



# Unintended effects of IFRS adoption on earnings management: The case of Latin America<sup>☆</sup>

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## ABSTRACT

We study the determinants of earnings opacity in the six largest Latin American economies (Argentina, Brazil, Chile, Colombia, Mexico, and Peru), in particular the effects of adopting IFRS. Using panel data on 871 listed firms during the period 2000 to 2016, we find that in Latin America the adoption of IFRS caused firms to substitute high quality audit practices with the newly imposed regulation, to the extent that its effect on the degree of opacity in the region became unintendedly positive. The results hold after a number of robustness checks. Thus, we provide compelling evidence against the belief that the mere adoption of the IFRS is sufficient to guarantee transparency in emerging markets.

## 1. Introduction

Transparency in financial reporting is crucial in order for financial markets to function correctly. Investors and the public need information to reflect the true state and value of a firm. The opacity of earnings – defined as the lack of firm-specific information to outsiders, which translates in a great advantage for informed traders (see, inter alia, Maffett, 2012; Bushee, 2012) – is a constant threat to the reputations of firms at both national and international levels. Further, it can also lead to significant financial losses either by increasing the cost of equity or by reducing trading in the stock market (Bhattacharya et al., 2003). Transparency International, a non-governmental organization whose aim is to measure corruption on a global level, claims that three out of four multinational companies in emerging markets have a transparency score of five, where ten is the maximum; the score for Latin American firms averages four (Kowalczyk-Hoyer et al., 2016).

Recently, the consequences of the lack of transparency of some of their largest multinationals have shattered Latin American markets, such as the Brazilian Odebrecht. These consequences take the forms of bribery, money laundering, and general corruption that amounts to billions of US dollars. Further, they highlight the real magnitude and potential implications of opacity in emerging markets. Therefore, regulators must focus on policies oriented towards the transparency of financial disclosures.

As documented by Carneiro et al. (2017) and Rodríguez García et al. (2017), since the late 2000s and early 2010s most Latin American stock exchanges (especially, Argentina, Brazil, Chile, Colombia, Mexico, and Peru) require listed firms to comply with the

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International Financial Reporting Standards (IFRS), which is aimed at reducing opacity. The full-fledged adoption of IFRS followed roughly the same process in all the countries. First, the local authority announced its commitment to adopt IFRS, often by issuing a law, and then it set a future date for compliance. During the transition period between the first announcement and the deadline, the authority permitted early adoption. Also, in most cases financial firms or insurance companies did not have to comply with IFRS, or were given an extended transition period.

The timing of the IFRS adoption makes Latin America a very interesting case study, because it generates enough cross-sectional and time variations to evaluate the policy effects in a quasi-natural experimental design. Yet, with notable exceptions such as Rathke et al. (2016), the literature on this case is scarce. Thus, the main goal of this paper is to help bridge this gap by assessing whether IFRS adoption was effective in reducing opacity in Latin America.

Previous research has established that opacity is negatively related to the quality and independence of the auditor (see, *inter alia*, Ball, 2009). In fact, in emerging markets, companies have sent signals to investors about the adequacy of their accounting practices by hiring the services of a well-reputed auditor such as one of the Big 4 (Deloitte, PwC, Ernst and Young, or KPMG). This strategy was indeed common in Latin America due to the benefits of subjecting the audit to the objective criteria of a Big 4 firm, such as generating senses of confidence and safety for investors operating in the financial markets.

However, even though hiring a Big 4 audit firm might be a sensible strategy, especially in the absence of the compulsory compliance of international accounting standards, it is not necessarily a panacea. First, it is expensive as the hourly fee of a Big 4 firm is anywhere between 40% to 100% higher than that of a non-Big 4 firm.<sup>1</sup> Second, big consulting firms have also been involved in bribery cases and other scandals, which led to the Sabarnes Oxley Act. Further, the 2007–2008 global financial crisis hindered the reputation of the Big 4 firms.

Fig. 1 shows the main trends and effects in the Latin American experience. The figure shows that while prior to 2008 the Big 4 audited about half of the Latin American listed firms, after 2008 the proportion dropped to around a fifth. In contrast, whereas virtually no firm complied with IFRS prior to 2008; about 40% did comply by 2009, and more than 80% had since 2012. Thus, the mandatory adoption of the IFRS might have changed the cost-benefit balance of hiring a Big 4 auditor for firms in these markets. Therefore, the hiring of a Big 4 firm somehow became a substitute to the hiring a non-Big 4 firm plus complying with the IFRS. Fig. 1 also shows that the combined effect of adopting IFRS and the lower audit quality that results slightly increases opacity.

Our second goal in this paper is to formally and rigorously study this unintended effect of IFRS adoption in Latin America. We argue that this combined effect indicates the importance of audit quality and that regulators overestimate the importance of the adoption of IFRS in improving financial reporting. The main policy implication is a call to promote complementary mechanisms to promote transparency beyond the adoption of IFRS.

Finally, we also focus on Latin American firms that list in the US stock markets, often through ADRs (American Depositary Receipts), as they are subject to different regulations. Whereas auditing firms in Latin America commonly offer their clients services that go beyond auditing, the US forbids this practice. Regulators in the US consider such a situation as a conflict of interest that damages the transparency of the financial reports of the audited company.<sup>2</sup> We show that, in general, audit quality plays no significant role for ADR firms, which are subject to an increased level of disclosure and scrutiny. Hence, we show that the adoption of IFRS brought no change to their opacity levels.

The rest of the paper is organized as follows: Section 2 presents a brief literature review on earnings management and opacity. Section 3 presents the econometric framework. In particular, we first review well-established approaches to measure earnings management with the data in financial statements, especially from accruals. Second, we present a regression model that separates the effects of interest in a context where the regressors include both the firm's characteristics and policy variables. In Section 4, we describe the data used in our empirical work and present the results, while Section 5 concludes and gives some avenues for future research.

## 2. Literature review

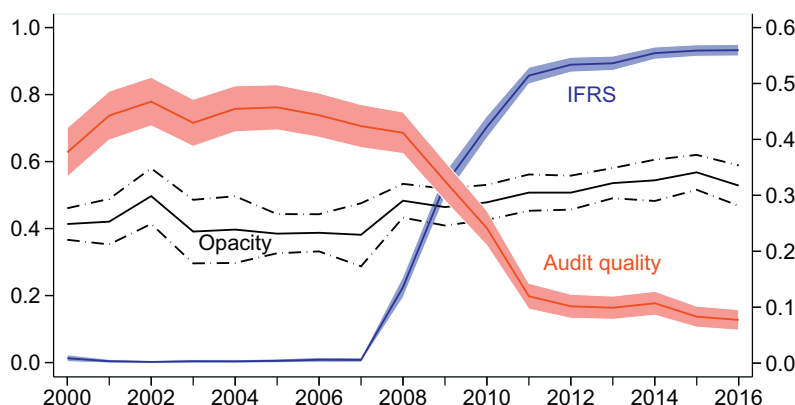
Even within legal boundaries, financial managers can engage in accounting manipulation to create favorable financial results, either by inflating gains or concealing losses (or both). Since the seminal contribution of Jones (1991), the literature has widely studied the identification of such “earnings management” by using the data in financial statements. Jones (1991) proposed the use of the volatility in the discretionary accruals as a proxy for the quality of financial reporting. Discretionary accruals are the reported accruals that the accounts for the normal operations of the firm cannot predict.

The basic Jones model uses the following explanatory factors: revenues, fixed assets, and total assets. Other studies have extended the model to also reflect the impacts of changes in accounts receivables (Dechow et al., 1995; Filip and Raffournier, 2014) and the variation in cash flows from operations (Kasznik, 1999). See Thomas and Zhang (2000) for a survey, and Beneish (1997) and Kothari et al. (2005) for further refinements.

Taken to a limit, earnings management or “opacity”, as coined by Bhattacharya et al. (2003), can misrepresent the records of the firm to such an extent that its financial statements might no longer reflect the firm's real economic value or performance. Thus, a large amount of academic interest exists on exploring the covariates of opacity. At the macroeconomic level, Bhattacharya et al. (2003)

<sup>1</sup> See [www.consultancy.uk/consultingindustry/fees-rates](http://www.consultancy.uk/consultingindustry/fees-rates).

<sup>2</sup> An illustrative case of this contrast, also related to the Odebrecht scandal, is the large Peruvian construction group Graña and Montero that had to break up the contract with PricewaterhouseCoopers after it was realized that the auditor was also providing advisory and consulting services.



**Fig. 1.** Audit quality, IFRS adoption and opacity in Latin America.

Notes: IFRS is the proportion of firms that adopted the international standards (left axis). Audit quality is the proportion of firms that hire a Big 4 (right axis). Opacity is measured as the absolute value of discretionary accruals, see subsection 3.2.

show that opacity is negatively correlated with economic growth and the stock market's wealth. The findings are confirmed by [Riahi-Belkaoui \(2005\)](#), although [Filip and Raffournier \(2014\)](#) conclude that they depend heavily on how opacity is measured.

On the other hand, [Hooper and Kim \(2007\)](#) and [Callao and Jarne \(2011\)](#) find that the quality of financial reporting deteriorates in the event of a financial crisis. Moreover, [Lee et al. \(2015\)](#) find that during the financial crisis in 2008 the degree of opacity in the banking sector increased significantly. They even argue that such an increase might have caused the crisis itself. In clear contrast, [Filip and Raffournier \(2014\)](#) find that earnings management drops significantly during such periods of stress.

[Maffett \(2012\)](#) measures opacity in a number of ways: based on the discretionary earnings, as being audited by a Big 5, as the number of analysts following the firm, and as the mean accuracy of analyst forecasts and its diversity. This author shows and documents a correlation between opacity and informed trading, especially in countries where disclosure mechanisms are less developed. [Maffett \(2012\)](#) and [Bushee \(2012\)](#) define opacity as the unavailability of relevant firm-specific information to those outside publicly traded firms, and show that it only benefits investors capable to profitably exploit such an informational asymmetry. This is one way how opacity alters the correct functioning of the financial markets.

Regarding a firm's characteristics, [Baridwan \(2015\)](#) find that opacity affects small firms more than large ones, probably due to the absence of adequate control practices or support from internal and external auditors. Similarly, in [Callao and Jarne \(2011\)](#) the market capitalization of a firm, a proxy for its size, presents a negative correlation with opacity: larger firms tend to be less opaque.

On the other hand, [Leuz et al. \(2003\)](#) show that the lower the ownership concentration of the firm, the lower the earnings management. Insiders generally benefit themselves. This tendency can be mitigated by a higher presence of outside investors and by regulation that protects the firm. [Akhigbe and Martin \(2006\)](#) argue that strong governance mechanisms, which are often found in firms whose ownership is not too concentrated, diminish earnings opacity. In addition, [Anderson et al. \(2009\)](#) find that firms with founders and heirs with significant participation are more opaque than those with non-controlling shareholders. In contrast, [Baridwan \(2015\)](#) show a negative correlation between ownership concentration and opacity. This finding indicates that less opaque firms feature a major controlling shareholder; as such, this shareholder can influence the firm's management towards an increase in transparency.

The most interesting debate, however, centers on how audit quality and the adoption of widely accepted accounting standards or regulations interact with opacity (see [Holthausen, 2009](#), for a comprehensive review). [Bhattacharya et al. \(2003\)](#) find that whereas a larger number of auditors per capita decreases opacity, the adoption of IFRS does not seem to have an impact on reducing it.

[Healy and Wahlen \(1999\)](#) argue that what matters is the independence and reputation of the auditors. [Baridwan \(2015\)](#) supports this conclusion and states that firms audited by one Big 4 firm are supposed to have a lower degree of opacity. Similarly, [Francis and Yu \(2009\)](#) shows a positive relation between the size of the offices of Big 4 auditors and the quality audits for listed firms, due to greater in-house experience in administering such audits.

On the other hand, [Ball \(2009\)](#) argues that one of the reasons behind worldwide fraudulent accounting scandals is that audit firms might take accounting principles as rules that firms must comply with, rather than a fundamental guidance that should be taken into account before making any decision. Moreover, audit firms are prone to give favorable treatment to the clients that they sell additional services, such as processes, strategies, and risk advisory; however, this treatment does not appear to be the main cause of the scandals.

The effects of adopting more rigorous accounting standards on the opacity of cross-listed (ADR) firms are expected to be negative, as argued by [Arping and Sautner \(2013\)](#) who documented that the implementation of the Sarbanes-Oxley Act of 2002 made then less opaque through the analyst earnings forecast. Similarly, [Lang et al. \(2003\)](#) show that cross-listing significantly improves the information environment of firms.

However, the evidence is generally mixed. [Barth et al. \(2008\)](#) study the differences between firms that have adopted IFRS and those that follow the US GAAP, and show that earnings management is significantly less common in the former. In contrast, [Lin et al.](#)

(2012) find that, for German firms, US GAAP standards have a higher degree of accounting quality than IFRS. Similarly, Ammer et al. (2005) find that the adoption of the International Accounting Standards (IAS) for European firms did not constitute an incentive to cross-list their stocks in the US market; hence, European cross-listed firms were as transparent as non cross-listed firms.

Rathke et al. (2016) find that Latin American firms reduce their opacity levels after the adoption of IFRS at a faster pace than European or Australian firms. Pelucio-Grecco et al. (2014) and Cardona Montoya (2018) also find a reduction in the volatility of discretionary accruals after the adoption of IFRS. Ball (2006) argues that IFRS adoption can be beneficial as long as it is facultative; then, high-quality firms can distinguish themselves from the rest and signal their transparency to investors by the adoption. In contrast, if IFRS is mandatory both high- and low-quality firms have to adopt it, which makes recognizing opaque firms more difficult. Daske et al. (2008) support this hypothesis by finding that the positive effects of IFRS adoption are more evident for firms that adopt it voluntarily than for those who do not. Similarly, Callao and Jarne (2010) present some evidence that the mandatory adoption of IFRS can even lead to negative results such as an increase in discretionary accruals.

Finally, Jeanjean and Stolowy (2008) find that for the three of the countries that first adopted IFRS (UK, France and Australia), the adoption did not improve the earnings management of the companies in those countries and it even increased in France. The finding indicates overconfidence in the effects of the adoption of the IFRS, as managers could believe that the mere adoption of the international standards is enough to assure higher transparency. Yet, as argued by van Tendeloo and Vanstraelen (2005), at least in the German experience, IFRS by itself did not guarantee the improvement of transparency, as no significant difference can be found for German companies under either German GAAP or IFRS.

### 3. Methodology

Our empirical analysis is based on panel data with information from a number of firms through time. However, we ignore firm subscripts to avoid cluttering the notation and without any confusion arising.

#### 3.1. Hypotheses

Given the previously analyzed debate, we can conclude that – although influenced by several variables – the audit quality plays a significant role in spreading more transparency. Following Maffett (2012) and Baridwan (2015), we associate high audit quality with being audited by a Big 4, due to their reputation and permanence in the market. As stressed in Francis and Yu (2009), Big 4 are more likely to provide high-quality audit services due to having extensive experience offering this kind of services and their clients are, as a consequence, significantly less involved in situations of earnings manipulation.

However, a different scenario is offered by Latin American companies listed in the US (through ADRs), for which the choice of being audited by a Big 4 is particularly expensive considering that auditing companies are not even obligated to recommend enhanced measurements to improve transparency of their clients. We, consequently, assume that audit quality has no impact on opacity for the ADR firms.

Thus, our first hypothesis is:

**H1** In general, an increase in audit quality reduces opacity in Latin American firms. The effect, however, is not important for firms listed in the US (i.e., having the associated ADRs).

The second hypothesis follows from the mandatory character of the IFRS adoption in Latin America. Even though the intention is clearly to reduce opacity, there are second-round effects that must be taken into account to assess the total effect of the policy. According to Bhattacharya et al. (2003) while a greater amount of auditors per capita has a negative effect on opacity, the adoption of IFRS does not have any. In particular, the compliance of the IFRS might have reduced the signaling power of hiring well-reputed auditors that induces local firms to not hire them anymore. As a result, opacity might have increased. Our view is that the combination of these two effects is positive, which can be thought of as an unintended consequence of IFRS adoption. This hypothesis differs from the literature that usually is divided between research that points to a negative effect of the IFRS adoption on opacity and research that documents a complete lack of a transparency improvement when the IFRS adoption is mandatory.

**H2** The adoption of IFRS in Latin America increased the degree of opacity in the region.

#### 3.2. Measuring earnings management or opacity

A widely accepted metric of earnings management or opacity in empirical work is the so-called “earning aggressiveness” in Bhattacharya et al. (2003). This term comes from the idea that insiders can conceal changes in the firm's underlying performance by delaying the realization of losses and speeding up the realization of gains. Firms can only make these changes by altering the accounting component of earnings, namely the discretionary accruals.<sup>3</sup>

Following Dechow et al. (1995), the accrual component of earnings can be computed as:

<sup>3</sup> Several approaches to measure opacity have been proposed in the literature; among many others, see Leuz et al. (2003) and Maffett (2012). As argued by Bushee (2012), most of these measures are often difficult to interpret because they are the results of decisions by multiple agents in the market place. Measures based on accruals, however, are robust to this criticism as they are solely the product of the firm's decision making.

$$\begin{aligned} \text{Accruals}_t = & [\Delta(\text{Current assets})_t - \Delta(\text{Cash})_t] - [\Delta(\text{Current liabilities})_t - \Delta(\text{Short term debt})_t - \Delta(\text{Income taxes payable})_t] + \dots \\ & \dots - (\text{Depreciation and amortization expense})_t, \end{aligned} \quad (1)$$

where  $\Delta$  stands for changes from year  $t - 1$  to year  $t$ .  $\text{Accruals}_t$  in Eq. (1) exclude short-term debt because they relate to financing transactions as opposed to operating activities. Furthermore,  $\text{Accruals}_t$  is the sum of an expected, non-discretionary term that is driven by the usual operating performance of the firm plus the discretionary component of interest.

The original Jones (1991) model and the modified model developed by Dechow et al. (1995) are the most extensively used models to isolate discretionary from non-discretionary accruals. We consider a more recent refinement proposed by Kothari et al. (2005). This model scales accruals by total assets and separates the discretionary part from the total accruals using the following specification:

$$\frac{\text{Accruals}_t}{\text{Assets}_{t-1}} = a_0 + a_1 \left( \frac{1}{\text{Assets}_{t-1}} \right) + a_2 \left( \frac{\Delta(\text{RNR})_t}{\text{Assets}_{t-1}} \right) + a_3 \left( \frac{\text{PPE}_t}{\text{Assets}_{t-1}} \right) + a_4 \text{ROA}_t + \text{DA}_t, \quad (2)$$

where  $\text{Assets}_{t-1}$  is the total assets in period  $t - 1$ ,  $\text{RNR}_t$  is revenues net of receivables,  $\text{PPE}_t$  is property plant and equipment and  $\text{ROA}_t$  is return on assets. The non-discretionary part of the scaled accruals are the sum of the first five terms that capture the predictable movements of accruals due to the normal operation of the firm. The last term,  $\text{DA}_t$ , is a residual taken to be the discretionary accruals, which by design are unrelated to the factors driving the expected accruals. The coefficients  $a$  are estimated with standard regression methods.

The sign of  $\text{DA}_t$  is not particularly important since it relates to the specific instances when losses are concealed or gains exaggerated. As argued by Bhattacharya et al. (2003), a volatile behavior in  $\text{DA}_t$  is an indication of earnings management. Thus, our measure of earnings opacity is the absolute value of the predicted scaled discretionary accruals:

$$y_t = |\text{DA}_t|. \quad (3)$$

### 3.3. Explanatory variables

The purpose of the study is to identify the factors that influence opacity. The variables of interest are the following: IFRS adoption, audit quality, firm's size, ownership concentration, bid-ask spread and some control variables.

Firm's size is normally calculated as the natural logarithm of the total assets of the company for each of the examined years or as the market capitalization of the company (see Callao and Jarne, 2011). A negative relationship between opacity and firm's size is expected. Larger firms have more incentives to be transparent, as they would pay a higher price in terms of their reputation if discovered manipulating their earnings (see Baridwan, 2015).

On the other hand, the link between the ownership concentration and the opacity of the firm has been widely explored by the literature (see, inter alia, Leuz et al., 2003; Akhigbe and Martin, 2006; Anderson et al., 2009). The Herfindahl Index is used to measure the ownership concentration from the first up to the third major shareholder. When ownership concentration is high, major shareholders may exercise better internal control upon firm's disclosures rather than minority shareholders in diffusely-held firms. At first glance, thus, we expect a negative relation with opacity. However, it is not clear how ownership concentration may interact with general accounting regulation to the extent that in the presence of regulation, the ownership structure of the company may not matter at all.

Further, as it is customary in the literature, the audit quality is represented by a dummy variable that assumes the value of 1 if the firm has been audited by one of the Big 4 auditing companies in that year, and the value of 0 otherwise. Being audited by one of the Big 4 should, in general, guarantee a higher level of transparency (see, inter alia, Bhattacharya et al., 2003; Holthausen, 2009).

IFRS adoption is measured by a dummy variable that assumes the value of 0 if the company is following domestic accounting standards or the US GAAP (a common choice in Latin American markets), and the value of 1 if it is following the IFRS. As discussed in Barth et al. (2008), compared to domestic standards or the US GAAP, the IFRS are expected to provide a lower degree of opacity. Therefore, a negative relationship should exist between opacity and accounting regulation.

The bid-ask spread is used as a measure of liquidity. It is well-known that firms with illiquid stocks are not really followed by market analysts. Thus, firms with a high bid-ask spread have less liquid stocks and, in turn, a greater incentive to become unnoticeably opaque.

### 3.4. Earnings management and policy changes

In this subsection we discuss how policy variables interact with the variables for the firm's characteristic to affect the level of opacity in a firm. We consider the following model:

$$y_t = \beta_x x_t + \beta_z z_t + \varepsilon_t, \quad (4)$$

where  $y_t$  is the dependent variable (earnings opacity),  $x_t$  and  $z_t$  are explanatory variables, and  $\varepsilon_t$  is the error term. In practice, a more general specification is estimated, for instance by adding control variables. However, for the discussion that follows the stylized representation (4) has no loss of generality.

The questions to answer are what are the effects of interest, and how we may draw inferences of them in a context where the nature of the regressors is very different:  $x_t$  is the mandatory adoption of IFRS that is likely to influence the whole economic environment (a policy variable), whereas  $z_t$  is the audit quality that is the result of the firm's strategic decisions likely to be influenced by its economic environment.

The  $\beta$  coefficients in (4) are partial derivatives, which are ceteris paribus effects. Thus  $\beta_z$  measures how  $y_t$  changes in response to a change in  $z_t$  only. We expect  $y_t$  in a firm with  $z_t = z_1$  to be  $\beta_z(z_1 - z_0)$  units different than a counterfactual of this firm with the same observable characteristics but that features a different  $z_t = z_0$ .

In contrast, the ceteris paribus effect of  $x_t$  can be misleading, since the prospect that the other variables like  $z_t$  will not change in response to such a policy change not only seems to be an unduly strong assumption but is ultimately an uninteresting policy scenario. Pesaran and Smith (2014) argue that in time series analysis instead of focusing on individual coefficients of multiple regressions like (4), which ignore the stochastic interdependence of the regressors, we should measure the total effect that allows for the indirect induced changes that arise due to the historical correlations among regressors.

To elaborate, write  $z_t$  as:

$$z_t = \gamma x_t + \omega_t, \quad (5)$$

where  $\gamma = \text{Cov}(x_t, z_t) / \text{Var}(x_t)$  is the linear projection coefficient of  $z_t$  on  $x_t$ . Hence, by construction  $\omega_t$  is uncorrelated with  $x_t$ ,  $\text{Cov}(x_t, \omega_t) = 0$ .

Replacing into Eq. (4) gives:

$$y_t = \delta_x x_t + \beta_z \omega_t + \varepsilon_t, \quad (6)$$

where:

$$\delta_x = \beta_x + \beta_z \gamma. \quad (7)$$

Eq. (7) is a total derivative, a mutatis mutandis effect,<sup>4</sup> that equals the partial effect  $\beta_x$  plus the indirect effect that emerges because the policy change also induces a response in  $z_t$ . After comparing policy  $x_t = x_1$  with a counterfactual scenario that features a different policy setting  $x_t = x_0$ , we expect  $y_t$  to change in  $\delta_x(x_1 - x_0)$  units once we take into account all relevant effects triggered by the policy change. Further, if the indirect effect is strong enough, the signs of  $\delta_x$  and  $\beta_x$  might not even be the same.

A feature of Eq. (6) is that it collects, in a single multiple regression, all the effects of interest: the total effect of the change in the policy variable, and the partial effect of variables more appropriate to a ceteris paribus setup. As Eq. (5) shows,  $\omega_t$  can be computed as the residual in a regression of  $z_t$  on  $x_t$ . Further, since (6) is a re-parameterization of the original (4), Pesaran and Smith (2014) shows that the standard estimation output of eq. (6) produces not only consistent estimates for  $\delta_x$  and  $\beta_z$  but also valid standard errors for further inference on these parameters.

## 4. Results

In this section we present the results from the preliminary analysis that is based on  $t$  tests that compare the average earnings opacity between firms with high and low audit qualities and between firms that do and do not adopt IFRS. A negative effect of audit quality along with a positive effect of IFRS adoption on opacity appears to be significant at this stage. A regression analysis and several robustness checks follow and confirm the findings.

### 4.1. Data and descriptive statistics

We assemble a panel with annual information on 871 listed firms from the six largest Latin American countries: Argentine, Brazil, Chile, Colombia, Mexico, and Peru.<sup>5</sup> The firms operate in 18 of the 20 North American Industry Classification System (NAICS) sectors, and the sample covers the 17-year period from 2000 to 2016.

Financial statement data in thousands of US dollars is extracted from the Thomson Reuters Eikon database and is used to compute the accruals and the firms' total assets. The database also includes the bid-ask spread, market capitalization, the identity of the auditing company, whether the financial statements comply with IFRS requirements, and whether the firm is listed on the US exchanges by using ADRs. The firms' other characteristics, such as ownership concentration among the largest shareholders, are collected from the Economatica platform. Scaled accruals are computed as described in Subsection 3.2, and the extended Jones model (2) is estimated to obtain our measure of earnings opacity. The results of this analysis are not reported here but are available on request.

The panel is unbalanced with an average of 13 periods per firm, and a grand total of about 11,000 firm-year observations. Of the 871 companies, 34% are Brazilian, 21% are Chilean, 15% are Peruvian, 14% are Mexican, 9% are Argentinean, and 7% are Colombian. Finally, only 52 register ADRs.

According to Carneiro et al. (2017) and the country profiles of the IFRS Foundation (available at [www.ifrs.org](http://www.ifrs.org)), IFRS has been

<sup>4</sup> Mutatis mutandis roughly translates to “once all necessary changes have been made”.

<sup>5</sup> According to World Bank data, in 2017 market capitalization in all Latin American and Caribbean countries was about US\$ 2 trillion. The sum of the market capitalization of the six selected countries was US\$ 1.9 trillion, 98% of the total.



**Table 1**  
Descriptive statistics by country and period.

	Argentina	Brazil	Chile	Colombia	Mexico	Peru	Total
Number of firms	79	297	182	61	125	127	871
Firms with ADRs	10	20	8	2	9	3	52
Average number of periods per firm	14	13	13	10	13	14	13
Number of observations	1140	3815	2411	587	1594	1725	11,272
Average total assets (in logs) before 2008	4.91	5.77	5.21	5.13	6.65	4.31	5.42
Average total assets (in logs) after 2008	5.05	6.69	5.83	6.17	6.88	5.20	6.13
Median opacity before 2008	0.15	0.17	0.13	0.21	0.13	0.14	0.15
Median opacity after 2008	0.18	0.21	0.20	0.18	0.17	0.14	0.19
Proportion of firms hiring a Big 4 before 2008	0.40	0.37	0.61	0.16	0.43	0.42	0.44
Proportion of firms hiring a Big 4 after 2008	0.33	0.15	0.20	0.05	0.08	0.18	0.17
Proportion of firms adopting IFRS before 2008	0.00	0.00	0.00	0.00	0.02	0.01	0.01
Proportion of firms adopting IFRS after 2008	0.61	0.91	0.91	0.22	0.68	0.75	0.78

**Source:** Thomson Reuters Eikon. Own elaboration.

required for major public firms in Chile since 2008, with a deferral until 2010 for some firms. In the case of Brazil, IFRS has been mandatory for nonfinancial firms since 2010 after a two-year transition period beginning in 2008. In Argentina, Mexico, and Peru, IFRS adoption for nonfinancial firms was announced between 2008 and 2011 and has been enforced since 2012. In Colombia a timetable was published in 2009 that allowed IFRS adoption in 2013 and has required it since 2015. The facts that the adoptions day differ and so their transition periods is quite useful for the identification of the main effects of interest as it introduces both cross-sectional and time variation to the IFRS adoption date.

Table 1 presents the statistics when we divide the sample period in two: from 2000 to 2007 and from 2008 to 2016. We choose year 2008 as the cutoff point because it is roughly located in the middle of the sample period but, more importantly, because this is the first year where Latin American firms began complying significantly with IFRS in our sample. The average size of a firm, as measured by the logarithm of total assets, increases in the period of analysis for all countries in our sample, with the Mexican and Brazilian firms being the largest. On the other hand, our metric of opacity tends to be higher in Brazil and Colombia and, with the exception of Colombia and Peru, it increases throughout the 2008 to 2016 sample.

As a proxy for audit quality, we use an indicator on whether the financial statements are audited by a Big 4 firm. Prior to 2008, the proportion of firms that hires a Big 4 firm is notoriously high in Chile (61%) and low in Colombia (16%). The figure is very similar among the remaining countries (about 40%), with a regional average of 44%. It has decreased since 2008, remarkably in the cases of Chile and Mexico, with a regional average reduction of 27 percentage points.

By construction, an inconsequential number of firms adopted IFRS before 2008 in all countries, whereas a vast majority of firms adopted these standards after 2008 (the regional average is 78%). The vast majority of the countries in the sample followed a similar pattern: adoption of IFRS, decrease in the hiring of Big 4 and a corresponding increase in the level of opacity. The trends in Fig. 1 occur in every single country of our sample.<sup>6</sup>

Due to missing observations in some control variables and the unbalanced nature of the panel, the effective sample used in our empirical exploration is smaller. In our base results it amounts to about 6000 observations, but this number increases substantially in our robustness checks. Table 2 compares the statistics in the full sample with those from the base estimation sample. It is not surprising that those firms in the estimation sample, essentially those with a more comprehensive record of historical information, are larger and, after 2008, tend to be more compliant with the IFRS standards. Notwithstanding these differences, the statistics between both samples are similar.

Table 3 presents *prima facie* evidence on the significance of some effects in our sample. In particular, it compares the average opacity score for firms with high audit quality against those with a lower audit quality, and also for firms that adopt IFRS with those who do not. The purpose is to explore preliminarily whether the regulatory status (IFRS or not) and audit quality (hire a Big 4 or not) are associated with different levels of opacity. The table also reports standard *t*-tests for the null hypothesis that the mean opacity is equal among firms with different attributes.

In panel A we find that high audit quality is associated with lower opacity: an average opacity score of 0.175 for high audit quality firms versus 0.206 for low audit quality firms. The difference between these averages is statistically significant with a corresponding *t*-statistic of  $-5.661$ . Thus the null hypothesis that mean opacity is equal for high and low audit quality firms is strongly rejected.

Furthermore, the differences in firms that do not adopt IFRS drive this full-sample rejection. In this group we find an average opacity of 0.158 for high audit quality firms as opposed to the larger average of 0.208 for low audit quality firms. The difference is still significant, with a *t*-statistic of  $-4.245$ .

In clear contrast, we are not able to reject the null hypothesis of equal mean opacity for firms that adopt IFRS: the average opacity

<sup>6</sup> Moreover, we found no significant differences among the countries in our sample, related to differences in the economic environment, that might be deserve further analysis. Findings related to countries facing situations of financial distress lately, such as Argentina and Brazil, are similar to those of the other, economically stable countries (Peru, Colombia, Mexico and Chile). Therefore, we took the decision of analyzing the sample as a whole, focusing on the differences among companies (i.e. adoption of IFRS, being audited by a Big 4, and so on) rather than countries, but always controlling for country effects in the regression analysis.

**Table 2**  
Descriptive statistics by sample.

	Before 2008		After 2008		All periods	
	Full	Estimation	Full	Estimation	Full	Estimation
Average firm size (in logs)	5.42	5.57	6.13	6.43	5.85	6.21
Median opacity	0.15	0.15	0.19	0.19	0.17	0.18
Proportion of firms hiring a Big 4	0.44	0.45	0.17	0.18	0.27	0.25
Proportion of firms adopting IFRS	0.01	0.01	0.78	0.88	0.48	0.65

Source: Thomson Reuters Eikon. Own elaboration.

**Table 3**  
t tests for effects on earnings management.

(A)	$n$	$m_1$	$s_1$	$m_0$	$s_0$	$t$ -statistic	$p$ -value
<i>High audit quality (1) versus low audit quality (0)</i>							
Full sample	5846	0.175	(0.003)	0.206	(0.004)	−5.661	< 0.001
Firms that adopted IFRS	3782	0.199	(0.007)	0.205	(0.004)	−0.673	0.501
Firms that did not adopt IFRS	2064	0.158	(0.003)	0.208	(0.011)	−4.245	< 0.001
(B)	$n$	$m_1$	$s_1$	$m_0$	$s_0$	$t$ -statistic	$p$ -value
<i>Adopted IFRS (1) versus not adopted (0)</i>							
Full sample	5846	0.204	(0.003)	0.187	(0.007)	2.240	0.025
Firms with high audit quality	1469	0.199	(0.007)	0.158	(0.003)	5.392	< 0.001
Firms with low audit quality	4377	0.205	(0.004)	0.208	(0.011)	−0.296	0.767

**Notes:**  $n$  is the sample size;  $m_1$  is the sample average opacity for observations in the selected group (firms with high audit quality in panel A and firms that adopt IFRS in panel B), whereas  $m_0$  is the sample average for the rest of the sample;  $s_i$  is the estimated standard error of  $m_i$  ( $i = 0, 1$ ). The  $t$ -statistic is  $t = (m_1 - m_0)/s$ , where  $s^2 = s_1^2 + s_0^2$  and is asymptotically distributed as a standard normal variate. The  $p$ -values are for two-tailed tests.

is 0.205 for low audit quality firms, which is similar to the full-sample figure, and 0.199 for high audit quality firms, which is significantly larger than the full-sample result. In this case, the  $t$ -statistic is merely −0.673.

On the other hand, panel B reveals an association between the adoption of IFRS and higher opacity: an average of 0.204 for firms following IFRS practices versus an average of 0.187 for the rest. This difference is statistically significant with a corresponding  $t$ -statistic of 2.240. Thus the null hypothesis that mean opacity is equal for firms that adopted IFRS and those who did not is strongly rejected.

Now, the differences in firms with high audit quality drive the full-sample rejection. In this group the average opacity of 0.199 for IFRS compliers is significantly higher than the average of 0.158 of non-compliers (the  $t$ -statistic is 5.392). In contrast, when we conditioned on firms with low audit quality, we find no relevant differences in opacity between those that adopt IFRS and those that do not (with a  $t$ -statistic of −0.296).

The results in Table 3 show that audit quality and adopting international accounting standards act as substitutes in their association with opacity: among IFRS non-compliers, high audit quality seems effective in reducing opacity; whereas this effect is reversed once high audit quality firms adopt IFRS. Even though indicative, these results are not necessarily conclusive. The  $t$ -tests do allow for some heteroscedasticity but fail to account for other distorting factors such as serial correlation and the influence of other conditioning variables. More importantly, the  $t$ -tests cannot distinguish between partial and total effects.

#### 4.2. Regression results

We now implement the framework discussed in Subsection 3.4 to examine if the aforementioned effects also hold within a regression analysis and if they remain valid after a thorough sensitivity analysis.

Table 4 presents estimates of variations of Eq. (6), where the dependent variable (opacity) and the continuous regressors are divided by their full-sample standard deviations to render coefficients of the same scale. The estimation method is least squares, and inferences are based on robust standard errors that are clusterized by firm. This choice follows the results of Hausman tests (reported at the bottom of the table) that did not reject a random effects estimator against a fixed effects estimator, meaning that the inclusion of fixed effects can result in overfitting and significant losses in efficiency. Since the simpler least squares estimator has the same probability limit as the random effects estimator under these circumstances, we opt for it instead. We compare the base estimates with random effect estimates later.

In all cases, the table shows estimates of partial effects ( $\beta$ ) and the total effect ( $\delta$ ) for the IFRS adoption indicator, and partial effects the remaining variables. The specification in column (1) of Table 4 is exactly as Eq. (6), that is, only controlling for IFRS adoption and audit quality. In column (2), we add a full set of industry, country, and year dummies. The regression is then extended with additional characteristics of the firm in the column (3): the logarithm of assets as a measure of size, the Herfindahl index using



**Table 4**  
Base regression results.

Explanatory variables	(1)	(2)	(3)	(4)
IFRS adoption ( $\delta$ )	0.046** (2.244)	0.046** (2.271)	0.046** (2.290)	0.046** (2.290)
IFRS adoption ( $\beta$ )	0.026 (1.081)	0.028 (1.174)	0.030 (1.275)	0.031 (1.293)
Audit quality	−0.076*** (3.904)	−0.068*** (3.170)	−0.059*** (2.823)	−0.057*** (2.681)
Size (assets)			−0.102*** (6.209)	−0.103*** (6.151)
Bid-Ask spread			0.010 (1.081)	0.010 (1.036)
Concentration			−0.010 (0.633)	−0.010 (0.618)
Number of observations	5846	5846	5846	5846
Number of firms	707	707	707	707
Numer of periods	8	8	8	8
Number of regressors	2	40	43	45
ICY dummies?	No	Yes	Yes	Yes
Macroeconomic controls?	No	No	No	Yes
Hausmann test ( <i>p</i> -value)	0.149	0.418	0.252	0.141

**Notes:** Least squares estimations. In parentheses, the absolute value of the *t*-statistics based on robust standard errors that are clustered by firm. \* [\*\*] [\*\*\*] indicate statistical significance at the 10% [5%] [1%] confidence level respectively. All coefficients are partial effects, except for “IFRS adoption ( $\delta$ )” which is a total effect. [Regressions \(2\) to \(4\)](#) include a full set of industry, country and year (ICY) dummies. [Regression \(4\)](#) also includes macroeconomic controls (GDP growth and EMBI). The null hypothesis of the Hausman test is that the probability limit of the random effects estimator, which is the same as that of the least squares estimator, is equal to the probability limit of the fixed effects estimator.

the shares of the three largest shareholders as a measure of ownership concentration, and the average bid-ask spread as a measure of liquidity. Column (4) extends the equation further with macroeconomic controls: gross domestic product (GDP) growth and the spread in the Emerging Markets Bond Index (EMBI).<sup>7</sup>

The estimates confirm our main hypotheses. The partial effect of the audit quality variable is negative, whereas the total effect of IFRS adoption is positive. Both estimates are statistically significant and robust among several competing specifications. In contrast, the partial ceteris paribus effect of the IFRS adoption is not statistically significant, meaning that the effects of the adoption of the new regulation can be unveiled once we allow it to include the effects on other firm attributes, such as the observed decrease in audit quality. Furthermore, larger firms are less opaque rather than smaller firms, but we find no significant relation with respect to liquidity and ownership concentration.

The results of the negative effects of audit quality are similar to those reported in [Francis and Yu \(2009\)](#), whereas an initial positive effect of mandatory IFRS adoption can be found in [Callao and Jarne \(2010\)](#), [van Tendeloo and Vanstraelen \(2005\)](#) and [Jeanjean and Stolowy \(2008\)](#).

#### 4.3. Robustness checks

We now present several robustness checks that are based on the specification in column (4) of [Table 4](#). In this table we keep the sample size fixed to enhance the comparability of the estimates. In [Table 5](#), we let the sample size vary among columns especially by excluding some regressors whose information is not available for all observations.

All regression in this Table include a full set of industry, country and year dummies as well as macroeconomic controls. In column (1), we show results only for firms with at least ten observations of time,  $T > 10$ . In column (2), we exclude the ownership concentration index, whereas in column (3) we exclude the bid-ask spread. In column (4), we use market capitalization (in logs) instead of total assets to measure the firm's size, and the remaining columns repeat the previous sensitive analyses using this measure of the firm's size.<sup>8</sup>

The main result of a negative partial effect of audit quality along with a positive total effect of IFRS adoption is robust. Among these alternative estimations, both effects are statistically significant and of a comparable magnitude to the base results.

We also note that whenever we allow the number of observations to change there are some specifications where the bid-ask spread and the ownership concentration are statistically significant. In particular, the bid-ask spread can have a positive effect on opacity. This effect means that more liquid firms are less opaque. Ownership concentration can have a negative effect on opacity,

<sup>7</sup> For brevity, the coefficients of the industry, country and year dummies as well as of the macroeconomic controls are not reported, but they are available on request.

<sup>8</sup> In other robustness check we also vary the ownership concentration index (up to 5 instead of 3 shareholders) and the macroeconomic controls (GDP per capita growth instead of GDP growth, and the standard deviation of the EMBI spread instead of the spread itself). The results are similar to those reported in [Table 5](#), and thus not presented here.

**Table 5**  
Robustness checks.

Explanatory variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
IFRS adoption ( $\delta$ )	0.040*** (2.676)	0.041*** (2.656)	0.052** (2.490)	0.046** (2.265)	0.045** (2.076)	0.044*** (2.827)	0.044** (2.274)
IFRS adoption ( $\beta$ )	0.032 (1.608)	0.026 (1.488)	0.026 (1.112)	0.030 (1.240)	0.037 (1.535)	0.028 (1.584)	0.018 (0.779)
Audit quality	−0.031* (1.805)	−0.054*** (3.560)	−0.097*** (3.592)	−0.061*** (2.810)	−0.028* (1.777)	−0.057*** (3.775)	−0.098*** (3.733)
Size (assets)	−0.065*** (7.341)	−0.108*** (7.667)	−0.176*** (7.446)				
Bid-Ask spread	−0.006 (0.386)	0.030 (1.433)		0.011 (1.152)	−0.010** (2.034)	0.036 (1.626)	
Concentration	−0.021** (2.458)		−0.006 (0.342)	−0.003 (0.203)	−0.016** (2.279)		−0.023 (1.535)
Size (MK)				−0.029*** (5.917)	−0.019*** (5.090)	−0.031*** (6.296)	−0.040*** (6.781)
Number of observations	4167	8253	7237	5701	4114	7945	6802
Number of firms	330	800	741	670	326	736	686
Number of periods	13	10	10	9	13	11	10
Number of regressors	40	44	44	45	40	44	44

**Notes:** Least squares estimations. In parentheses, the absolute value of the *t*-statistics based on robust standard errors that are clustered by firm. \* [\*\*] {\*\*\*} indicate statistical significance at a 10% [5%] {1%} confidence level respectively. All coefficients are partial effects, except for “IFRS adoption ( $\delta$ )” which is a total effect. All regressions include a full set of industry, country and year dummies as well as macroeconomic controls.

which means that main shareholders could influence greater transparency in the firm.

As an additional robustness check, we also change the estimation method to the random effects estimator. The results are displayed in Table 6. Given the results on Hausman tests presented before, which pointed out that both the least squares and random effects estimators would tend to the same probability limit, it is not surprising that no qualitatively important differences are found with respect to the previous estimations.

#### 4.4. ADRs vs non-ADRs

Table 7 presents several regressions for the samples of non-ADR and ADR firms (i.e., respectively the 819 firms that do not list in the US stock market, and the 52 firms that do). As in the full-sample regressions, the results for non-ADR firms on the negative partial effect of audit quality remain statistically significant, as does the positive total effect of IFRS adoption.

However, the results for ADR firms are different. As suggested in the introduction, for firms with ADRs the effect of audit quality should not be as important under the US regulation as hiring a Big 4 does not seem to have the signaling power it does elsewhere. Cross-listing is a credible commitment to greater transparency and disclosure because an ADR firm faces greater regulatory scrutiny.

**Table 6**  
Random effects estimations.

Explanatory variables	(1)	(2)	(3)	(4)
IFRS adoption ( $\delta$ )	0.045** (2.413)	0.043*** (2.855)	0.047** (2.505)	0.048*** (3.331)
IFRS adoption ( $\beta$ )	0.031 (1.547)	0.035* (1.778)	0.032 (1.617)	0.042* (1.938)
Audit quality	−0.055** (2.371)	−0.028* (1.849)	−0.056** (2.424)	−0.021* (1.691)
Size (assets)	−0.112*** (7.549)	−0.073*** (5.017)		
Bid-Ask spread	0.002 (0.254)	0.004 (0.274)	0.005 (0.644)	0.002 (0.163)
Concentration	−0.021 (1.566)	−0.030** (2.581)	−0.009 (0.749)	−0.025** (2.243)
Size (MK)			−0.031*** (5.671)	−0.019*** (3.235)
Number of observations	5846	4167	5701	4114
Number of firms	707	330	670	326
Number of periods	4	13	5	12
Number of regressors	45	40	45	40

**Notes:** Random effects estimation. In parentheses, the absolute value of the *t*-statistics based on robust standard errors that are clustered by firm. \* [\*\*] {\*\*\*} indicate statistical significance at a 10% [5%] {1%} confidence level respectively. All coefficients are partial effects, except for “IFRS adoption ( $\delta$ )” which is a total effect. All regressions include a full set of industry, country and year dummies as well as macroeconomic controls.

**Table 7**  
Estimations for ADR and non-ADR subsamples.

Explanatory variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
IFRS adoption ( $\delta$ )	0.033** (2.009)	0.037** (2.191)	0.037** (1.962)	0.042** (2.243)	0.017 (0.479)	0.021 (0.582)	0.004 (0.096)	0.005 (0.111)
IFRS adoption ( $\beta$ )	0.018 (0.917)	0.020 (1.037)	0.020 (1.040)	0.028 (1.427)	0.012 (0.333)	0.022 (0.578)	0.006 (0.125)	0.009 (0.178)
Audit quality	−0.059*** (3.584)	−0.063*** (3.726)	−0.062*** (2.766)	−0.053** (2.334)	−0.018 (0.782)	0.003 (0.143)	0.005 (0.228)	0.013 (0.448)
Size (assets)	−0.126*** (7.106)		−0.141*** (7.861)		−0.044** (2.573)		−0.001 (0.027)	
Size (MK)		−0.034*** (6.081)		−0.037*** (5.127)		0.011 (0.976)		0.008 (0.358)
Number of observations	7578	7269	7578	7269	675	676	675	676
Number of firms	748	684	748	684	52	52	52	52
Number of periods	10	11	10	11	13	13	13	13
Number of regressors	43	43	43	43	36	36	36	36
RE estimator?	No	No	Yes	Yes	No	No	Yes	Yes
ADR?	No	No	No	No	Yes	Yes	Yes	Yes

**Notes:** Least squares – Regressions (1), (2), (5) and (6) – and random effects – Regressions (3), (4), (7) and (8) – estimations. In parentheses, the absolute value of the *t*-statistics based on robust standard errors that are clustered by firm. \* [\*\*] {\*\*\*} indicate statistical significance at a 10% [5%] {1%} confidence level respectively. All coefficients are partial effects, except for “IFRS adoption ( $\delta$ )” which is a total effect. All regressions include a full set of industry, country and year dummies, as well as macroeconomic controls. Regression (1) to (4) are for non-ADR firms; Regressions (5) to (7), for ADR firms.

Thus, it is the cross-listing itself that serves as a strategy to signal transparency for these firms (see, *inter alia*, Lang et al., 2003).

Consequently, the partial effect of audit quality does not appear to be statistically significant, and so the partial effect of IFRS adoption is very close to the total effect. Similarly, aside from complying with the Sabarnes-Oxley Act, the mere adoption of the IFRS does not provide a relevant signal to the market about transparency either and consequently the estimated effect in Table 7 is also statistically insignificant.

## 5. Closing remarks

Our study explores the role played by several variables on the level of transparency of companies from six Latin American countries, especially regulation and the audit quality. We focus on the characteristics of the firms rather than on the differences among countries as we didn't find important cross-country differences, but only among firms. For instance, after 2008 in all countries we detect, besides the obvious increase on the IFRS compliance rate, an increase in opacity which could be explained by a significantly less proportion of firms hiring a Big 4 auditors.

The total effect of the adoption of IFRS is positive and significant in all our specifications, whereas its partial effect is not significant. As a result, firms are more opaque which might be due to overconfidence in the adoption of the IFRS as managers could believe that the mere adoption of the international standards is enough to assure higher transparency. These findings are similar to those in Jeanjean and Stolowy (2008), that evidenced a lack of improvement in the transparency level after the adoption of the IFRS for UK and Australia, and even an increase of opacity for France. This pattern has also been detected in German companies, according to van Tendeloo and Vanstraelen (2005).

Moreover, we find two unintended effects of the IFRS adoption in Latin America: for firms that adopt the IFRS, their audit quality is lower and they are more opaque; and for those firms with ADRs this adoption makes no difference. Furthermore, high audit quality only matters as a substitute signal for firms that have not adopted the IFRS. These conclusion contrasts with Arping and Sautner (2013) who found that the adoption of a stronger regulation decreases opacity also in the case of ADRs. However, our findings are in the line of Bhattacharya et al. (2003) in that regulation has almost no (partial) effects on opacity while the number of auditors does have a negative effect. The results also relate to the findings in Lang et al. (2003) that cross-listing itself guarantees a significantly better information environment, due to the high interest and attention analysts give to those firms.

Opacity has as a short-term consequence the lack of complete and trustable information for investors, which leads to the presence of information asymmetry in the market. Main drawbacks are the possible presence of incorrectly priced shares and, therefore, the risk of wrong decision making by investors. Thus, the short-term implication of our results is related to transparency: only adopting IFRS is not enough; firms still need to rely on high audit quality in order to become more transparent. From the investor's point of view, firms should use complementary mechanisms to assure higher transparency such as the adoption of a good corporate governance code.

In the long term, opacity threatens the efficient functioning of emerging economies, impeding their development and attracting smaller amounts of investors. The long-term implication of our findings involves policies to foster cross-listing between Latin American markets and the US or eventually the European markets. In addition, a solid step towards further transparency is to increase their information requirements to list in the so-called Latin America Integrated Market (MILA) involving four exchanges (Chile, Colombia, Mexico and Peru).

It is essential for the development of the emerging markets, to reduce opacity in order to and promote further confidence in disclosed information. Consequent challenges relates to the adoption of mechanisms at the firm level that will help to provide the desired results. In particular, future research should examine policies that will mitigate the belief that the mere adoption of the IFRS guarantees transparency in emerging markets. An interesting avenue to explore is whether corporate governance can act as moderator between audit quality and regulation by generating the right signal to investors about the firm's transparency.

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