RESEARCH

Open Access



The impact of IFRS mandate and institutional governance on underpricing and aftermarket performance of IPO shares in Turkey

Asil Azimli^{1*}

*Correspondence: aazimli@ciu.edu.tr

¹ Accounting and Finance Department, Cyprus International University, Northern Cyprus, 10, Mersin, Nicosia, Turkey

Abstract

Along with the European Union, policymakers in Turkey passed a regulation that mandated all listed companies use the International Financial Reporting Standards (IFRS) starting from January 1, 2005. Using a before-after estimation design, this study examines the impact of this policy change and the role of institutional governance quality on the initial trading day and aftermarket trading performance of initial public offerings (IPO) in Turkey from 1998 to 2019. The results show that the IFRS mandate does not affect initial trading day returns but improves the aftermarket trading performance of IPO shares. This finding may imply that Turkey's secondary market also suffers from information asymmetry and that IFRS-compliant reports help alleviate this problem. Furthermore, none of the six institutional governance quality measures tested loaded significantly against initial trading day or long-term returns. However, when examined together, two institutional measures with a negative value, voice and accountability, and political stability, offset the positive effect of the IFRS-compliant reporting on longterm IPO returns, providing support to the premise that institutional quality matters for realizing the economic benefits of the IFRS mandate.

Keywords: IFRS, IPO, Underpricing, Emerging market

JEL Classification: G14, G18

Introduction

Empirical research has reported two concurrent patterns related to initial public offerings (IPOs). First, IPO shares provide significant returns by the end of the first trading day. The closing price of a typical IPO share is higher than its offer price (e.g., Durukan 2002; Killins 2019; Loughran et al 1994; Rathnayake et al 2019; Ritter 1984; Ritter and Welch 2002; Tian 2011; Zhang et al 2015, among others). Second, despite the observation that IPO shares provide initial day premiums, they underperform the overall market in the long run (e.g., Alidarous and Jamaani 2021; Clarke et al 2016; Jamaani and Alidarous 2021; Miller 1977; Ritter and Welch 2002; Song et al 2014). Although initialday premiums and long-term underperformance levels differ across countries, these two patterns are persistently observed in most financial markets. Some researchers relate both initial day IPO premium (i.e., underpricing) and subsequent poor performance to



© The Author(s) 2023. **Open Access** This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit http:// creativecommons.org/licenses/by/4.0/.

inadequate information about the issuing firms (e.g., Allen and Faulhaber 1989; Beatty and Ritter 1986; Chemmanur and Fulghieri 1999; Habib and Ljungqvist 2001; Ritter and Welch 2002; Rock 1986), while others highlight the role of the institutional development level of countries as a probable reason for the reported differences (e.g., Daske et al 2008; Engelen and van Essen 2010; Christensen et al 2013).

A typical IPO firm lacks adequate financial statement data, mainly because of weak reporting requirements before listing in a financial market. Therefore, the information available to the public around the issue date is restricted to that provided in IPO firms' financial statements, leading to information asymmetry problems in most IPO settings (Hong et al 2014). Furthermore, in countries with underdeveloped institutions and weak enforcement mechanisms, managers may engage in opportunistic behavior, such as manipulating financial statements before an IPO, to make their firms more appealing to investors and analysts (Boulton et al 2011). Considering the combined effects of weak reporting requirements and low institutional development, the information asymmetry problem may be extremely severe (Hlel et al 2020). This leads investors to require a higher uncertainty premium for new issues (Byard et al 2021; Jamaani and Ahmed 2021). Information asymmetry is also likely to negatively affect equity markets development (Liu and Ritter 2011), leading to sluggish economic growth. If the information asymmetry problem can be alleviated through improved financial reporting, firms can enter the capital market at a cheaper rate. Thus, the information in financial statements is an essential aspect of IPOs that affects their pricing (Hong et al 2014).

Although previous IPO literature offers important insights related to the factors that are important for IPO shares' pricing (e.g., Aggarwal et al 2009; He et al 2022; Purnanandam and Swaminathan 2004; Willenborg et al 2015, among others), the information effect of financial statements prepared under different accounting regimes on IPO pricing is not well understood owing to mixed empirical findings. For instance, Hong et al (2014) report lower average underpricing for IPOs in 20 countries (mainly developed) after the mandatory adoption of the International Financial Reporting Standards (IFRS). They attribute this finding to improved reporting under IFRS and, thus, lower uncertainty around IPO events. However, Byard et al (2021) argue that the lower average underpricing reported by Hong et al (2014) is not related to IFRS adoption, but rather driven by applying Prospectus Directives in countries that contemporaneously increased their reporting enforcement practices. For instance, Maglio et al (2018) show that adopting IFRS does not lead to lower average underpricing in Italy. By contrast, Tsai and Huang (2020) analyze the effect of convergence to IFRS¹ on average underpricing in China and report lower average underpricing following 2007. Whereas, Lee et al (2022) report higher underpricing following IFRS adoption in South Korea, specifically for firms with higher information asymmetry problems before IFRS adoption. Alidarous and Jamaani (2021) examined the role of the IFRS mandate and the quality of the institutional setting on the aftermarket performance of IPO shares in Saudi Arabia from 2005 to 2017. Their findings show that the quality of the institutional environment influences

¹ China converged the Chinese Accounting Standards and IFRS in 2007, rather than a full adoption. According to ifrs. org, "China's national standards are substantially converged with IFRS Standards, and China has committed to adopting IFRS Standards for reporting by at least some domestic companies, although there is no timetable for completion of the process."

the aftermarket performance of IPOs, but not IFRS adoption per se. Jamaani and Alidarous (2021) examine the impact of the IFRS mandate on underpricing and aftermarket performance in Saudi Arabia. They show that the IFRS mandate reduces average underpricing but does not affect the performance of IPO shares in the long run. However, Dorsman et al (2010) show that the aftermarket performance of Dutch IPOs improved after IFRS adoption. Jamaani et al. (2022) show that IFRS and institutional quality have a combined effect on average underpricing in Saudi Arabia.

A brief overview of the related literature highlights the importance of the institutional setting in the relationship between IFRS mandate and IPO pricing. Despite the importance of the institutional environment in realizing the economic benefits of IFRS-compliant financial reporting, the joint investigation of both on IPO pricing is overlooked. Specifically, not accounting for the concurrent impact of institutional attributes when examining the effects of different accounting standards on IPO pricing may lead to false findings (Jamaani et al 2022). Another gap in the literature is that previous studies have mainly focused on developed countries with well-functioning institutions. However, the evidence from developing countries is limited to China and Saudi Arabia. Despite their importance, China and Saudi Arabia have only partially shifted to IFRS-compliant reports. Officials in China mandated the partial convergence of listed firms to IFRS in 2007 rather than a complete adoption. Accordingly, the finding of Tsai and Huang (2020) that the IFRS mandate reduces average underpricing is unique to China and may not be generalizable to other emerging economies that mandate IFRS adoption. Moreover, Alidarous and Jamaani (2021), Jamaani and Alidarous (2021), and Jamaani et al. (2022) examined the IPO market pricing implications of the IFRS mandate in Saudi Arabia, where IFRS was mandated only for financial firms in 2008, three years after the adoption of IFRS in Europe.² Accordingly, the findings reported for the Saudi Arabian IPO market on the pricing effects of the IFRS mandate on IPO shares are limited to the financial sector.

Motivated by these issues, this study tests the impact of the IFRS mandate and institutional governance quality on the underpricing and aftermarket performance of IPOs in Turkey between 1998 and 2019. As an emerging market, Turkey offers several unique features for testing the impact of improved reporting and institutional quality on IPO pricing for several important reasons. First, unlike China and Saudi Arabia, officials in Turkey and Europe jointly mandated IFRS-based reporting for all listed firms in 2005. Second, the IFRS mandate significantly changed Turkish companies' reporting practices. Before IFRS adoption, Turkey used a uniform order accounting system, which was rule-based tax legislation dominated by tax authorities (Demir and Aktas 2015). Thus, it was not financial market-oriented. Therefore, IFRS adoption should lead to a significant shift in the information environment of Turkey's IPO context. This reasoning is based on the fact that IFRS-compliant financial statements report fair values. Fair value reporting reflects the consensus of market participants about the value of assets and liabilities given changing economic conditions, thus incorporating the impacts of the time value of money and risk (Byard et al 2021; He et al 2022). Therefore, fair value information should

² Saudi Arabia mandated IFRS for all listed firms in 2017 (Alidarous and Jamaani 2021).

make it easier to predict the future economic benefits for IPO firms (He et al 2022). The literature documents the importance of fair value reporting in the valuation of financial securities (Barth et al. 2008; Evans et al 2014; Song et al 2010; He et al 2022). Third, given Turkey's full IFRS adoption in 2005, the analysis of the impact of its mandate should be more generalizable to other emerging markets that mandate IFRS for all listed firms. Finally, despite the premise that IFRS can improve the transparency, extent, and quality of accounting information, previous empirical evidence shows that IFRS may not provide economic benefits in institutionally weak settings (e.g., Armstrong et al 2010; Barth and Israeli 2013; Christensen et al 2013; Daske et al 2008). This study extends the existing literature by documenting whether the IFRS mandate offers economic benefits (i.e., more favorable pricing) in institutionally weaker emerging markets.

The findings show that, on average, IPO shares are underpriced in Turkey by 6.50% and underperformed the overall market by -23.7%, according to a two-year buy-andhold investment strategy from 1998 to 2019. Univariate portfolio analysis and multivariate cross-sectional tests show that the IFRS mandate does not significantly reduce average underpricing. This conclusion holds for institutional quality measures: none of the six tested measures are significantly related to underpricing. Given these findings, the joint impact of institutional quality and the IFRS mandate on IPO underpricing is insignificant. However, the results related to the aftermarket performance of IPO shares show a significant positive effect of IFRS-compliant reports on long-term performance. This finding may indicate that Turkey's secondary market also suffers from information asymmetry, and that IFRS helps alleviate this problem.³ Finally, institutional quality measures do not significantly affect the aftermarket performance of IPO shares. When examined jointly, two institutional quality measures with negative values (voice and accountability, and political stability) offset the positive impact of the IFRS mandate on aftermarket performance, highlighting the importance of the quality of institutional settings in realizing the economic benefits of IFRS-compliant reporting.

This study makes two noteworthy contributions to the IPO-IFRS literature. First, it extends prior findings on the IPO market pricing effect of the IFRS mandate in emerging markets. Existing studies either focused on the Chinese setting, which only converged some of its local standards as of 2007 (e.g., Tsai and Huang 2020), or the Saudi Arabian setting, which mandated IFRS only for banks and insurance companies as of 2008 (Jamaani and Alidarous 2021; Jamaani and Alidarous 2021; Jamaani et al 2022). Accordingly, this study extends the evidence related to IPO pricing implications of the IFRS mandate in emerging markets by offering evidence from Turkey that jointly mandated IFRS with Europe in 2005 for all listed companies and issuing firms. Therefore, in contrast to previous studies, our results may be extended to other emerging markets that mandate IFRS for all listed companies.

Second, the results relate to a strand of literature that examines the impact of institutional development on the expected economic benefits of the IFRS-IPO relationship in emerging countries. To the best of our knowledge, this issue has only been analyzed in

³ An alternative explanation to this finding could be that investors may fail to immediately and fully reflect the fundamental fair value information contained in IFRS-based reports into the IPO share prices, thus the positive impact of IFRS leading to a gradual improvement in aftermarket performance (e.g., He et al. 2022).

Saudi Arabia. Alidarous and Jamaani (2021) examine the concurrent impact of the IFRS mandate and institutional quality on the aftermarket performance of IPO shares in Saudi Arabia. They show that higher institutional quality improves aftermarket performance. A study by Jamaani et al (2022) shows that the IFRS mandate and institutional quality concurrently impact the average underpricing in Saudi Arabia. However, in Turkey, institutional quality does not reduce average underpricing because of weak institutional quality performance. Furthermore, the positive impact of IFRS on the long-term performance of IPO shares becomes negative when institutional quality dimensions with negative scores are examined together with an IFRS proxy. Thus, poor institutional quality offsets the positive impact of the value-relevant information provided in IFRS-compliant financial reports. Accordingly, the current findings are also related to those of previous studies that argue that institutional quality matters in realizing the economic benefits of IFRS adoption (e.g., Armstrong et al 2010; Barth and Israeli 2013; Christensen et al 2013; Daske et al 2008).

Following the introduction, section "Financial Reporting And The IPO Context In Turkey" provides a brief description of the development of financial reporting standards in Turkey and the IPO context; section "Literature Review" provides a literature review; section "Theoretical background and hypothesis development" develops the hypotheses of the study; Sect. "Data and methodology" explains the data, sample, model, and the methodology; section "Empirical results" reports the results of the univariate portfolio analyses, and cross-sectional model estimations; and section "Robustness tests" presents several robustness tests. Finally, section "Conclusion" presents the conclusions.

Financial reporting and the IPO context in Turkey

Accounting in Turkey and IFRS mandate

Standardization of accounting processes in Turkey began in 1992 with the publication of the Accounting System Implementation General Communiqué, which commands businesses to follow a uniform order accounting system as of January 1, 1994 (Karapinar and Zaif 2021). To monitor the application of the Communiqué, the Turkish Accounting and Auditing Standards Board was established. Later, following the European integration goal, Turkish policymakers passed a regulation that mandated all companies listed in Borsa İstanbul to prepare their financial statements in compliance with the IFRS. To this end, the Turkish Accounting Standards Board (TASB) was established (Yalkin et al. 2008). Today, the TASB has ultimate authority to set accounting standards in Turkey and monitor the harmonization process with new standards. A complete translation (from English to Turkish language) of the IFRS was issued by TASB, which is formally known as Turkish Financial Reporting Standards. Shifting to IFRS is one of the most critical improvements in Turkish accounting history because it represents a shift from a rulebased set of standards, which was the historical cost-based tax legislation dominated by Turkey's tax authority (Demir and Aktas 2015), to a principle-based set of standards, which calls for the reporting of fair market values. According to Karapinar and Zaif (2021), IFRS improved accounting information and extended disclosure in financial statements. For instance, before adopting IFRS, reporting depreciation and amortization, provision of pensions, provision of bad debts, provision of obsolete inventory, and earnings per share were not required. Firms were not required to publish their cash flow

statements. The disclosures were not detailed and fair value measurements were not used. All of these factors contribute to the quality, availability and extent of the financial information.

Although adopting IFRS is claimed to have several economic and financial market benefits (e.g., Ball 2006; Brown 2011), the literature showed that the effects of IFRS adoption on economic and financial market outcomes depend on institutional factors, such as the strength of the enforcement mechanism, institutional development level, investor protection (Ball 2006; Hung 2001; Francis and Wang 2008), attributes of different political systems (Bushman and Piotroski 2006), and legal origin (Soderstrom and Sun 2007). Overall, the IFRS mandate has favorable financial markets and reporting outcomes in countries with robust enforcement mechanisms and higher institutional development (e.g., Armstrong et al 2010; Barth and Israeli 2013; Byard et al 2011; Cascino and Gassen 2015; Christensen et al. 2013; Daske et al. 2008; Li 2010; Hail and Leuz 2006; Landsman et al 2012). However, others find no benefits of adopting IFRS over and above existing accounting standards (e.g., Ahmed et al 2013; Atwood et al 2011; Daske 2006). Although Aksu and Espahdodi (2016) report a higher disclosure score for financial reports following the IFRS mandate, the IPO market outcome of this regulation in Turkey has yet to be discovered. This is an important area of focus because the IPO setting is highly uncertain and informationally asymmetric owing to inadequate information about the issuing firm (Hong et al. 2014).

IPO context in Turkey

The IPO context is chosen to test whether the IFRS mandate can improve the valuation of risky financial assets in an emerging market setting that suffers from meager information. As in other countries, firms wishing to go public in Turkey must fulfill several requirements, including reporting financial statements from the past three years. Initially, a candidate IPO firm must submit its prospectus to Turkey's Capital Markets Board (CMB) and Borsa İstanbul and request approval to conduct an IPO. Firms should also register with the Public Disclosure Platform, which is responsible for the distribution of financial statements data to the public, and with Takasbank, which assigns an international securities identification number (ISIN) to all listed securities. After applying to the CMB, underwriters can conduct a roadshow to determine the possible offer price for the company's securities. At this stage, potential investors are offered details about the IPO firm, including the history of financial reports for the past three years. The acquired information is then used in the price formation stage; the most dependable input for underwriters and institutional investors is the information offered in the financial statements. Adopting IFRS may play a significant role, given its benefits of improved information and better predictability of entities' future economic outcomes, including expected earnings (He et al 2022). Accordingly, the IFRS mandate is a significant development that should be investigated regarding IPO prices.

This study focuses on the Turkish IPO market, which has high financing costs associated with firm- and country-level factors. To attract foreign capital, firms operating in Turkey should aim to reduce information asymmetry and information processing costs for foreign investors, which can be attained by improving the quality of financial reporting and the comparability of statements (see, for instance, Daske et al. 2008; Li 2010; Uyar et al. 2016). Empirical evidence shows that IFRS adoption may enable firms in emerging markets to be listed in more developed markets and access foreign capital (Hamberg et al 2013). These factors are essential for policymakers in emerging economies that are suffering from the same problems as Turkey. Accordingly, the Turkish IPO context is examined to address the ongoing debate on whether mandatory IFRS adoption can provide economic benefits in different settings. The results of this study may provide valuable guidance for the policy implications of International Accounting Standards Board (IASB) and about the effectiveness of IFRS in different settings, specifically for emerging markets with scarce evidence.

Literature review

Opening to the public, which involves significant uncertainty, is one of the most critical firm-level decisions. As in other areas of finance, the primary concern in going public is the valuation of IPO shares. Previous studies reveal two recurring patterns associated with IPOs. First, IPO shares offer significant returns at the end of the first trading day concerning their offer prices, even after adjusting for movements in the general market. This finding, which is referred to as underpricing, is well documented in both developed and developing financial markets (e.g. Durukan 2002; Jamaani and Alidarous 2021; Loughran and Ritter 2004; Rathnayake et al. 2019; Ritter 1984; Ritter and Welch 2002; Michaely and Shaw 1994; Shi et al. 2013; Tian 2011; Zhang et al. 2015 among others) since firstly discovered by Ibbotson (1975). Second, IPO shares tend to underperform in the overall market in the long run (e.g. Aggarwal and Rivoli 1990; Teoh et al. 1998; Zattoni et al. 2017, among others).

Although issuers accept leaving money on the table at the end of the first trading day, firms' underpricing costs are high. For instance, Loughran and Ritter (2002) reported that during the 1990s, an average IPO firm left 9.1 million US dollars on the table. Recently, the amount of money left on the table by a typical IPO firm has increased significantly. For instance, Visa Inc. and Alibaba left 5 billion and 8.3 billion US dollars on the table in 2008 and 2014, respectively. Findings related to the aftermarket performance of IPO shares are also striking; Gajewski and Gresse (2006) reveal that IPO shares in Europe underperform the market by almost -32.61 percent in the long-run (measured as three-year buy-and-hold abnormal returns). These findings are mainly attributed to inadequate information about IPO firms at the time of the issue (e.g., Dorsman et al. 2010; Hong et al. 2014; Jamaani and Alidarous 2021; Zattoni et al. 2017). For instance, Hong et al (2014), Jamaani and Alidarous (2021), Jamaani et al (2022), and Tsai and Huang (2020) argued that the IFRS mandate improved the quality and availability of financial information and showed that the IFRS mandate reduced (increased) the average underpricing (long-term performance) because of these improvements. By contrast, others report that IFRS adoption is unrelated to lower IPO share underpricing (Byard et al 2021; Maglio et al 2018; Lee et al 2022). Furthermore, Georgakopoulos et al (2022) report an increase in managers' earnings forecasts in Australia noting that over-optimistic forecasts by managers of IPO firms lead to higher average underpricing under the IFRS regime. Accordingly, the findings on the economic benefits of IFRS adoption on IPO pricing are mixed.

Studies have examined the impact of IFRS mandate on the long-term performance of IPO shares. For instance, Jamaani and Alidarous (2021) examine the impact of the IFRS mandate on the long-term performance of IPO shares in Saudi Arabia. They found no significant difference between the long-term performance of IPO shares before and after adoption. Alidarous and Jamaani (2021) examined the concurrent effects of IFRS adoption and institutional quality on the long-term performance of IPO shares. Their results revealed that institutional quality in Saudi Arabia is a significant determinant of aftermarket performance, but the IFRS mandate is not. According to Jamaani and Alidarous (2021), IFRS mandate can significantly reduce underpricing. However, it does not improve aftermarket performance owing to the higher information asymmetry problem in the primary IPO market relative to that in the secondary (Shi et al. 2013). Despite this prediction, Dorsman et al (2010) report that Dutch IPO's underperformance during aftermarket trading decreased after IFRS adoption. Moreover, He et al. (2022) show that reporting fair value accounting is positively related to the long-term trading performance of IPO shares.

According to Evans et al (2014), fair values are forward looking because their calculations are obtained from the latest market information. As fair value measures incorporate the time value of money and risk, they are expected to reflect the growth prospects of reporting entities better than historical accounting numbers. According to Purnanandam and Swaminathan (2004) and Aggarwal et al (2009), IPO investors place more emphasis on the growth prospects of IPO firms than on their reported historical earnings. Therefore, fair value reporting should be relevant for the valuation of IPO shares because fair values incorporate the growth prospects assigned by market participants. Owing to their lower development levels, emerging markets suffer from higher information asymmetry problems. The Turkish setting offers an excellent foundation for testing the implications of the IFRS mandate and controlling for the impact of the institutional setting since, before 2005, the GAAP of Turkey was in use, which is practically a tax legislative system (Demir and Aktas 2015). Turkey's shift to IFRS is a significant development that has come along with several institutional developments that may improve the information environment for investors and other parties involved in valuing IPO shares.

In summary, previous IFRS-IPO literature has produced mixed findings that warrant further investigation. Moreover, the impact of IFRS on IPO valuations in Turkey has been overlooked. As an emerging market that concurrently mandated IFRS for all listed and newly issuing firms together with Europe in 2005, the Turkish setting should provide important implications for policymakers and accounting standard setters. Jamaani et al (2022) also state that most emerging markets have short-term IFRS experience given that they adopted IFRS after its widespread adoption in Europe in 2005. According to Ball (2016), it is difficult to generalize the results related to the economic outcomes of IFRS adoption in the case of a short-term IFRS experience. Turkey has been using IFRS since 2005; thus, it stands out as an important emerging market to examine the long-lived informational benefits of adopting IFRS.

Theoretical background and hypothesis development

Given the critical role of the IPO market for firms and the economy, analyzing the factors that influence the valuation of new issues among underwriters and investors is an ongoing research topic. Despite the accumulation of literature related to this issue, the valuation of IPO shares is highly challenging because of meager information about issuing firms around the IPO date (Guo et al 2005; Hong et al 2014). Owing to the lack of information, the financial reporting provided by IPO firms is one factor that draws attention; arguably the most dependable source for analyzing issuing firms (He et al 2022). In this manner, the extant literature documents the importance of historical accounting records, such as operating performance (operating cash flows and net income) of IPO firms, on the price formation of shares during the pre-IPO market and afterward (e.g. Willenborg et al 2015). By contrast, Aggarwal et al (2009) and Purnanandam and Swaminathan (2004) show that investors emphasize the growth prospects contained in fair value reporting relative to historical financial performance. Given the lack of consensus on this issue, He et al (2022) compare the impact of fair value and historical earnings on IPO valuations. They show that higher fair value earnings lead to a higher valuation at an offer price, lower underpricing, and better long-term performance. These findings imply that fair value reporting of accounting measures has significant implications for IPO pricing.

The study tests whether a fair value-based set of accounting standards (i.e. IFRS) can affect the valuation of IPOs at two different stages; during the initial trading day and aftermarket trading. According to Daske et al. (2008), the shift to IFRS-based financial statements was the most significant development in accounting regulation history. Hong et al (2014) argue that shifting to a new set of standards may influence the quality of information surrounding IPO events. Therefore, the IFRS mandate should be relevant for the different parties involved in the valuation process of IPO shares, given that fair values contain value-relevant information (Barth and Clinch 1998; So and Smith 2009; Song et al 2010).

This study argues that the IFRS mandate is a significant contribution to the valuation of IPOs during the initial trading day for two reasons: First, fair-value reporting is forward-looking since it depends on the latest market information, representing the collective consensus of market participants about the current value of assets and liabilities (He et al 2022). Accordingly, market-based fair value reporting should aid asset valuation by enhancing the predictability of future performance (Ball 2006; Brown 2011). According to Evans et al (2014), fair value accounting improves the predictability of future economic benefits because it considers both the time value of money and risk, thus enabling accounting information users to predict future earnings, which is an essential input for IPO valuation (He et al 2022). Empirical evidence further shows that fair-value-based IFRS improves managers' earnings forecasts (Li and Yang 2016), earnings announcements content (Landsman et al 2012), and analysts' forecasts (Byard et al 2011), specifically in countries with strong enforcement mechanisms and institutional development. Given these factors, fair value reporting should be relevant for pricing shares within the IPO setting, where uncertainty about growth prospects and future earnings is the highest.

Second, because fair value reporting is based on market data, it is subject to less information asymmetry than historical accounting measures, which are subject to managerial discretion (Ball 2006; Lee 2019). As the formation of market values is mainly independent of the reporting entity (He et al 2022), given that the IPO setting is highly uncertain owing to the information asymmetry problem, the IFRS mandate may serve as a significant policy shift that can alleviate this problem by certifying the actual value of reporting entities. Fontes et al (2018) provide support for this argument by documenting the negative impact of fair value reporting on the bid-ask spread, a measure of information asymmetry.

Underpricing of IPOs is mainly attributed to information asymmetry in the IPO context (Ritter and Welch 2002). Rock (1986) states that some IPO investors are better informed than others. This leads informed investors to only place bids for the stocks selling under their fundamental value. By contrast, uninformed investors bid randomly because of their information disadvantage. In this context, the demand from informed investors for undervalued issues would overcrowd uninformed investors, and thus, uninformed investors would end up with overvalued issues. Accordingly, uninformed investors will experience a winner's curse and eventually leave the market because they cannot lose limitlessly. However, sustainability of the IPO markets depends on the participation of uninformed investors. Therefore, new issues are intentionally underpriced to compensate for the information disadvantages of uninformed investors. Borrowing from this theory, Beatty and Ritter (1986) document a positive relationship between exante uncertainty and underpricing. Michaely and Shaw (1994) support these findings. The information asymmetry framework forms the basis of many IPO valuation models. However, what if the uncertainty surrounding IPO events could be reduced by adopting improved accounting standards?

According to Ball (2006) and Brown (2011), adopting IFRS has many benefits. It improves the transparency of financial reporting, enables the efficient allocation of capital, reduces the cost of financing, and enhances the comparability of financial reports. There is empirical evidence that the mandatory adoption of IFRS improves the content of information about the reporting entity (Byard et al. 2011), reduces the cash flow sensitivity of investments (Schleicher et al. 2010), and the cost of capital (Daske et al. 2008; Li 2010). Additionally, La Porta et al. (2006) argue that improved accounting information might enable investors to obtain more information about the issuing firm, thereby reducing the need to offer shares with an uncertainty discount. Based on these arguments, Jamaani and Alidarous (2021), Jamaani et al (2022), and Hong et al. (2014) report lower average underpricing following the IFRS mandate.

H1 Mandatory adoption of IFRS negatively affects IPO underpricing.

However, it is essential to mention that another strand of studies reported no association between the IFRS mandate and average underpricing of IPO shares (e.g., Byard et al 2021; Maglio et al 2018). The implications of IFRS-based fair value measures on the valuation of the initial trading day could have their limitations, such as, the effectiveness of fair value reporting is limited by the ability of unsophisticated investors to understand the pricing implications of relatively complex fair value information. Given their popularity and media coverage, IPO events could stimulate the subscription of unsophisticated investors, who mainly follow simplified media news when making investment decisions (Baji and Raimondo 2017). Unlike the pre-IPO market, dominated by sophisticated participants (e.g., underwriters, analysts, and institutional investors), the initial trading day could be dominated by retail investors who may not understand all the details and implications of fair value reporting (Hirshleifer and Teoh 2003). The IFRS mandate may not significantly influence average underpricing if such investors overcrowd IPO settings.

We also examine whether the IFRS mandate can significantly affect the long-run performance of IPO shares. Previous studies have shown that IPO shares underperform the market in the long run (e.g. Alidarous and Jamaani 2021; Clarke et al. 2016; Jamaani and Alidarous 2021; Miller 1977; Ritter and Welch 2002; Song et al. 2014). Dorsman et al (2010) report that an IFRS mandate can marginally improve the performance of IPO shares during secondary market trading. This effect could be partly explained by improved transparency, reporting quality, and depressing information asymmetry problems due to adopting improved accounting standards (Horton et al 2013; Hong et al 2014; Aksu and Espahbodi 2016), given that the secondary market is also suffering from information asymmetry. For instance, the IFRS incorporates guidelines for using the fair value approach to correctly measure the fair value of assets and liabilities, such as the IAS 39 Financial Instruments: Recognition and Measurement, and increasingly nonfinancial items, such as the IAS 40 Investment Property. These developments should improve the predictability of IPO firms' prospects and lead to better secondary market trading performance. However, if fair value information is immediately and fully incorporated into prices, IFRS should not consistently affect IPO prices. Previous empirical evidence suggests that this may not be the case. For instance, Bischof et al (2014), Campbell (2015), and Campbell et al (2015) show that users of fair value information might act conservatively when they do not fully understand the implications of fair value gains and losses. In such cases, investors would hold reservations about interpreting the value relevance of fair values (He et al 2022), and IFRS persistently impacts IPO returns in the long run. In other words, if users of fair value information are conservative about the information contained in fair values, the IFRS mandate should positively affect the aftermarket performance of IPO shares. Given this background, the following hypothesis was formulated:

H2 Mandatory adoption of IFRS leads to better performance during post-IPO trading.

Several scholars state that the IFRS mandate alone does not guarantee improvements in the quality of reported accounting information in weak institutional settings (e.g., Ball 2016; Hung 2001; Francis and Wang 2008). Countries with weaker institutional development are highly likely to suffer from higher information asymmetry problems (e.g., Hlel et al 2020), which should lead to higher levels of underpricing (e.g., Boulton et al 2011; Jamaani et al 2022). Furthermore, institutional governance measures, such as the rule of law and regulatory quality, have been reported to increase the information provided in IPO prospectuses (Hearn 2013). This Suggests that better institutional governance may increase the

information available to investors and analysts, thereby reducing the uncertainty surrounding IPO share valuations. Underpricing also decreases when state-level corruption controls strengthens (Hearn 2014), implying that underpricing is positively associated with a lower level of institutional quality, a common feature of emerging countries, according to World Bank Governance's institutional quality measures (World Bank Governance 2012). Boulton et al (2010) argue that lower institutional quality reduces the relative bargaining power of minority outside investors. Thus, managers of IPO firms can offer shares at lower discounts. Developed countries dominate the sample of countries used by Boulton et al (2010), whereas according to the findings of Claessens et al (2000), separation of ownership and control may take different forms in emerging countries. For instance, even in the separation of ownership and control, most East Asian firms are either controlled by a family member of the founder through a pyramidal ownership structure or cross-shareholdings. According to Yurtoglu (2000) and Demirag and Serter (2003), Turkish firms have similar ownership structures. Hearn (2014) argued that underpricing positively affects information asymmetry when the separation of ownership and control takes such a form. Empirical findings by Autore et al (2014) support this premise. They showed that the predictions of Boulton et al (2010) were related to the influence channel of institutional quality on average underpricing held in the IPO markets of developed countries but not in emerging countries. Hopp and Dreher (2013) show that average underpricing decreases when the benefits of control are depressed by improved accounting information and better law enforcement. Accordingly, higher institutional quality may reduce the information asymmetry problem and lead to lower underpricing and better after-market performance. Based on these predictions, the following hypotheses were proposed:

- H3 Higher institutional quality leads to lower underpricing.
- H4 Higher institutional quality leads to better performance during post-IPO trading.

The final set of predictions relates to the concurrent impact of institutional quality and improved accounting information provided in IFRS-compliant reporting on the pricing of IPO shares. A strong institutional setting is required to effectively implement the new accounting standards (e.g. Armstrong et al 2010; Barth and Israeli 2013; Christensen et al 2013). According to Daske (2008), Christensen et al (2013), and Ball (2016), an accounting system is highly influenced by the surrounding institutional setting. Therefore, accounting systems require quality institutions to function efficiently (Jamaani et al 2022). Thus, in places where institutional quality is high, IFRS is likely to generate better-quality accounting information, and thus lower underpricing (Jamaani et al 2022), and better after-market performance (Alidareous and Jamaani 2021). Several researchers argue that failing to account for the concurrent effects of the IFRS and institutional quality may generate biased findings (Daske 2008; Brüggemann et al 2013; Alidareous and Jamaani 2021; Jamaani et al 2022). In summary, the IFRS and institutional measures can affect IPO pricing patterns concurrently. The final set of hypotheses was as follows:

H5 Higher institutional quality and IFRS mandate lead to lower underpricing.

*H*6 Higher institutional quality and IFRS mandate lead to better performance during post-IPO trading.

Data and methodology

Sample and data

The initial sample included all firms that went public in Turkey between January 1998 and March 2019 Following previous studies such as Alidarous and Jamaani (2021), Hong et al (2014), and Jamaani and Alidarous (2021), transition year to IFRS (i.e., 2005) was excluded from the analysis to mitigate the impact of probable confounding effects. Accordingly, the sample included seven years (1998–2004) before the IFRS mandate and nine years afterward (2006–2019). The initial selection included 215 IPO firms. After excluding IPOs conducted in 2005, those without initial trading day closing price data, and those without important financial statement data, 188 IPOs were included in the empirical analysis.

Daily stock prices of IPO firms, daily prices of the BIST100 index, and IPO-related data were obtained from the Borsa Istanbul database. Information related to firms' and market index daily opening and closing prices were used in underpricing and long-run returns calculations. The corresponding index returns were used as a benchmark against the initial day and secondary market returns of IPO shares. The BIST database also provided the IPO-related data used in the analysis (i.e., issuer, issue date, offer size, offer rate, proceeds, offer price, exchange rate on the issue date, different investor types, and their total investments, list of institutional buyers, and underwriters of IPO firms). In addition, to control for the impact of institutional development on IPO valuation, six institutional quality measures (voice and accountability, political stability, government effectiveness, regulatory quality, control of corruption, and rule of law) were obtained from the World Bank Governance database (http://info.worldbank.org/governance/wgi/). According to Alidarous and Jamaani (2021), Jamaani et al (2022), and Hearn (2014), the level of institutional development and the quality of governance play essential roles in determining the initial trading day returns and aftermarket trading performance of IPO shares.

Additional firm-level control variables were obtained from the financial statements of IPO firms retrieved from the Public Disclosure Platform of Turkey. Motivated by prior literature, standard controls, such as firm profitability, firm age, firm size, and debt-to-equity ratio, were used to proxy for firm-level uncertainty and risk. Several control variables were included in the baseline model as proxies for market-level uncertainty. First, a volatility index for market-wide uncertainty was calculated using the daily returns of the BIST100 index following Jamaani and Alidarous (2021). To control for the impact of sentiments and test the predictions of Cornelli et al. (2006) and Derrien (2005), that IPO pricing influenced by irrational demand when the overall market is increasing, a market state dummy (bull market versus bear market) and a retail investor dummy were also included in the model. Additionally, Derrien (2005) shows that large buyers' irrational demand may influence IPO share prices. Thus, a dummy that takes the value of one in the presence of institutional buyers and zero otherwise is included as an additional control for investor type. Following Alidarous and Jamaani (2021) and Jamaani and Alidarous (2021), the underwriter's reputation was included in the models. All models control for time and industry effects.

Initial-trading-day returns

Following previous literature (e.g. Jamaani and Alidarous 2021; Jamaani et al 2022; Shi et al. 2013), initial trading day IPO returns were calculated as the change from the final offer price of new issues relative to the end of the first trading day closing price:

$$R_{i} = \left| \left(PC_{i,1} - PO_{i,0} \right) / PO_{i,0} \right|$$
(1)

where; R_i is the change in the price of share *i*; $PC_{i,1}$ is the first-day closing price of share *i*, and $PO_{i,0}$ is the offering price of share *i*.

To eliminate the effects of systematic factor on $R_{i,}$ the corresponding daily changes in the BIST100 index were calculated and subtracted from R_{i} independently. The daily change in the index was calculated as follows:

$$R_{BIST100i} = \left| \left(PBC_{i,1} - PBO_{i,0} \right) / PBO_{i,0} \right| \tag{2}$$

where $R_{BIST100i}$ is the change in the *BIST100* index, PBC_{*i*,1} is the index's closing price at the end of the trading day, and PBO_{*i*,0} is the opening price of the index on the same day.

Ultimately, market-adjusted underpricing (i.e., initial day returns—IDR) took the following form:

$$IDR_i = R_i - R_{BIST100i} \tag{3}$$

Aftermarket returns

Aftermarket returns were calculated following Ritter (1991) as a buy-and-hold investment strategy, in which the issue is purchased at the first listing day's closing market price and held for two years. The two years of buy-and-hold abnormal returns (BHAR2Y) also adjusted for changes in the market index. The BHAR2Y variable was calculated as follows:

$$BHAR2Y = \prod_{(t=1)}^{T} (1+r)_{(i,t)} - \prod_{(t=1)}^{T} (1+r)_{(m,t)}, \dots T = 2 \text{ years}$$
(4)

where *BHAR2Y* is the buy-and-hold return on the stock of the IPO firm on trading day t and $r_{m,t}$ is the return on the *BIST100* index for the same period. T indexes a two year buy-and-hold strategy in which two years correspond to 720 days. The *BHAR2Y* variable is winsorized at the 2% and 98% levels to eliminate extreme outliers.

Variables

Table 1 provides detailed definitions of the variables used in the empirical tests, including the dependent variables (i.e., *IDR* and *BHAR2Y*), a treatment dummy, a post dummy, an IFRS proxy (post*treatment), and the control variables of three categories, namely firm-level controls, market-level controls, and others, including underwriter reputation and six different institutional governance measures. The first set of variables in Panel A are the dependent variables and the dummy variables used to facilitate a before-after estimation design, namely post-dummy, treatment dummy, and IFRS proxy (post*treatment), following Jamaani and Alidarous (2021), and Jamaani et al. (2022). We use two dependent variables to examine the impact of IFRS on *IDR* and *BHAR2Y*.

Panel B presents the firm-level control variables. Initially, firm size (SIZE), firm age (AGE), and the percentage of ownership offered to the public (OFFER RATE) were used as proxies for firm-level uncertainty. According to Loughran and Ritter (2004), Michaely and Shaw (1994), and Tian (2011), larger IPO firms attract analysts' attention more than small IPO firms; thus, they are subject to more significant examination. A more comprehensive analysis would reduce the uncertainty about large IPO firms by revealing more information. Furthermore, the number of years between firm establishment and the IPO date, AGE, is another essential proxy for uncertainty. More information about older firms is available than younger ones because of their richer records (Baba and Sevil 2020; Johnston and Madura 2009; Loughran and Ritter 2004; Ritter 1984). Finally, when firms offer a higher fraction of their ownership to the public, they receive more attention and are analyzed more intensely (Hong et al 2014). This attention reduces the uncertainty related to IPO firms by revealing more information. We use three variables to control for firm-level risks: firm profitability (return on assets, ROA), capital increase (PROCEED), and financial leverage (LEV). Historical profitability could be an important indicator of future profitability (e.g., Loughran and Ritter 2004) and is also important for the valuation of IPO shares (Willenborg et al 2015). Capital increase, money raised to finance a firm's projects, to the total proceeds ratio could proxy for the investment risk of IPO firms. A lower capital increase relative to the total proceeds indicates that insiders use investors' money. Thus, the management has less capital to finance future investment projects. Finally, financial leverage is a widely used as a proxy for business risk. According to Berger and Udell (1998), the debt-to-equity ratio provides important inferences regarding firms' financing choices.

Panel C presents the market level and investor-type control variables. First, market volatility (i.e., VOL) is used to proxy for market-wide uncertainty. According to Miller (1977), uncertainty and divergence of opinions go together. VOL may influence the divergence of opinions because the higher the VOL, the higher the uncertainty related to the prospects of firms. To examine the implications of the overall market movements on IPO pricing and monthly returns, $R_{BIST100i}$ is included as the second market-level control variable. Several investor types and market state variables are also included to account for previous findings in the extant literature and to further alleviate potential omitted variable bias. For instance, Ljungqvist et al. (2006) imply that during hot IPO markets, underwriters allocate IPO shares to their regular investors (i.e., institutional investors) at a slightly higher offer price than would otherwise be the case. Later, these investors sell their IPO shares to sentiment investors at higher prices. Accordingly, the presence of large buyers leads to greater underpricing and poorer aftermarket performance. Using a sample of French IPOs, Derrien (2005) arrived at similar conclusions under different assumptions. According to their model, for demand of individual large buyers in hot issue markets leads to significantly higher initial trading-day returns and poor long-run performance. To control for these effects and further justify the impact of IFRS on IPO pricing, we include a hot issue market proxy (HOT), an institutional investor dummy (INS), a bull markets dummy (BULL dummy), and a small investor dummy (RETAIL) in

Variables Descriptions Panel A: Dependent Variables and DID (before-after) variables The IDR variable indexes initial day returns and captures the IPO IDR underpricing. It is calculated as first-day returns, the difference between IPO offer price and first listing day closing market price, and adjusted to the corresponding daily change in the BIST100 index BHAR2Y The BHAR variable indexes buy and hold abnormal returns. Calculated for a 2-year buy-and-hold period where IPO share is bought at the end of the first trading day closing price and held for 2 years. The BHAR variable is adjusted for the changes in the benchmark measure, i.e. BIST100 index Post Equals 1 (one) if the IPO is conducted following 2006; and equals 0 (zero) otherwise Treatment Equals 1 (one) for the IPOs conducted between 1998 to 2019, excluding years 2005, and 2006 (to eliminate the impact of probable confounding effects in the transition year to IFRS) IFRS is an interaction of post and treatment (post*treatment) IFRS which is meant to capture the change in IPO pricing concerning the benchmark group (i.e. IPOs conducted during the pre-IFRS period, 1998–2004) following the decision that mandated IFRS Panel B: Firm-level controls SIZE The size variable represents the log total book assets obtained from the most recent financial report (lagged by one quarter) before the IPO date AGF The age variable represents the number of years between the firm establishment and the IPO date. To eliminate firms with an AGE of zero, 1 is added to the AGE OFFER RATE The offered rate represents the percent of ownership offered to the public during the IPO ROA The ROA variable represents the ratio of net income to total book assets and is obtained from the most recent financial report (lagged by one quarter) before the IPO date The PROCEED variable represents the ratio of capital increase (i.e. PROCEED part of the IPO proceeds that will stay inside the firm), in U.S. Dollars, to total proceeds raised, in U.S. Dollars LEV The LEV variable represents the ratio of total book debt to total book equity. It is obtained from the most recent financial report (lagged by one quarter) before the IPO date Panel C: Market-level and investor-type controls BIST100 The BIST100 variable represents the prior month's return in the Borsa Istanbul 100 index relative to the IPO date VOL The VOL variable indexes market volatility. It is calculated as the standard deviation of daily BIST100 returns by using one month before the IPO date Equals 1 (one) if the number of IPOs conducted during a year is HOT higher than the sample median, and 0 (zero) otherwise Ins Equals 1 (one) if a buyer of the IPO share is an institutional investor: and 0 (zero) otherwise **BULL Dummy** Equals 1 (one) if one month's daily average return of the BIST100 index before the IPO date is positive, and equals 0 (zero) otherwise RETAIL Equals 1 (one) if there is no institutional type investor in the IPO event, and 0 (zero) otherwise

Table 1 Variables definition

the baseline model. According to these studies, increased IPO activity (*HOT*), participation of institutional investors (*INS*), and IPOs with retail investors during bull market states (*Bull dummy*RETAIL*) should lead to higher underpricing and poorer aftermarket performance.

Variables	Descriptions
Panel D: Other controls	
Prestige	The prestige variable represents the underwriter's reputation. It is a grading method following the works of Jamaani and Ahmed (20202021), and Jamaani and Alidarous (2021). Initially, all under- writers are assigned a grade by considering their total proceeds for all IPOs underwritten in Turkey from 1998 to 2019. Then, underwriters are ranked based on their relative proceeds from underwritten IPOs; later top 10 percent is classified as prestigious and assigned a value of 1 (one); and 0 (zero) otherwise
<i>Voice and Accountability</i>	Reflects perceptions of the extent to which a country's citizens can participate in selecting their government, as well as freedom of expression, freedom of association, and free media. The index ranges from — 2.5 (poor) to 2.5 (good)
<i>Political Stability</i>	Political Stability and absence of violence/terrorism measure per- ceptions of the likelihood of political instability and/or politically- motivated violence, including terrorism. The index ranges from – 2.5 (poor) to 2.5 (good)
Government Effectiveness	Reflects perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies. The index ranges from -2.5 (poor) to 2.5 (good)
Regulatory Quality	Reflects perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development. The index ranges from — 2.5 (poor) to 2.5 (good)
Control of Corruption	Reflects perceptions of the extent to which public power is exercised for private gain, including petty and grand forms of cor- ruption and "capture" of the state by elites and private interests. The index ranges from — 2.5 (poor) to 2.5 (good)
<i>Rule of Law</i>	Reflects perceptions of the extent to which agents have confi- dence in and abide by the rules of society, particularly the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence. The index ranges from -2.5 (poor) to 2.5 (good)

Table 1 (continued)

In Panel D, additional control variables are explained, and are meant to control for the impact of underwriters' prestige and institutional governance quality. The variable is the underwriter's reputation (Prestige). According to the literature, underwriter's reputation influences the IPO share pricing. For example, hiring a prestigious underwriter may have a certification effect (Su and Brookfield 2013) and a signaling effect on IPO firms' prospects. Accordingly, prestigious underwriters reduce average underpricing. However, Loughran and Ritter (2004) and Shi et al. (2013) revealed that the negative impact of hiring a prestigious underwriter become positive following the 1990s. According to Loughran and Ritter (2004), this can be attributed to the issuer's changing objective function. For example, issuers may wish to substitute higher underpricing for increasing analysts' coverage by hiring prestigious underwriters. Finally, the quality of institutional governance may influence the economic outcomes of adopting a new set of accounting standards (Ball 2016; Christensen et al 2013). Jamaani et al (2022) report that the IFRS mandate and institutional quality concurrently affected the initial day returns in Saudi Arabia from 2005 to 2017. To control for the impact of the institutional setting, additional tests were conducted using six different measures related to the institutional governance quality of Turkey. These measures are based on an opinion survey and range

between -2.5 (poor) to 2.5 (good). A higher value for institutional governance measures indicates higher quality and is thus expected to be negatively related to information asymmetry.

Model

The benchmark model used in the empirical analysis is given below, which independently conditions the IFRS-related variables, institutional governance quality measures, and control variables against IDR and BHAR2Y. Motivated by the difference-in-difference approach of Hong et al (2014), Jamaani and Alidarous (2021), and Jamaani et al (2022), a before-after model was developed to test the financial reporting policy change (i.e., IFRS mandate) on IPO pricing in Turkey. Although the specification given below are organized as a difference-in-difference due to the absence of a control group during the post-IFRS period, the current specification takes the pre-IFRS group as a control (the absence of a control group during the post-IFRS period is because all listed and issuing firms shifted to IFRS as of 2005 in Turkey). Thus, the specification used in the current analysis is a before-after approach that excludes the year of transition to IFRS. The model has the following form:

$$Dep-Var_{i,t} = \alpha_i + \beta_1(Post)_i + \beta_2(Treatment)_i + \beta_3(IFRS)_i + \beta_4(Size)_i + \beta_5(Age + 1)_i + \beta_6(OfferRate)_i + \beta_7(ROA)_i + \beta_8(Proceed)_i + \beta_9(Leverage)_i + \beta_{10}(BIST100)_i + \beta_{11}(VOL)_i + \beta_{12}(HOT)_i + \beta_{13}(INS)_i + \beta_{14}(BULLDummy * RETAIL)_i + \beta_{15}(Prestige)_i + \beta_{16}(Institutional quality)_i + \beta_{15}(Prestige)_i + \beta_{16}(Institutional quality)_i + \beta_{17}(IFRS * Institutional quality)_i \sum_{(a=1)}^{A} \beta_{18}(Year Effect(YE))_i + \sum_{(b=1)}^{B} \beta_{19}(Industry Effect(IE))_i + e_i$$
(5)

where Dep- $Var_{i,t}$ is the initial day returns (IDR) or two-year buy-and-hold abnormal returns (BHAR2Y). The coefficient of IFRS (Post*Treatment), β_3 , captures the changes in dependent variables (i.e., offer value, IDR, and BHAR2Y) following the IFRS mandate relative to the IPOs conducted before the IFRS mandate from 1998 to 2004. Coefficient of β_1 shows the change in pre-IFRS IPOs, and β_2 estimates the difference between the IPOs conducted before the IFRS mandate and the treatment group. Coefficients of β_1 and β_2 serve as controls that capture the pricing patterns of differential effect during the pre-IFRS period (e.g., Woolridge 2002). Detailed descriptions of the variables are provided in Table 1 in section "Variables". For all regression estimates, a heteroscedasticity adjustment for standard errors was performed. One-tailed p-values were reported throughout the study, given the direction of the hypotheses' predictions. The institutional quality variables (i.e., the six different institutional governance dimensions) were sequentially included in the estimations owing to the high correlations among these variables (e.g., Hearn 2014). Accordingly, subsets of Eq. (5) were estimated to test the hypotheses.

Variables	1998-2019	Pre-IFRS	Post-IFRS	Pre-Post (diff.)
Panel A: Firm-level variable and IPO c	haracteristics			
Avg. ownership sold (%)	30.8	26.5	33.7	4.30*** (2.66)
Offer price	2.329	1.276	3.059	1.738*** (3.97)
Total proceeds (\$)	12,559,655,364	3,695,050,840	8,900,604,524	-
Capital increase/total proceeds	65.3	71.6	61.0	- 10.6* (1.81)
Avg. total assets	145,085,163	64,111,477	209,957,830	_
Avg. firm age	18.0	19.4	17.1	2.30 (2.10)
ROA	0.16	0.24	0.11	- 0.13 (1.17)
Debt/Equity	3.17	2.60	3.57	0.97 (0.75)
Panel B: Market and investor charact	eristics			
BIST100 returns	0.048	0.173	- 0.039	- 0.212 (0.69)
Volatility	0.020	0.028	0.014	- 0.014*** (13.76)
Frequency of bull markets	104	46	58	12
Hot issue years	1998, 2000, 2010	1998, 2000	2010	_
Number of institutional investors	147	56	91	35
Panel C: Prestige and institutional go	vernance measures			
Prestigious underwriter	50	30	20	- 10
Voice and accountability	-0.242	- 0.300	- 0.198	0.102*** (3.51)
Political stability	- 0.947	- 0.892	- 0.991	- 0.099*** (2.73)
Governance effectiveness	0.141	- 0.069	0.305	0.374*** (19.89)
Regulatory quality	0.295	0.232	0.345	0.113*** (7.40)
Control of corruption	-0.104	- 0.267	0.023	0.290*** (18.32)
Rule of law	- 0.35	-0.040	-0.031	0.009 (0.62)

Table 2 Descriptive statistics

Detailed descriptions of the variables are provided in Table 1. Numbers in parentheses reported in the last column are heteroscedasticity robust t-statistics from mean-difference tests. *** and * indicate statistical significance at 1% and 10% levels

Empirical results

Descriptive statistics and correlations

Table 2 reports the descriptive statistics for the variables used in the analysis for the entire sample and sub-samples, that is, pre- and post-IFRS periods. Panel A reports statistics related to firm-level variables and IPO characteristics. The average offer price (i.e., total proceeds divided by the number of post-IPO shares) was \$2.329 for 1998–2019. Notably, it increased from \$1.276 to \$3.059 after the regulation mandated IFRS, corresponding to a 139.73 percentage points increase. The increase in average offer price was statistically significant at a one percent level, as reported in the last column of Table 2. The average firm profitability was lower, while total assets and average debt ratio were higher for the IPOs conducted during the post-IFRS period.

Panel B reports the market and investor characteristics. Daily returns on the BIST100 index averaged 0.048 percent for the entire period. The average volatility of the BIST100 index was higher during the pre-IFRS period. Of the 188 IPOs, 104 were conducted during bull market states. Four years can be considered hot issue years: 1998, 2000, 2010, and 2011. The number of IPOs with institutional buyers was 147 for the entire period, that is, 1998–2019. Moreover, the proportion of IPOs with large buyers was higher in the post-IFRS period.

Panel C reports the frequency of IPOs underwritten by prestigious underwriters and the dynamic change in institutional governance quality characteristics. The participation of prestigious underwriters was lower during the post-IFRS period. Consistent with the predictions of prior research, such as Daske et al. (2008) and Jamaani et al (2022), the IFRS mandate lead to concurrent improvements in an institutional setting. Perceptions related to institutional governance quality measures in Turkey increased significantly during the post-IFRS period, except for the voice and accountability dimensions. Therefore, controlling these measures impact on the dynamic pricing patterns of IPO shares for the pre-and post-IFRS periods is crucial to distinguish the source of change (i.e., IFRS, institutional quality, or the concurrent effect of both), if any. This issue will be addressed in the following sections.

Table 3 reports the correlation coefficients among variables used in the empirical tests. Three significant patterns emerged. First, adopting IFRS positively correlated to the IPO shares aftermarket performance. Accordingly, after the regulation that mandates IFRS, the aftermarket performance of the IPO shares improved. Second, adopting IFRS positively correlated with five out of six institutional quality measures, suggesting that its implementation stimulated significant reforms in Turkey. Finally, IFRS adoption negatively correlated with market-level volatility, implying that market volatility significantly reduced following the regulation that mandates IFRS, possibly pointing out the informational benefits of adopting IFRS.

Portfolio analysis for average underpricing and aftermarket performance

This section presents the results of the univariate portfolio tests for IDR and BHAR2Y. Initially, all IPO shares were allocated to two different portfolios by considering the pre-IFRS period from 1998 to 2004 and the post-IFRS period from 2006 to 2019. The mean differences in IDR and BHAR2Y were then evaluated by comparing the pre-and post-IFRS periods.

Table 4 reports the mean IDR and BHAR2Y for the entire sample period, 1998–2019, and for the pre-and post-IFRS periods. Measured as the difference between the offering price and the first listing day closing price, market-adjusted IPO returns (i.e., IPO premium) averaged 6.50 percent during 1998–2019. This initial trading day IPO premium was 8.86 standard errors away from zero, gaining significance at a 1 percent level. Explaining this premium with simple risk premia or market misevaluation is not possible. In comparison, the corresponding mean daily return on the broad market index (i.e., BIST100) was only 0.048 percent and insignificant (see Table 3). The mean IDR for the pre-IFRS period was 7.20 percent (t-stat.=6.14), higher than the overall average. From 2006 to 2019, the mean IDR decreased by 118 basis points, but this difference was not significant, as given by the mean difference test in the last column of the table. Although this result was unexpected, possible reasons are discussed in the following sections.

Column 2 reports the BHAR2Y values for the entire sample and sub-periods. After adjusting for movements in the market index, IPO shares significantly lose value during aftermarket trading. The average loss of an IPO share based on the two-year BHAR strategy is 23.7 percent. To examine whether IFRS can affect the aftermarket performance of IPO shares, we analyze the BHAR2Y strategy for the two sub-periods. The results are striking. For instance, before adopting IFRS (1998–2004) the average loss in

Table 3 Corre	lations																				
	-	2	m	4	2	9	2	8	6	10	1	12	13	14	15	16 1	17	18	19 2	0	-
1-IFRS	1.00																				
2-IDR	— 0.10	1.00																			
3-BHAR2Y	0.14	- 0.01	1.00																		
4-Size	0.14	- 0.05	0.09	1.00																	
5-Age	- 0.07	0.08	-0.13	- 0.06	1.00																
6-Offer rate	0.20	0.01	0.07	-0.16	- 0.26	1.00															
7-ROA	- 0.09	-0.17	- 0.02	- 0.05	- 0.07	- 0.11	1.00														
8-Proceeds	- 0.16	- 0.02	- 0.12	-0.18	0.03	- 0.24	- 0.01	1.00													
9-D/E	0.06	- 0.11	0.02	0.05	0.01	- 0.03	- 0.05	0.14	1.00												
10-BIST100	- 0.06	- 0.06	0.17	- 0.11	0.14	- 0.10	- 0.13	0.20	0.08	1.00											
11-Volatility	-0.70	0.20	- 0.07	- 0.12	0.04	- 0.10	0.06	0.10	- 0.10	0.11	1.00										
12-Hot Market	-0.21	0.17	-0.12	- 0.10	0.16	— 0.24	- 0.11	0.16	- 0.06	0.22	0:30	1.00									
13-Institutional	0.14	- 0.08	- 0.14	0.03	0.14	- 0.29	0.03	0.10	0.08	0.14	- 0.05	0.09	1.00								
14-Bull*Retail	- 0.07	0.18	— 0.07	— 0.08	0.20	— 0.12	00.0	0.00	- 0.09	0.14	0.03	- 0.04	0.01	1.00							
15-Prestige	- 0.16	0.03	- 0.05	0.10	0.20	-0.12	0.20	-0.12	— 0.07	0.01	0.06	0.03	0.14	0.01	1.00						
16-Voice	0.18	0.02	— 0.11	-0.17	0.01	0.05	0.05	0.08	- 0.07	- 0.16	- 0.16	0.00	0.01	0.05	0.12	1.00					
17-Stability	— 0.24	0.12	— 0.08	- 0.09	0.05	— 0.04	0.08	0.14	- 0.08	- 0.04	0.28	0.29	- 0.08	0.05	0.19	0.71	1.00				
18-Effectiveness	0.80	-0.10	0.14	0.01	- 0.04	0.08	- 0.03	- 0.04	0.07	- 0.11	- 0.65	-0.16	0.16	- 0.05	-0.13	0.50	00.00	1.00			
19-Req-Quality	0.46	0.13	0.00	- 0.10	0.05	- 0.02	- 0.16	0.20	0.09	0.08	- 0.18	0.18	0.20	0.04	-0.17	0.14 -	- 0.09	0.55	00.1		
20-Corruption	0.77	0.01	0.09	0.00	— 0.01	0.14	-0.18	0.00	0.06	— 0.08	- 0.58	- 0.14	0.11	- 0.03	- 0.09	0.57	0.07	0.83	D.61 1	00.	
21-Rule-of-Law	0.01	0.08	— 0.21	- 0.22	0.01	- 0.03	00.00	0.18	- 0.07	- 0.12	- 0.04	0.18	0.03	0.08	0.09	0.89	0.69	0.34	0.27 0	.47 1.	00
Variable descriptio	ons are prov	vided in Tak	ole 1																		

	n
	137
	51
	86
st between	
st between	

Table 4 Average underpricing and Aftermarket performance of IPO sh	ares
--	------

IDR column represents initial-trading-day returns, calculated as the percent difference between the offering price and first trading day closing price, adjusted to the movements in the general market index (i.e. BIST100). BHAR 1-year, and BHAR 2-years represent market adjusted buy-and-hold abnormal returns for different investment periods. Numbers in parentheses are t-statistics adjusted according to Newey and West (1987). Average BHAR for two-year investment strategy was calculated based on the availability of aftermarket return data and therefore, sample size may vary. ***, and * indicate statistical significance at 1% and 10% level, respectively. Numbers in parentheses are t-statistics from the mean-difference tests

the BHAR2Y strategy was -42.8 percent which is significant at the 1 percent level. During the IFRS period (2006–2019), the BHAR2Y strategy underperforms the market by -12.5 percent, which is significant at the 10 percent level. The mean difference between the two sub-periods is reported in the last row, which is 29.2 percent and significant at the 1 percent level. According to Table 4, the IFRS mandate leads IPO shares to perform better during aftermarket trading, even after adjusting for the movements in a benchmark, that is, the market index. The following section presents cross-sectional tests on the impact of the IFRS mandate on IDR and BHAR2Y, respectively.

Cross-sectional tests for the impact of IFRS on IPO returns

The analysis starts by estimating a sub-set of the benchmark model (i.e., Eq. 5), which tests the impact of IFRS adoption on average underpricing. Initially, a model that includes IDR as the dependent variable is estimated to test Hypothesis 1, which predicts lower average underpricing during the post-IFRS period. The results reported in Column 1 of Table 5 show a negative coefficient of IFRS (- 0.077), and is statistically insignificant. Thus, IFRS adoption does not lead to a lower level of underpricing in the Turkish IPO market after accounting for the impact of the benchmark group (i.e., IPOs conducted before the IFRS mandate) and other control variables. This finding contradicts the findings of Hong et al (2014), Johnston and Madura (2009), and Loughran and McDonald (2013) for developed countries and Jamaani and Alidarous (2021), and Tsai and Huang (2020) for emerging countries.

Although previous studies, such as Landsman et al (2012), Li and Yang (2013), and Byard et al (2011), have reported that the IFRS mandate improves the quality of information, forecasting accuracy, and reduces ex-ante uncertainty, others have argued that IFRS adoption may not provide economic benefits in places where institutional quality and reporting enforcement are low (e.g., Armstrong et al 2010; Barth and Israeli 2013; Byard et al 2011; Christensen et al. 2013; Daske et al. 2008; Li 2010 among others). Thus, a lower level of institutional development in Turkey could be one reason for the documented insignificant effect of IFRS om IPO underpricing. The results reported in Panel C of Table 2 support this explanation; Turkey's average levels of six different institutional

	Dependent variables	
	IDR	BHAR2Y
Post	0.024	- 0.757**
	(0.883)	(-2.262)
Treatment	0.243	- 0.334
	(0.392)	(-0.994)
IFRS (Post*Treatment)	- 0.077	1.014***
	(-0.886)	(2.973)
Firm-level controls		
Size	- 0.005	- 0.021
	(-0.923)	(-0.904)
Age	- 0.010	0.095
	(-0.859)	(1.389)
Offer Rate	- 0.003	- 0.003
	(-0.385)	(-0.829)
ROA	- 0.026***	- 0.040
	(-2.850)	(-0.209)
Proceeds	0.009	- 0.058
	(0.353)	(-0.582)
Leverage	- 0.005	0.008
	(-0.993)	(0.352)
Market-level Controls		
BIST100	- 0.007**	0.059***
	(- 1.853)	(3.171)
VOL	0.040	- 0.086
	(1.035)	(-0.647)
НОТ	0.039	-0.701***
	(0.799)	(-4.010)
Institutional	- 0.003	- 0.046
	(-0.117)	(-0.356)
Bull dummy*Retail	0.056***	- 0.004
	(3.064)	(-0.052)
Prestige	- 0.001	- 0.023
5	(-0.047)	(-0.225)
Intercept	0.001	0.355
·	(1.278)	(0.417)
YE and IE	Included	Included
Observations	188	137
Adi. R ²	0.039	0.389
Prob. of F-Statistics	0.256	0.000

Table 5 The impact of IFRS mandate and institutional quality on average underpricing

The table presents the estimation results for the two dependent variables, including initial day returns (IDR) and buy-andhold abnormal returns for a 2-years investment strategy (BHAR2Y). The estimation period is from 1998 to 2019. 2005 is excluded to avoid the probable impact of confounding forces during the transition year. Detailed definitions of variables are provided in Table 1. Numbers in parentheses are t-statistics adjusted according to Newey and West (1987). *** and ** indicate statistical significance at 1%, and 5% level, respectively governance quality measures indicate poor institutional governance quality. These measures range from -2.5 (poor institutional quality) to +2.5 (good institutional quality). In Table 2, three measures have negative values (voice and accountability, political stability, and the rule of law), one has a value close to zero (control of corruption), and the other two are slightly higher than 0.30 level (governance effectiveness and regulatory quality) during the post-IFRS period. Therefore, as suggested in the literature, the current results show that IFRS does not reduce average underpricing in low-quality institutional settings. Another possibility for the insignificant impact of IFRS adoption on average underpricing is that unsophisticated investors may not fully understand all the implications of fair-value reporting (e.g., Hirshleifer and Teoh 2003; He et al 2012). Accordingly, even higher quality reporting may not alleviate this disadvantage. Thus, IFRS does not reduce the need for a higher uncertainty premium in their presence.⁴ This is partially supported by the positive and significant coefficients of the bull market and retail investors interaction variable extracted from the estimation of Eq. (5). Nevertheless, the current results are consistent with those of studies that report that the IFRS mandate does not lead to lower average underpricing (e.g., Byard et al 2021; Maglio et al 2018). It is also important to note that profitability is a significant determinant of IPO underpricing; investors require lower initial day returns from profitable firms.

Column 2 examines the impact of the IFRS mandate on the long-term performance of IPO shares using a two-year buy-and-hold investment strategy (BHAR2Y) that buys IPO shares at the end of the first trading day's closing price and holds them for the next two years (e.g., Ritter 1991). These findings imply that IFRS mandate positively and significantly affects long-term returns. This finding supports the second hypothesis, which states that IFRS mandate improves secondary market performance for IPO shares. The literature shows that fair value reporting is complex (He et al 2012) and may be open to manipulation by managers pursuing self-interest (Dechow et al 2010). Thus, aftermarket investors may be skeptical about the reliability of fair values reported in IFRS-compliant reports (He et al 2022). This leads secondary market investors to act conservatively while interpreting fair values. If investors underreact to the fair value information provided in IFRS-compliant financial statements, IPO shares will experience an upward trend during secondary market trading as investors gradually update their beliefs. This channel could drive the current results because value-relevant information should be immediately capitalized into prices under the assumption of a perfectly rational market in which all relevant information is incorporated into prices. In this case, the IFRS mandate should not significantly affect IPO shares' long-term performance. However, this explanation does not rule out the possibility that Turkey's secondary market does not suffer information asymmetry. Thus, another possibility for the reported findings on aftermarket performance may be that Turkey's secondary market suffers from an information asymmetry problem that is alleviated by implementing IFRS. For instance, Jamaani and Alidarous (2021) show that the IFRS mandate does not significantly affect the aftermarket performance of IPO shares in Saudi Arabia, arguing that information asymmetry is not

⁴ Another important explanation to IPO underpricing is also examined, namely: the signaling hypothesis. Results indicate that the managers do not intend to send signals through equity retention that is accompanied with a higher level of underpricing. The involvement of family members is also examined but results remained similar.

pronounced in secondary markets. However, this may not be the case in Turkey, given the poor quality of institutional governance (see Table 2). Taken together, the findings of this section show that the mandatory adoption of IFRS, a shift from a tax legislative system to fair value reporting, leads to better long-run performance for IPO shares in Turkey.

Cross-sectional tests for the impact of institutional governance on IPO returns

Following Hearn (2014), six institutional governance quality measures were conditioned against IDR and BHAR2Y. These measures were taken from the World Bank Governance indicators, which measure the perceptions of (i) voice and accountability, (ii) political stability, (iii) government effectiveness, (iv) regulatory quality, (v) control of corruption, and (vi) the rule of law. Based on the predictions of Hypothesis 3, the six measures were expected to negatively affect IDR, whereas Hypothesis 4 predicted a positive impact of the six measures on BHAR2Y.

Empirical tests related to the role of institutional quality began by investigating the governance-quality measures of the average underpricing of IPO shares. Table 6 reports the results of separately conditioning the six institutional governance quality measures against IDR. Coefficients for the control variables were excluded to save space but were available upon request. The results show that the quality of institutional governance does not significantly impact average underpricing. This finding holds even after re-estimating the models without time-fixed effects since there is a possibility that time dummies can absorb all the explanatory power of institutional quality measures.⁵ Nevertheless, compared to previous studies, the current results are unique. For instance, Boulton et al (2010) document a positive relationship between institutional quality and average underpricing in developed countries. They argue that when institutional quality is high, minority shareholders have bargaining power, so firm managers should offer them a higher uncertainty premium. However, Hearn (2014) documents a negative relationship between institutional quality and average underpricing in developing countries of Northern Africa, arguing that higher institutional quality should reduce average underpricing in emerging countries, where even in the separation of ownership and control, investors cannot attain the desired level of control over businesses controlled through pyramidal ownership, and cross share-holdings. A possible explanation for these findings is that the level of institutional quality differs significantly between developing and developed countries (Authore et al. 2014). Despite the differences reported in Table 2 for the institutional governance quality during the post-IFRS period, the levels of these six measures are significantly lower than those in developed countries. Accordingly, Turkey's institutional quality may not have reached the desired level, warranting an environment that stimulates the availability and quality of information around IPO events. Given these results, Hypothesis 3, which proposes a negative relationship between institutional governance quality and average underpricing, was not supported.

Table 7 focuses on testing the impact of institutional quality measures on long-term IPO performance. The results support the findings in Table 5 that, even in the presence

⁵ Results of this additional tests are not reported here but available upon request.

	Dependent	variable is IDR				
Post		0.012	0.006	0.010	0.003	0.021
	(0.642)	(0.334)	(0.181)	(0.315)	(0.103)	(0.599)
Treatment	0.086	0.073	0.063	0.054	0.054	0.080*
	(1.457)	(1.197)	(1.115)	(1.000)	(0.871)	(1.439)
IFRS (Post*Treatment)	- 0.065	- 0.057	-0.041	- 0.052	-0.041	-0.061
	(- 1.072)	(0.889)	(-0.704)	(-0.915)	(-0.698)	(- 1.032)
Voice and accountability	- 0.035					
	(-0.984)					
Political stability		-0.016				
		(-0.510)				
Government effectiveness			-0.015			
			(-0.247)			
Regulatory quality				0.078		
				(1.101)		
Control of corruption					0.013	
					(0.227)	
Rule of law						-0.071
						(-1.073)
Firm-level controls	Included	Included	Included	Included	Included	Included
Market-level Controls	Included	Included	Included	Included	Included	Included
YE and IE	Included	Included	Included	Included	Included	Included
Observations	188	188	188	188	188	188
Adj. R ²	0.108	0.106	0.105	0.109	0.105	0.108
Prob. of F-Statistics	0.018	0.020	0.021	0.018	0.021	0.019

Table 6	The impact o	f institutiona	l quality	measures on	average und	derpricing
---------	--------------	----------------	-----------	-------------	-------------	------------

The table presents the estimation results for the impact of institutional governance quality dimensions (6 dimensions obtained from the World Bank) on average initial day returns (IDR). The estimation period is from 1998 to 2019. 2005 is excluded to avoid the probable impact of confounding forces during the transition year. Detailed definitions of variables are provided in Table 1. Numbers in parentheses are t-statistics adjusted according to Newey and West (1987)

of country-level institutional governance quality controls, the IFRS mandate leads IPO shares to perform better during aftermarket trading. However, in contrast to Hypothesis 4's predictions that institutional quality is positively associated with the long-term performance of IPO shares, the reported coefficients of the institutional quality measures are all insignificant. Despite a poor institutional setting, IFRS loads positively and significantly against aftermarket performance. Alidarous and Jamaani (2021) show that higher institutional quality leads to better aftermarket performance of IPO shares but that IFRS does not influence long-term returns in Saudi Arabia. A direct comparison with the current findings may not be appropriate, given that the IFRS was mandated only for banks and insurance companies in Saudi Arabia during the investigation period of Alidarous and Jamaani (2021). The following section investigates the concurrent impact of institutional quality and the IFRS mandate in Turkey on the pricing dynamics of IPO shares.

Cross-sectional tests for the concurrent impact of institutional governance and IFRS on IPO returns

This section tests the concurrent impact of the IFRS mandate and institutional quality on the initial trading-day returns and aftermarket performance of IPO shares.

	Dependent	variable is Bł	HAR2Y			
Post	-0.611**	-0.611**	-0.741**	- 0.749**	- 0.757**	- 0.673**
	(-2.201)	(-2.072)	(-2.213)	(-2.228)	(-2.294)	(-2.231)
Treatment	-0.200	- 0.087	- 0.366	- 0.383	-0.332	-0.274
	(-0.719)	(-0.274)	(- 1.146)	(-1.217)	(-1.042)	(-0.934)
IFRS (Post*Treatment)	0.768***	0.593**	0.943***	0.998***	1.013***	0.894***
	(2.485)	(1.757)	(2.568)	(2.884)	(3.006)	(2.814)
Voice and accountability	- 0.332					
	(- 1.452)					
Political stability		- 0.469				
		(- 1.166)				
Government effectiveness			0.423			
			(0.815)			
Regulatory quality				0.243		
				(0.522)		
Control of corruption					-0.010	
					(0.021)	
Rule of law						-0.384
						(-0.900)
Firm-level controls	Included	Included	Included	Included	Included	Included
Market-level Controls	Included	Included	Included	Included	Included	Included
IE	Included	Included	Included	Included	Included	Included
Observations	137	137	137	137	188	188
Adj. R ²	0.389	0.388	0.386	0.383	0.382	0.385
Prob. of F-Statistics	0.000	0.000	0.000	0.000	0.000	0.000

Table 7	The impact o	f institutional	qualit	y measures on	long-term	performance

The table presents the estimation results for the impact of institutional governance quality measures (6 measures obtained from the World Bank) on two years buy-and-hold (BHAR2Y) investment strategy. The estimation period is from 1998 to 2019. 2005 is excluded to avoid the probable impact of confounding forces during the transition year. Detailed definitions of variables are provided in Table 1. Numbers in parentheses are t-statistics adjusted according to Newey and West (1987). ***, and ** indicate statistical significance at 1%, and 5% level, respectively

The prediction that institutional quality plays an essential role in IFRS compliance is tested (Daske 2008; Christensen et al 2013; Ball 2016). This is because IFRS implementation and institutional quality may have a concurrent impact on the valuation of IPO shares (e.g., Alidarous and Jamaani 2021; Jamaani et al 2022). To test these predictions, a sub-set of the baseline model was estimated separately (Eq. 5) for IDR and BHAR2Y. Following Jamaani et al (2022), our model replaces IFRS (post*treatment) with IFRS*institutional-quality.

Table 8 reports the results from the underpricing model, demonstrating that the interaction terms that examine the concurrent impact of six different institutional governance quality measures and IFRS are all insignificant. Accordingly, Hypothesis 5, which speculates a concurrent negative impact of IFRS and institutional quality on underpricing, cannot be accepted. This finding contradicts the results of Jamaani et al (2022), who report that IFRS and institutional quality measures negatively impact the average underpricing in Saudi Arabia. This result is not surprising since, in Turkey, IFRS has no impact on the average underpricing.

	Depender	nt variable is	IDR			
Post	0.021	0.018	0.017	0.025	0.018	0.021
	(1.002)	(0.614)	(0.662)	(0.837)	(0.886)	(1.031)
Treatment	- 0.029	-0.030	-0.031	- 0.028	- 0.029	- 0.028
	(-0.780)	(-0.841)	(-0.887)	(-0.777)	(-0.791)	(-0.798)
(Voice and accountability) * IFRS	0.000					
	(0.005)					
(Political stability) * IFRS		- 0.004				
		(-0.138)				
(Government effectiveness) * IFRS			0.014			
			(0.220)			
(Regulatory quality) * IFRS				-0.011		
				(-0.155)		
(Control of corruption) * IFRS					0.048	
					(0.766)	
(Rule of law) * IFRS						-0.024
						(-0.356)
Firm-level controls	Included	Included	Included	Included	Included	Included
Market-level Controls	Included	Included	Included	Included	Included	Included
YE and IE	Included	Included	Included	Included	Included	Included
Observations	188	188	188	188	188	188
Adj. R ²	0.109	0.109	0.109	0.109	0.111	0.109
Prob. of F-Statistics	0.000	0.000	0.000	0.000	0.000	0.000

Table 8 The concurrent impact of institutional quality and IFRS on underpricing

The table presents the estimation results of the combined impact of institutional governance quality measures (6 measures obtained from the World Bank) and IFRS adoption on initial day returns (IDR). The estimation period is from 1998 to 2019. 2005 is excluded to avoid the probable impact of confounding forces during the transition year. Detailed definitions of variables are provided in Table 1. Numbers in parentheses are t-statistics adjusted according to Newey and West (1987)

Table 9 reports the results of the tests of Hypothesis 6, which speculate a positive concurrent impact of IFRS and institutional governance quality on the aftermarket performance of IPO shares. The results in the first two columns show that the voice and accountability score and political stability score offset the positive impact of the IFRS mandate on aftermarket performance. These results can be attributable to the negative scores of these measures (e.g., see Table 2). In contrast, the concurrent impact of governance effectiveness and IFRS mandate on aftermarket performance is positive. The governance effectiveness score of Turkey is one of the two institutional quality dimensions with a positive score. However, this effect is relatively weak, significant at the 10% level. Given these findings, Hypothesis 6 cannot be supported. It is known from previous literature that the IFRS mandate may not provide economic benefits unless supported by a quality institutional environment (e.g., Daske 2008; Christensen et al 2013; Hong et al 2014). Overall, the results of this section show that after controlling for the joint impact of institutional governance quality IFRS mandate does not provide economic benefits in Turkey. In the next section, several robustness tests were conducted to alleviate potential concerns over the estimation results.

	Depender	nt variable is B	HAR2Y			
Post	-0.114	- 0.305*	- 0.103	- 0.048	- 0.042	- 0.057
	(-0.480)	(- 1.358)	(-0.551)	(-0.234)	(-0.190)	(-0.247)
Treatment	0.341	-0.234	0.315*	0.346*	0.450**	0.432*
	(1.191)	(-0.667)	(1.371)	(1.365)	(1.778)	(1.596)
(Voice and accountability) * IFRS	-0.341*					
	(- 1.340)					
(Political stability) * IFRS		- 0.627***				
		(-2.547)				
(Government effectiveness) * IFRS			0.734*			
			(1.540)			
(Regulatory quality) * IFRS				0.365		
				(0.793)		
(Control of corruption) * IFRS					0.050	
					(0.104)	
(Rule of law) * IFRS						- 0.197
						(-0.387)
Firm-level controls	Included	Included	Included	Included	Included	Included
Market-level Controls	Included	Included	Included	Included	Included	Included
YE and IE	Included	Included	Included	Included	Included	Included
Observations	137	137	137	137	137	137
Adj. R ²	0.347	0.375	0.354	0.343	0.340	0.341
Prob. of F-Statistics	0.000	0.000	0.000	0.000	0.000	0.000

able 9 The concurrent impact of institutional	I quality and IFRS on long-term performance
---	---

The table presents the estimation results of the combined impact of institutional governance quality (6 measures obtained from the World Bank) and IFRS adoption on two years buy-and-hold (BHAR2Y) investment strategy. The estimation period is from 1998 to 2019. 2005 is excluded to avoid the probable impact of confounding forces during the transition year. Detailed definitions of variables are provided in Table 1. Numbers in parentheses are t-statistics adjusted according to Newey and West (1987). *** and ** indicate statistical significance at 1%, and 5% level, respectively

Robustness tests

This section presents several robustness checks to confirm the reliability of the results documented in the previous section. Jamaani and Ahmed (2020) report that IPO listings are clustered by periods of high IPO activity, that is, hot issue markets, as well as by industry due to the concentration of the higher volume of IPO listings within the same industry. To examine the robustness of the findings reported in the previous section, we re-estimate the models after clustering the standard errors by industry and/or year. Table 10 reports the results of the re-estimation controlling for standard error clustering. Initially, standard errors are clustered according to year (Panel A) or industry (Panel B). Subsequently, two-way clustering was performed, considering both year and industry groupings (Panel C). The findings in Table 10, related to the impact of IFRS on IPO share valuations, are consistent with those reported in Table 5. Similar robustness tests were conducted on the results in Tables 6, 7, 8 and 9. The unreported results of these tests showed a high level of consistency with the findings documented in the results section. To preserve space, the results of these additional tests are not reported here but are available upon request.

	Dependent variables	
	IDR	BHAR-2Y
Panel A: Standard errors are clustered by year		
Post	0.024	- 0.757**
	(1.248)	(-2.274)
Treatment	0.243	- 0.334
	(0.617)	(- 1.177)
IFRS (Post*Treatment)	- 0.065	1.014***
	(-0.185)	(3.014)
Firm-level controls	Included	Included
Market-level Controls	Included	Included
Other Controls	Included	Included
YE and IE	Included	Included
Observations	188	137
Adj. R ²	0.039	0.389
Number of clusters	20	18
Panel B: Standard errors are clustered by industry		
Post	0.024	- 0.757**
	(1.350)	(- 1.792)
Treatment	0.243	- 0.334
	(0.661)	(-0.810)
IFRS (Post*Treatment)	- 0.077	1.014**
	(-1.422)	(2.310)
Firm-level controls	Included	Included
Market-level Controls	Included	Included
Other Controls	Included	Included
YE and IE	Included	Included
Observations	188	137
Adj. R ²	0.039	0.389
Number of clusters	18	17
Panel C: Standard errors are clustered by year and industry		
Post	0.024	- 0.757**
	(1.074)	(-2.180)
Treatment	0.243	- 0.334
	(0.493)	(-0.978)
IFRS (Post*Treatment)	- 0.077	1.014***
	(- 1.029)	(2.769)
Firm-level controls	Included	Included
Market-level Controls	Included	Included
Other Controls	Included	Included
YE and IE	Included	Included
Observations	188	137
Adj. R ²	0.039	0.389
Number of clusters	90	80

Table 10 Estimations using clustered standard errors by period and industry

The table presents the estimation results for the two different dependent variables, including initial day returns (IDR), and buy and hold abnormal returns for a 2-years investment strategy (BHAR2Y). The estimation period is from 1998 to 2019. 2005 is excluded to avoid the probable impact of confounding forces during the transition year. Detailed definitions of variables are provided in Table 1. Numbers in parentheses are t-statistics recorded according to different clustering, i.e. by year (in Panel A), by industry (in Panel B), and by both industry and year (in Panel C). ***, and ** indicate statistical significance at 1%, and 5% level, respectively

Conclusion

Although the existing literature offers important insights on the impact of the IFRS mandate on the pricing of IPO shares, empirical tests of the IFRS mandate and IPO pricing relationship are mainly concentrated on developed markets. It is essential to understand whether IFRS mandate provides economic benefits to emerging markets with lower levels of institutional development. Understanding this issue would have important implications for accounting standard setters and policymakers. This study examines the impact of the IFRS mandate and institutional governance quality on the initial trading day returns and aftermarket performance of IPO shares in Turkey, which mandated IFRS for all listed companies jointly with Europe in 2005.

The findings related to the impact of the IFRS mandate on the short-term performance of IPO shares suggest that shifting to IFRS does not significantly reduce average underpricing in Turkey. This result was unexpected, because shifting to IFRS-compliant reporting is the most crucial development in Turkey's accounting system to date. Before the IFRS mandate, the preparation of financial reports was dominated by Turkey's tax authority (Demir and Aktas 2015). IFRS-compliant reports incorporate fair market values that reflect the impacts of both the time value of money and risk. Therefore, fair value reporting should improve the predictability of IPO firms' performance (e.g., Evans et al 2014). However, according to Daske (2008) and Christensen et al (2013), inadequate institutional support may hinder IFRS mandate's potential to provide economic benefits. Consistent with their prediction, additional tests show that none of the institutional governance quality measures, including their combined effect with IFRS, load significantly against initial day returns. Despite the documented insignificant effect of IFRS on average underpricing, IFRS-compliant financial reporting increases IPO shares' aftermarket performance. Additional tests on the impact of institutional quality on aftermarket performance reveal that none of the six institutional governance measures load significantly against aftermarket returns, which is unsurprising given Turkey's negative (low) level of institutional quality measures. Finally, the interaction of the IFRS mandate and voice and accountability and the IFRS mandate and political stability offset the positive impact of IFRS on the long-term performance of IPO shares, which can be attributed to the negative scores of these institutional governance dimensions. Overall, the findings show that poor institutional quality hinders improved reporting's ability to provide economic benefits.

These findings offer important insights for standard setters and policymakers by documenting that IFRS-based fair value reporting does not deliver economic benefits in an environment characterized by weak institutional governance quality. Therefore, policymakers should concentrate on attaining higher-quality institutions that may increase the economic benefits of IFRS adoption. One limitation of this study is that it focused on a single emerging market. Accordingly, future research should investigate multiple emerging markets that jointly mandate the IFRS with Europe. Future research should also focus on the impact of firm-level heterogeneity on IFRS compliance in emerging market settings to enhance our understanding of the potential and limitations of IFRS adoption in different economic and institutional contexts. This should provide a better policy path for the IASB to enhance the benefits of IFRS adoption in emerging economies.

Abbreviations

IFRS	International Financial Reporting Standards
IPO	Initial public offering
EU	European Union
BIST	Borsa Istanbul
BHAR	Buy-and-hold abnormal returns
TASB	Turkish accounting standards board
СМВ	Capital markets board
ISIN	International securities identification number
IASB	International accounting standards board

Acknowledgements

The author would like to thank to the editor and anonymous reviewers for their valuable contributions.

Author contributions

There is only one author in this paper.

Funding

Not applicable.

Availability of data and material

The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.

Declarations

Competing interests

The authors declare that they have no competing interests.

Received: 28 March 2022 Accepted: 20 June 2023 Published online: 10 November 2023

References

Aggarwal R, Bhagat S, Rangan S (2009) The impact of fundamentals on IPO valuation. Financ Manage 38:253–284 Aggarwal R, Rivoli P (1990) Fads in the initial public offering market?. Financ Manage, 45–57

Ahmed A, Neel M, Wang D (2013) Does mandatory adoption of IFRS improve accounting quality? Prelim Evid Contemp Account Res 30(4):1344–1372. https://doi.org/10.1111/j.1911-3846.2012.01193.x

Aksu M, Espahdobi H (2016) The impact of IFRS adoption and corporate governance principles on transparency and disclosure: the case of Borsa Istanbul. Emerg Mark Financ Tr 52(4):1013–1028. https://doi.org/10.1080/1540496X. 2014.998570

Alidarous M, Jamaani F (2021) The concurrent effects of IFRS mandate and formal institutional quality on the aftermarket performance of IPO firms in emerging countries. Int J Financ Res 12(3):320–344

Allen F, Faulhaber G (1989) Signaling by underpricing in the IPO market. J Financ Econ 23(2):303–323. https://doi.org/10. 1016/0304-405X(89)90060-3

Armstrong C, Barth M, Jagolinzer A, Riedl E (2010) Market reaction to the adoption of IFRS in Europe. Rev Account 85(1):31–61. https://doi.org/10.2308/accr.2010.85.1.31

Atwood T, Drake M, Myers J, Myers L (2011) Do earnings reported under IFRS tell us more about future earnings and cash flows. J Account Public Pol 30(2):103–121. https://doi.org/10.1016/j.jaccpubpol.2010.10.001

Autore A, Boulton J, Smart B, Zutter J (2014) The impact of institutional quality on initial public offerings. J Econ Bus 73:65–96

Baba B, Sevil G (2020) Pricing IPO initial returns using random forest. Borsa Istanbul Rev 20(1):13–23. https://doi.org/10. 1016/j.bir.2019.08.001

Baji E, Raimondo C (2017) Media sentiments and IPO underpricing. J Corp Financ 46:139–153

Ball R (2006) International Financial Reporting Standards (IFRS): Pros and cons for investors. Account Bus Res 36(1):5–27. https://doi.org/10.1080/00014788.2006.9730040

Ball R (2016) IFRS-10 years later. Account Bus Res 46(5):545-571

Barth M, Clinch G (1998) Revalued financial, tangible, and intangible assets: associations with share prices and nonmarket-based value estimates. J Account Res 36:199–233

Barth M, Israeli D (2013) Disentangling mandatory IFRS reporting and changes in enforcement. J Account Econ 56(2–3):178–188. https://doi.org/10.1016/j.jacceco.2013.11.002

Barth M, Landsman W, Lang M (2008) International accounting standards and accounting quality. J Account Res 46(3):467–498. https://doi.org/10.1111/j.1475-679X.2008.00287.x

Beatty R, Ritter J (1986) Investment banking, reputation, and the underpricing of initial public offerings. J Financ Econ 15(1–2):213–232. https://doi.org/10.1016/0304-405X(86)90055-3

Berger N, Udell F (1998) The economics of small business finance: the roles of private equity and debt markets in the financial growth cycle. J Bank Financ 22(6–8):613–673

Bischof J, Daske H, Sextroh C (2014) Fair value-related information in analysts' decision processes: evidence from the financial crisis. J Bus Financ Account 41:363–400

Boulton J, Smart B, Zutter J (2010) IPO underpricing and international corporate governance. J Int Bus Stud 41(2):206–222

Boulton J, Smart B, Zutter J (2011) Earnings quality and international IPO underpricing. Account Rev 86(2):483–505 Brown P (2011) International Financial Reporting Standards: what are the benefits? Account Bus Res 41(3):269–285. https://doi.org/10.1080/00014788.2011.569054

Brüggemann U, Hitz M, Sellhorn T (2013) Intended and unintended consequences of mandatory IFRS adoption: a review of extant evidence and suggestions for future research. Eur Account Rev 22(1):1–37

Bushman R, Piotroski J (2006) Financial reporting incentives for conservative accounting: the influence of legal and political institutions. J Account Econ 42(1/2):107–148. https://doi.org/10.1016/j.jacceco.2005.10.005

Byard D, Li Y, Yu Y (2011) The effect of mandatory IFRS adoption on financial analysts' information environment. J Account Res 49:69–96. https://doi.org/10.1111/j.1475-679X.2010.00390.x

Byard D, Dorrough M, Suh J (2021) Re-examining the impact of mandatory IFRS adoption on IPO underpricing. Rev Acc Stud 26:1344–1389

Campbell L (2015) The fair value of cash flow hedges, future profitability, and stock returns. Contemp Account Res 32:243–279

Campbell L, Downes F, Schwartz C (2015) Do sophisticated investors use the information provided by the fair value of cash flow hedges? Rev Account Stud 20:934–975

Cascino S, Gassen J (2015) What drives the comparability effect of mandatory IFRS adoption? Rev Acc Stud 12(2):249– 279. https://doi.org/10.1007/s11142-014-9296-5

Chemmanur T, Fulghieri P (1999) A theory of going-public decision. Rev Financ Stud 12(2):249–279. https://doi.org/10. 1093/rfs/12.2.249

Christensen H, Hail L, Leuz C (2013) Mandatory IFRS reporting and changes in enforcement. J Account Econ 56(1–2):147– 177. https://doi.org/10.1016/i.jacceco.2013.10.007

Claessens S, Djankov S, Lang H (2000) The separation of ownership and control in East Asian corporations. J Financ Econ 58(1–2):81–112

Clarke J, Khurshed A, Alok P, Singh A (2016) Sentiment traders & IPO initial returns: the Indian evidence. J Corp Financ 37:24–37. https://doi.org/10.1016/j.jcorpfin.2015.10.007

Cornelli F, Goldreich D, Ljungqvist A (2006) Investor sentiments and pre-IPO markets. J Financ 61(3):1187–1216. https:// doi.org/10.2139/ssrn.548683

Daske H (2006) Economic benefits of adopting IFRS or US-GAAP—have the expected cost of equity capital really decreased? J Bus Finan Account 33(3–4):329–373. https://doi.org/10.1111/j.1468-5957.2006.00611.x

Daske H, Hail L, Leuz C, Verdi R (2008) Mandatory IFRS reporting around the world: Early evidence on economic conseguences. J Account Res 46:1085–1142. https://doi.org/10.1111/j.1475-679X.2008.00306.x

Dechow M, Myers A, Shakespeare C (2010) Fair value accounting and gains from asset securitizations: a convenient earnings management toll with compensation side-benefits. J Account Econ 49:2–25

Demir Z, Aktas A (2015) The development of financial reporting and the international integration studies in Turkey. Procedia Economics and Finance 23:1321–1339

Demirag I, Serter M (2003) Ownership patterns and control in Turkish listed companies. Corp Gov 11(1):40–51. https://doi. org/10.1111/1467-8683.00300

Derrien F (2005) IPO pricing in "hot" market conditions: who leave money on the table? J Financ 60(1):487–521. https://doi. org/10.1111/j.1540-6261.2005.00736.x

Dorsman A, Gounopoulos D, Wildeboer D (2010) IFRS Adoption and performance of Dutch IPOs. In: Multinational Finance Society (MFS)

Durukan M (2002) The relationship between IPO returns and factors influencing IPO performance: case of Istanbul stock exchange. Manage Financ 28(2):18–38. https://doi.org/10.1108/03074350210767672

Engelen P, Van Essen M (2010) Underpricing of IPOs: Firm-, issue-and country-specific characteristics. J Bank Financ 34(8):1958–1969

Evans E, Hodder L, Hopkins E (2014) Predictive ability of fair values for future financial performance of commercial banks and the relation of predictive ability to banks' share prices. Contemp Account Res 31:1–12

Fontes J, Panaretou A, Peasnell V (2018) The impact of fair value measurement for bank assets on information asymmetry and the moderating effect of own credit risk gains and losses. Account Rev 93:127–147

Francis J, Wang D (2008) The joint effect of investor protection and big 4 audits on earnings quality around the world. Contemp Account Res 25(1):157–191. https://doi.org/10.1506/car.25.1.6

Gajewski F, Gresse C (2006) A survey of the European IPO market. ECMI Research Paper

Georgakopoulos G, Gounopoulos D, Huang C, Patsika V (2022) The impact of IFRS adoption on IPOs management earnings forecasts in Australia. J Int Account Audit Tax 48:100490

Guo J, Lev B, Zhou N (2005) The valuation of biotech IPOs. J Account Audit Finance 20(4):423-459

Habib A, Ljungqvist P (2001) Underpricing and entrepreneurial wealth losses in IPOs: theory and evidence. Rev Financ Stud 14(2):433–458

Hail L, Leuz C (2006) International differences in the cost of equity capital: do legal institutions and securities regulation matter? J Account Res 44(3):348–531. https://doi.org/10.1111/j.1475-679X.2006.00209.x

Hamberg M, Mavruk T, Sjögren S (2013) Investment allocation decisions, home bias and mandatory IFRS adoption. J Int Money Financ 36:107–130. https://doi.org/10.1016/j.jimonfin.2013.04.001

He J, Wong J, Young Q (2012) Challenges for implementation of fair value accounting in emerging markets: evidence from China. Contemp Account Res 29:538–562

He L, Shen H, Shiu Y (2022) Is fair value information fairly priced? Evidence from IPOs in global capital markets. J Bank Financ 135:106368

Hearn B (2013) The institutional determinants of IPO firm prospectus length in a developing context: a research note. Res Int Bus Financ 27(1):52–65

Hearn B (2014) The impact of institutions, ownership structure, business angels, venture capital and lead managers on IPO firm underpricing across North Africa. J Multinatl Financ Manag 24:19–42

Hirshleifer D, Teoh S (2003) Limited attention, information disclosure, and financial reporting. J Account Econ 36(1–3):337–386. https://doi.org/10.1016/j.jacceco.2003.10.002

Hlel K, Kahloul I, Bouzgarrou H (2020) IFRS adoption, corporate governance and management earnings forecasts. J Financ Report Account 18(2):325–342

Hong A, Hung M, Lobo J (2014) The impact of mandatory IFRS adoption on IPOs in global capital markets. Account Rev 89(4):1365–1397. https://doi.org/10.2308/accr-50720

Hopp C, Dreher A (2013) Do differences in institutional and legal environments explain cross-country variations in IPO underpricing? Appl Econ 45(4):435–454

Horton J, Serafeim G, Serafeim I (2013) Does mandatory IFRS adoption improve the information environment? Contemp Account Res 30:388–423. https://doi.org/10.1111/j.1911-3846.2012.01159.x

Hung M (2001) Accounting standards and value relevance of financial statements: an international analysis. J Account Econ 30(3):401–420. https://doi.org/10.1016/S0165-4101(01)00011-8

Ibbotson R (1975) Price performance of common stock new issues. J Financ Econ 2(3):235–272. https://doi.org/10.1016/0304-405X(75)90015-X

Jamaani F, Ahmed D (2020) Simultaneous effects of clustering and endogeneity on the underpricing difference of IPO firms: a global evidence. Res Int Bus Finance 54:101250

Jamaani F, Ahmed D (2021) Modifier effects of country-level transparency on global underpricing difference: new hierarchical evidence. Int Rev Financial Anal 74:101667

Jamaani F, Alidarous M (2021) The short-and long-lived effects of IFRS mandate on IPO firms in emerging market economies. J Financ Rep Account 20(5):953–78

Jamaani F, Alidarous M, Alharasis E (2022) The combined impact of IFRS mandatory adoption and institutional quality on the IPO companies' underpricing. J Financ Rep Account (ahead-of-print)

Johnston J, Madura J (2009) The pricing of IPOs post-Sarbanes-Oxley. Financ Rev 44(2):291–310. https://doi.org/10.1111/j. 1540-6288.2009.00219.x

Karapınar A, Zaif F (2021) Does the IFRS improve earnings quality? A comparison of Turkish GAAP and IFRS. J Islamic Account Bus Res 13(2):277–296

Killins R (2019) An investigation of the short-term performance of the Canadian IPO market. Res Int Bus Financ 47:102–113. https://doi.org/10.1016/j.ribaf.2018.07.004

La Porta R, Lopez-de-Silanes F, Shleifer A (2006) What works in securities laws. J Financ 61(1):1–32. https://doi.org/10.1111/j. 1540-6261.2006.00828.x

Landsman W, Maydew E, Thornock J (2012) The information content of annual earnings announcement and mandatory adoption of IFRS. J Accoun Econ 53(1–2):34–54. https://doi.org/10.1016/j.jacceco.2011.04.002

Lee A (2019) The impact of IFRS adoption on management of bad debt expense and real operational activities: evidence from South Korea. Asia-Pac J Account Econ 26(4):434–456

Lee D, Oh D, Park J (2022) The impact of mandatory K-IFRS adoption on IPO underpricing. Int J Financ Econ 27(1):1101–1119 Li S (2010) Does mandatory adoption of International Financial Reporting Standards in the European Union reduce the cost of equity capital? Account Rev 85:607–636. https://doi.org/10.2308/accr.2010.85.2.607

Li X, Yang H (2013) Mandatory financial reporting and voluntary disclosure: the effect of mandatory IFRS adoption on management forecasts. Account Rev 91(3):933–953. https://doi.org/10.2308/accr-51296

Ljungqvist A, Nanda V, Singh R (2006) Hot markets, investor sentiments, and IPO pricing. J Bus 79(4):1667–1702. https://doi. org/10.1086/503644

Loughran T, McDonald B (2013) IPO first-day returns, offer price revisions, volatility, and form S-1 language. J Financ Econ 109(2):307–326. https://doi.org/10.1016/j.jfineco.2013.02.017

Loughran T, Ritter J (2002) Why don't issuers get upset about leaving money on the table? R Financ Stud 15(2):413–443. https://doi.org/10.1093/rfs/15.2.413

Loughran T, Ritter J (2004) Why has IPO underpricing changed over time? Financ Manage 33(3):5–37

Loughran T, Ritter J, Rydqvist K (1994) Initial public offerings: international insights. Pac-Basin Financ J 2(2–3):165–199. https:// doi.org/10.1016/0927-538X(94)90016-7

Lui X, Ritter J (2011) Local underwriter oligopolies and IPO underpricing. J Financ Econ 102(3):579-601

Maglio R, Petraglia M, Agliata F (2018) IFRS and IPO underpricing: evidence from Italy. Int J Manag Financ Account 10(3):181– 201. https://doi.org/10.1504/JJMFA.2018.093458

Michaely R, Shaw W (1994) The pricing of initial public offerings: Test of adverse-selection and signaling theories. Rev Financ Stud 7(2):279–319. https://doi.org/10.1093/rfs/7.2.279

Miller M (1977) Risk, uncertainty and divergence of opinion. J Financ 32(4):1151–1168. https://doi.org/10.1111/j.1540-6261. 1977.tb03317.x

Newey W, West K (1987) A simple, positive semi-definite, heteroskedasticity and autocorrelation consistent covariance matrix. Econometrica 55(3):703–708

Purnanandam A, Swaminathan B (2004) Are IPOs overpriced? Rev Financ Stud 17:811–848. https://doi.org/10.1016/j.jempfin. 2006.06.001

Rathnayake D, Louembe P, Kassi D, Sun G, Ning D (2019) Are IPOs underpriced or overpriced? Evidence from an emerging market. Res Int Bus Financ 50:171–190. https://doi.org/10.1016/j.ribaf.2019.04.013

Ritter J (1984) The "Hot Issue" market of 1980. J Bus 57(2):215-240

Ritter J (1991) The long-run performance of initial public offerings. J Financ 46(1):3–27. https://doi.org/10.1111/j.1540-6261. 1991.tb03743.x

Ritter J, Welch I (2002) A review of IPO activity, pricing and allocations. J Financ 57(4):1795–1828. https://doi.org/10.1111/ 1540-6261.00478

Rock K (1986) Why new issues are underpriced. J Financ Econ 15(1–2):187–212. https://doi.org/10.1016/0304-405X(86) 90054-1

Schleicher T, Tahoun A, Walker M (2010) IFRS adoption in Europe and investment-cash flow sensitivity: outsider versus insider economies. Int J Account 45(2):143–168. https://doi.org/10.1016/j.intacc.2010.04.007

Shi C, Pukthuanthong K, Walker T (2013) Does disclosure regulation work? Evidence from international IPO markets. Contemp Account Res 30(1):356–387

So S, Smith M (2009) Value-relevance of presenting changes in fair value of investment properties in the income statement: evidence from Hong Kong, Account Bus Res 39:103–118

Soderstrom N, Sun K (2007) IFRS adoption and accounting quality: a review. Eur Account Rev 16(4):675–702. https://doi.org/ 10.1080/09638180701706732

Song J, Thomas W, Yi H (2010) Value relevance of FAS No. 157 fair value hierarchy information and the impact of corporate governance mechanisms. Account Rev 85:1375–1410

Song S, Tan J, Yi Y (2014) IPO initial returns in China: underpricing or overvaluation. China J Account Res 7(1):31–49. https:// doi.org/10.1016/j.cjar.2013.12.001

- Su C, Brookfield D (2013) An evaluation of the impact of stock market reforms on IPO under-pricing in China: the certification role of underwriters. Int Rev Financ Anal 28:20–33
- Teoh H, Welch I, Wong J (1998) Earnings management and the long-run market performance of initial public offerings. J Financ 53(6):1935–1974

Tian L (2011) Regulatory underpricing: determinants of Chinese extreme IPO returns. J Empir Financ 18(1):78–90. https://doi. org/10.1016/j.jempfin.2010.10.004

Tsai Y, Huang H (2020) Does IFRS reduce IPO underpricing? Evidence from China. Financ Res Lett. https://doi.org/10.1016/j.frl. 2020.101673

Uyar A, Kiliç M, Gökçen A (2016) Compliance with IAS/IFRS and firm characteristics: evidence from the emerging capital market of Turkey. Econ Res-Ekon Istraz 29(1):148–161. https://doi.org/10.1080/1331677X.2016.1163949

Willenborg M, Wu B, Yang S (2015) Issuer operating performance and IPO price formation. J Account Res 53:1109–1149 Woolridge M (2002) Econometric analysis of cross section and panel data. The MIT Press, Cambridge

World Bank Governance Indicators (2012) World Bank Governance Indicators. https://databank.worldbank.org/source/world wide-governance-indicators (Accessed 15.11.22)

Yalkın K, Demir V, Demir D (2008) International financial reporting standards (IFRS) and the development of financial reporting standards in Turkey. Res Account Regul 20:279–294

Yurtoglu B (2000) Ownership, control and performance of Turkish listed firms. Empirica 27(2):193-222

Zattoni A, Witt A, Judge Q, Talaulicar T, Chen J, Lewellyn K, Hu W, Gabrielsson J, Rivas L, Puffer S, Shukla D (2017) Does board independence influence financial performance in IPO firms? The moderating role of the national business system. J World Bus 52(5):628–639

Zhang X, Zhang M, Huang Y, Zhou Y (2015) Heterogenous expectations, IPO underpricing and issuing mechanism. Financ Innovat 1(11):1–14. https://doi.org/10.1186/s40854-015-0008-3

Publisher's Note

Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Submit your manuscript to a SpringerOpen[®] journal and benefit from:

- Convenient online submission
- Rigorous peer review
- ► Open access: articles freely available online
- High visibility within the field
- Retaining the copyright to your article

Submit your next manuscript at > springeropen.com