

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Appendix A. Variable Labels and Definitions

Dependent Variable

Misstate: Coded as "1" for the firm-year misstated and "0" otherwise. Thus, it is a dummy variable (0, 1), where "1" refers to misstatement firms, and "0" refers to non-misstatement firms.

Explanatory Variables

Cross_Dir: The presence of a director on the board having at least one additional directorship in another firm. It is a dummy variable (0, 1), where "1" refers to the presence of board links, and "0" refers to no cross directorships.

Part_Ten: The length of the audit partner's tenure with a client.

¹⁵ In Peru, you have to review each important fact change provided by companies to judge if it is voluntary or mandatory.

#RPT: The log of the number of related-party transactions (RPTs) for each firm-year.

#RPT_Dum: The log of #RPT value that is above the median (of 2.1) is coded as “1”, and a value below the median is coded as “0”.

\$RPT: The log of the Chilean peso value of the related party transactions for each firm-year.

\$RPT_Dum: The log of \$RPT value that is above the median (of 15) is coded as “1”, and a value below the median is coded as “0”.

Control Variables

Ln_Tot_Ass: The log value of the firm’s total assets.

Lev: The leverage is measured as total liabilities divided by total assets.

Cap_Int: Capital intensity is the ratio of fixed assets to total assets.

ROA: The log value of the firm’s return on asset, which is calculated as net income divided by total assets at the beginning of the year. To avoid *negative* values of ROA, we *added the minimum* value of it plus 1 to each firm’s ROA.

Ln_Insider: The log value of shareholders who own more than 10% of the equity shares as disclosed in the top shareholder list, and are identified as directors on the board.

%AFP: This measure is the percentage of shares held by AFPs, which are private pension funds.

BoD_Size: The number of members serving on the board of directors of each firm.

%Ind_Dir: The percentage of independent directors on the firm’s board.

Acc: Total accrual, which is the difference between earnings before interest and taxes less the cash flow from operations divided by total assets.

Appendix B. Restatement Reasons

1. Failure of the declaration of responsibility of directors and/or general managers including missing their signatures, which is coded as “1”.
2. Misplacement of files, texts, figures including correcting dates and notes including improper observations, which is coded as “2”.
3. Correcting errors (e.g., a functional currency used incorrectly) in the PDF file submitted including transcription errors, which is coded as “3”.
4. Modification of accounts such as intangible assets, contingency accounts, segment information, and omission of information such as related company data, which is coded as “4”.
5. Correction of external auditor’s opinion and/or reports.
6. Other reasons including two companies’ omission to approve their financials and ten companies that failed to report the reason for restating their financial, which is coded as “6”.

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