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Accounting constructs and economic consequences of IFRS adoption in India



Vedprakash Vasantrao Meshram ^{a,*}, Jagriti Arora ^b

^a Goa Institute of Management, Room No G-38, Faculty Block, Sanquelim Campus, Poriem, Sattari, Goa 403505, India

^b Indian Institute of Management Lucknow, House No 524, Off Sitapur Road, Prabandh Nagar, Lucknow 226013, India

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ABSTRACT

In this study, we investigate the effects from the adoption of International Financial Reporting Standards based Indian Accounting Standards (Ind-AS) on the quality and comparability of financial reporting by Indian firms. Further, we examine whether these changes in reporting quality and comparability lead to improvement in a firm's valuation, liquidity, and return volatility. We find that the implementation of Ind-AS improves financial comparability. Further, we report that improvements in accounting comparability, rather than reporting quality, had a more significant and relatively greater effect on economic outcomes for Indian firms around the time of Ind-AS adoption.

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1. Introduction

India adopted the Indian Accounting Standards (hereafter, Ind-AS), for convergence with the International Financial Reporting Standards (IFRS) in order to improve the accounting information environment to benefit domestic and foreign investors. Foreign investors believe that the Indian market lacks transparency in financial reporting, as India ranks low in disclosure quality, shareholder rights, and analyst following (Enomoto, Kimura, & Yamaguchi, 2015). Prior literature provides mixed evidence about the accounting and economic effects of adopting new accounting standards (De George, Li, & Shivakumar, 2016). Most of these studies focus on the effects of new accounting regimes in developed countries after full IFRS adoption (De George et al., 2016). These countries have stronger reporting incentives and institutional environments. However, little evidence exists concerning the accounting and economic effects of new accounting standards in emerging economies with relatively weaker reporting incentives.

In this study, we investigate the accounting effect of Ind-AS adoption in India and its associated economic consequences. We analyze accounting effects using two accounting constructs: financial statement comparability and reporting quality (RQ). We use three proxies for financial statement comparability and two proxies for financial RQ. Further, we investigate changes in the economic outcomes of firms around the time of Ind-AS adoption. Specifically, we apply the methodology developed by Neel (2017) to explore the comparative role of these two accounting constructs in explaining variations in three economic outcomes, namely, a firm's valuation, liquidity, and return volatility. These outcomes encapsulate different facets of changes in information asymmetry associated with the adoption period.

Neel (2017) and other researchers (e.g., Barth, Landsman, & Lang, 2008) examine the accounting and economic effects around the time of IFRS adoption in cross-country settings that primarily focus on the developed economies of Europe and the Asia-Pacific region. Other researchers argue that besides the quality of standards, changes in accounting quality

* Corresponding author.

E-mail addresses: vedprakash@gim.ac.in, fpm17001@iiml.ac.in (V.V. Meshram), fpm18006@iiml.ac.in (J. Arora).

are determined by country-level institutional frameworks (Ball, Robin, & Wu, 2003), reporting incentives (Jeanjean & Stolowy, 2008), enforcement of standards (Ewert & Wagenhofer, 2005), and the degree of variation from prior domestic standards. These arguments make a case for a single-country research study with specific institutional settings. Although extensive research exists on the influence of IFRS on reporting environments and economic outcomes in developed economies, we find limited research in the Indian context. Tawiah and Boolaky (2020) investigate the impact of Ind-AS on different accounting values and find that the application of Ind-AS by Indian firms leads to a material change in accounting values, such as goodwill, current liabilities, and long term liabilities. We could not find an empirical study on the accounting effects and associated economic consequences of IFRS in India. This study aims to fill this research gap. Such inquiry is necessary to examine the external validity of previous findings.

We investigate the accounting and economic effects of IFRS-convergent standards in an Indian setting for several reasons. There are many differences in the financial reporting environment and institutional mechanism between India and first-generation adopters of IFRS, generally developed economies in Europe and the Asia-Pacific region (Bhaumik & Selarka, 2012; Enomoto et al., 2015). First, India adopted a modified version of IFRS to better reflect the local business and economic environment. Some modifications include disclosure of earnings per share (Ind-AS 33), treatment of investment property (Ind-AS 40), and the effect of changes in foreign exchange rates (Ind-AS 21).¹ Cai, Rahman, and Courtenay (2012) show that accounting and economic benefits differ when full IFRS adoption and convergence with IFRS occurs. Second, Indian firms have higher ownership concentration by way of business group affiliations and family ownership. This leads to another type of agency problem in India, the disparities between majority and minority shareholders of firms (Bhaumik & Selarka, 2012). Third, India has a weaker legal enforcement structure compared to first-generation adopter countries (Narayanaswamy, Raghunandan, & Rama, 2012; Wingate, 1997). Managers within weak legal systems tend to have more incentives to distort the information environment and manipulate the reporting of a firm's financial performance (Francis, Hasan, & Li, 2016). Desai and Nagar (2016) find that auditors in India face lower litigation risk, which results in less effective auditing practices than in countries with stronger legal institutions. Finally, compared with developed economies, India ranks lower in disclosure quality, outside shareholder rights, and analyst following (Enomoto et al., 2015). Thus, the accounting effects and its economic consequences of the adoption of IFRS-convergent standards warrant further investigation in an Indian setting.

Improvement in RQ and comparability are two frequently stated purposes of IFRS (IASB (IASB), 2010). High levels of financial reporting help financial statement users in decision-making with reliable accounting information that is free from material errors and biases. In addition, better RQ more accurately reflects the economic reality of company performance during the reporting period. Comparability, meanwhile, helps financial statement users to assess the relative performance and competitive position of firms. Unlike RQ, comparability measures are estimated with firm-specific attributes of other firms. Though these two accounting constructs are related, previous studies show that the impacts of IFRS adoption differ for comparability and RQ. Hence, we focus on the comparative roles of these two accounting constructs on the economic consequences of Ind-AS adoption on Indian firms.

Cai et al. (2012) find that the accounting effect of IFRS adoption in jurisdictions is commensurate with the degree of variation from previous standards. In the case of India, the previous domestic standards were of comparatively lower quality than the new IFRS-converged Ind-AS. Hence, we argue that the Ind-AS adoption may enhance the quality of reporting and increase comparability of Indian firms. Enhancement in the RQ and comparability by application of higher quality standards increases market participants' ability to make more informed decisions (De Franco, Kothari, & Verdi, 2011). Higher-quality accounting standards reduce information asymmetry (Leuz, 2003), increase labor and total factor productivity (Banker, Huang, Li, & Zhao, 2021), reduce information costs (Beneish & Yohn, 2008), and thus, result in positive economic outcomes. We thereby contend that the accounting effects of Ind-AS may result in positive economic outcomes.

We construct a panel data of all firms that adopted the new accounting standards on April 1, 2015. The sample consists of 3288 firm-year observations (411 firms) for which accounting and market data are available for the eight years from 2012 to 2019. Following Neel (2017), we classified these firms into four subgroups based on concurrent changes observed around the time of new standard adoption among comparability and RQ measures. We find that adopting Ind-AS improved the level of comparability of Indian firms. However, RQ did not show a statistically significant improvement after IFRS adoption. Our empirical evidence suggests that economic outcomes from adopting the new accounting standards are affected relatively more by improvements in measures of accounting comparability than RQ.

Our research provides an incremental contribution to the IFRS literature by answering the call by Neel (2017) for research on countries with poor institutional environments, such as India. This is the first comprehensive study in an Indian setting with four years of data both before and after Ind-AS adoption. By doing so, we provide additional empirical evidence on the impact of IFRS-convergent standards in single-country settings. Moreover, our paper contributes to the existing literature in two ways. First, the paper uses multiple proxies for financial statement comparability and RQ to investigate the effects of IFRS on Indian firms. Second, we report empirical findings of the economic outcomes of IFRS adoption in India. Our findings complement the growing literature on the relative role of comparability and RQ in explaining the economic outcomes of firms.

¹ An ICAI (Institute of Chartered Accountants of India) document highlights key differences between IFRS standards and Ind-AS. This can be accessed at: <https://resource.cdn.icai.org/55204asb44387.pdf>

The rest of the paper is organized as follows. [Section 2](#) provides a literature review. [Section 3](#) discusses the sample selection process. [Section 4](#) provides details of the methodology adopted. [Section 5](#) presents the results, and [Section 6](#) concludes the study.

2. Literature review, Indian setting, and hypotheses

2.1. Prior research

In this section, we first review studies that explore the impact of IFRS on RQ and financial statement comparability, and then review the literature on the economic outcomes of IFRS implementation. Advocates believe that implementation of IFRS leads to better financial RQ, as it lowers information asymmetry and increases transparency in financial markets ([Levitt, 1998](#)). [Barth et al. \(2008\)](#) find lower levels of earnings management, high value relevance, and more timely loss recognition among IFRS-compliant firms. Using firms from 40 countries, [Lang and Stice-Lawrence \(2015\)](#) also conclude that IFRS adoption leads to better reporting quality by (1) better reflecting the financial position and overall economic reality of firms due to the application of fair value accounting, and (2) reduced managerial discretion by limiting the choice of alternative accounting methods.

On the other hand, some researchers present a contrary viewpoint. For example, [van Tendeloo and Vanstraelen \(2005\)](#) observe more earnings smoothing activities in IFRS-compliant firms in Germany. They find a lower correlation between operating cash flow and accruals, and higher discretionary accruals in IFRS firms. Two arguments support the conclusion that IFRS has no significant impact on the RQ of firms: (1) Apart from the quality of accounting standards, accounting quality is a function of the interpretation and enforcement of IFRS, litigation risk, and overall institutional settings, and (2) IFRS being principle based standards lacks explicit guidelines for certain transactions, which allows for greater managerial discretion ([Ahmed, Neel, & Wang, 2013](#); [Daske, Hail, Leuz, & Verdi, 2008](#); [Soderstrom & Sun, 2007](#)).

Increasing financial statement comparability among firms is another frequently stated objective of IFRS adoption. Compared to RQ, financial statement comparability resulting from IFRS implementation is not well researched. Previous research documents two competing views concerning the effects of IFRS on financial comparability. On the one hand, a few researchers argue that IFRS adoption increases financial statement comparability and thereby helps investors make better financial decisions. For instance, using measures of comparability based on models developed by [De Franco et al. \(2011\)](#), [Barth, Landsman, Lang, and Williams \(2012\)](#) find that mandatory IFRS adoption results in better financial statement comparability between firms adopting IFRS and similar US firms (by industry and size). Similarly, [Yip and Young \(2012\)](#) and [Wang \(2014\)](#) document that the implementation of IFRS enhances the compatibility of financial information. In contrast, other researchers question whether IFRS generates more comparable financial statements than prior local accounting standards. For instance, the evidence in [Lang, Maffett, and Owens \(2010\)](#) and [Liao, Sellhorn, and Skaife \(2012\)](#) does not support the claim that IFRS adoption improves comparability. In another study, [Jayaraman and Verdi \(2013\)](#) argue that closer economic integration between countries resulting from the introduction of the euro leads to greater improvements in comparability than those arising from adopting common high-quality accounting standards. In line with RQ studies, the literature documents mixed evidence of the impact of IFRS adoption on accounting comparability.

Regarding the economic outcomes of IFRS adoption, researchers examine changes in valuation ([Ball, Li, & Shivakumar, 2015](#)), liquidity ([Barth, Clinch, & Shibano, 1999](#)), cost of capital ([Houqe, Monem, & Zijl, 2016](#)), information asymmetry ([Armstrong, Core, Taylor, & Verrecchia, 2011](#)), analyst forecast ([Tan, Wang, & Welker, 2011](#)), idiosyncratic return volatility ([Landsman, Maydew, & Thornock, 2012](#)), and international capital mobility ([Gordon, Loeb, & Zhu, 2012](#)) between pre-adoption and post-adoption periods. These studies are primarily driven by the conjecture that IFRS application leads to better disclosure quality, lower information asymmetry, and improved accounting comparability, and thus, it increases transparency and results in better capital market outcomes. [Armstrong et al. \(2011\)](#) and [Prather-Kinsey and Tanyi \(2014\)](#) document that international investors benefit from the adoption of IFRS as it provides a common basis for appraising different investment opportunities. They argue that uniform accounting standards help change investors' perceptions, which leads to favorable economic outcomes. In a recent study, [Banker et al. \(2021\)](#) claim that IFRS helps in the growth of economic productivity by improving the reporting environment. However, [Cai et al. \(2012\)](#) argue that the accounting effects and its associated economic consequences depend on: (1) convergence-IFRS adoption or full IFRS adoption as recommended by the IASB, and (2) the degree of variation between IFRS and previous domestic accounting standards.

2.2. Indian setting and hypotheses

India adopted the new set of accounting standards, Ind-AS on April 1, 2015, for convergence with IFRS. India modified IFRS instead of adopting these standards in full, primarily for two reasons: (1) the difficulty in measuring the fair value of different assets, and (2) maintaining consistency with the prevailing institutional framework ([Krishman, 2018](#)). Before Ind-AS, Indian firms followed the Indian Generally Accepted Accounting Principles (IGAAP), which were issued by the Institute of Chartered Accountants of India (ICAI) in 2000. A few studies investigate the impact of the IFRS adoption in India. For instance, [Tawiah and Boolaky \(2020\)](#) find that the adoption of the IFRS led to a significant decrease in the value of goodwill, current liabilities, and long-term liabilities. However, their sample is restricted to two fiscal years (2015–2017). [Jain and](#)

Gupta (2020) present empirical evidence to support the argument that newly converged accounting standards bring a significant change in the debt-equity classification within firms. Further, Weerathunga, Xiaofang, Nurunnabi, Kulathunga, and Swarnapali (2020) posit that adopter firms disclosed greater levels of Corporate Social Responsibility (CSR) reporting than their counterparts. The authors point out that IFRS convergence opened avenues for managers to respond to the increasing regulatory pressure by disclosing more CSR information. However, we know of no study that examines an association between the accounting and economic effects of IFRS adoption in an Indian setting.

In this study, we investigate (1) whether firms subject to the adoption of Ind-AS experience a material increase in the RQ and financial statement comparability, and (2) whether the change in RQ and comparability by the application of Ind-AS explains three economic outcomes of a firm's valuation, liquidity, and return volatility. This research is primarily motivated by: (1) mixed empirical evidence of accounting and the economic effect of new accounting standards adoption in a single-country setting, and (2) limited empirical evidence on the effects of Ind-AS adoption in India. Although the adoption of high quality accounting standards is well researched, we cannot generalize those findings to an Indian setting due to institutional differences (Woodhouse, Mather, Ranasinghe, & Smith, 2017).

Investors and regulators (Securities and Exchange Board of India, ICAI) anticipated that the adoption of IFRS-convergent Ind-AS would enhance the overall quality of the reporting environment (ICAI, 2014). We expect positive accounting effects of Ind-AS adoption through improvement in the quality of financial RQ and comparability. Before Ind-AS adoption, Indian firms were applying comparatively lower quality accounting standards than their global peers, and therefore, the application of IFRS-convergent standards is likely to result in better financial RQ and comparability. Furthermore, the implementation of higher quality accounting standards is expected to increase the confidence of investors in the public information and moderate requests for additional private information. As a result, it leads to improvement in transparency and thereby, positive economic outcomes.

The IASB characterizes financial statement comparability as a complement to RQ. However, it would be interesting to examine the comparative roles of change in comparability and change in RQ in explaining economic outcomes of Ind-AS adoption. In the case of India, we expect that the change in comparability leads to more net economic benefit than the change in RQ for three reasons. First, unlike RQ, comparability is calculated using firm-specific attributes of similar firms. Thus, it assists investors to carry out a meaningful comparison of firms. Second, increased comparability reduces the information cost for all market participants, resulting in better market efficiency. Hence, we anticipate that the change in comparability has a market-wide impact. Third, economic benefits from enhanced comparability are concave in nature, i.e., in the initial period, small improvements in comparability result in higher economic output (Neel, 2017). Based on the above discussion, we propose the following research hypotheses:

Hypothesis 1: Adoption of Ind-AS has positive effects on the financial reporting quality and comparability of Indian firms.

Hypothesis 2: Upon Ind-AS adoption, improvements in financial statement comparability have a relatively greater significant effect on valuation, liquidity, and return volatility than improvements in financial reporting quality.

3. Data

We procured the accounting and market data from the Prowess database of the Centre for Monitoring Indian Economy (CMIE). The study period covers the fiscal years ending from March 2012 to March 2019. During this period, most Indian firms adopted Ind-AS on April 1, 2015. We equally divide the sample into pre-IFRS (2012–2015) and post-IFRS (2016–2019) periods. Initial data consisted of 6067 firms whose company codes and Indian National Industrial Classification (NIC) codes were present in the Prowess database. From this set, all the financial firms were removed. Additionally, we excluded all the firms with missing data for calculating comparability measures, reporting quality measures, dependent variables, and control variables (Table 1 provides details of all variables used in our analysis). Next, we excluded firms that did not adopt Ind-AS on April 1, 2015. In order to maintain homogeneity, we also excluded all those firms that do not end their fiscal year on March 31. The calculation of comparability measures requires at least two firms within an industry; therefore, firms from a particular industry where they were the only company were also excluded. Our final sample comprised 411 firms. The sample selection process is illustrated in Table 2.

Table 3 reports the descriptive statistics of all the variables used to calculate comparability and reporting quality measures. Further, it also presents the descriptive statistics of the dependent variable, along with control variables used in regression estimation.

4. Research design

4.1. Comparability measures

Financial statement comparability is used to gauge the degree of similarity between the accounting consequences of two separate firms. We chose to use the definition of financial comparability suggested by De Franco et al. (2011), whereby two firms (e.g., i and j) are considered comparable only if they report similar accounting outcomes under similar economic sce-

Table 1
Variable definitions.

| Dependent Variables | |
|---|---|
| <i>Tobin's Q</i> | Proxy for firm's value. It is the ratio of the replacement cost of total assets of a firm to the book value of total assets. The replacement cost of a firm is the sum of market value of equity, preference shares, and total liability. |
| <i>Bid-ask Spread</i> | Bid-ask spread estimated using Roll (1984). |
| <i>Volatility</i> | The idiosyncratic return volatility (IRV) is estimated using the market model for each firm on daily stock returns (i.e., $Stock_Return_{it} = \alpha_i + \beta_i Market_Return_t + \epsilon_{it}$). The standard deviation of the residuals of the market model is our yearly measure of IRV. |
| Experimental Variables | |
| <i>COMP1</i> | First comparability measure (See Section 4.1) |
| <i>COMP2</i> | Second comparability measure (See Section 4.1) |
| <i>COMP3</i> | Third comparability measure (See Section 4.1) |
| <i>RQ1</i> | First reporting quality measure. It is the correlation between cash flow and accruals over a three-year period. (See Section 4.2) |
| <i>RQ2</i> | Second reporting quality measure. It is the ratio of standard deviation of earnings to the standard deviation of cash flow. (See Section 4.2) |
| Other variables | |
| <i>Earnings Return</i> | Earnings are net income after tax but before extraordinary items. Return is the stock returns calculated over the period from eight months prior to the fiscal year end to four months after the fiscal year end. |
| <i>ACC</i> | Accruals. Calculated using balance sheet items as follows: $\Delta Current_Assets - \Delta Current_Liabilities - \Delta Cash + \Delta Short_term_debt - Depreciation$. |
| <i>CF</i> | Cash Flow. It is the difference between the closing balance of cash and the opening balance of cash in the balance sheet. |
| <i>CFO</i> | Cash Flow from Operations. Taken from the cash flow statement. |
| <i>IFRS</i> | Binary variable equal to one for the post-adoption period (2016–2019), and zero otherwise |
| <i>D_{HCOMP-HRQ}</i> | Binary variable equal to one when the sample firm belongs to High Comp-High RQ group (See Section 4.4) |
| <i>D_{HCOMP-LRQ}</i> | Binary variable equal to one when the sample firm belongs to High Comp-Low RQ group (See Section 4.4) |
| <i>D_{LCOMP-HRQ}</i> | Binary variable equal to one when the sample firm belongs to Low Comp-High RQ group (See Section 4.4) |
| <i>D_{LCOMP-LRQ}</i> | Binary variable equal to one when the sample firm belongs to Low Comp-Low RQ group (See Section 4.4) |
| <i>Asset_Ratio</i> | Ratio of deviation of the asset value from the median value of assets of the industry peers to the entire range of the asset value pertaining to that industry. |
| <i>Leverage_Ratio</i> | Ratio of deviation of the leverage from the median value of leverage of the industry peers to the entire range of the leverage value pertaining to that industry. |
| <i>MTB_Ratio</i> | Ratio of deviation of the MTB (ratio of market value to book value of equity at fiscal year end) from the median value of MTB of the industry peers to the entire range of the MTB value pertaining to that industry. |
| <i>TA</i> | Total Assets. Net total assets appearing in the balance sheet at fiscal year end. |
| <i>ln(TA)</i> | Natural log of total assets (TA) |
| <i>Leverage</i> | Ratio of Long-term Debt to Total Assets at fiscal year end. |
| <i>TA_Growth</i> | Growth in Total Assets. Calculated as the percentage change in total assets from fiscal year t-1 to fiscal year t. |
| <i>MVE</i> | Market Value of Equity. Market capitalization of the firm at fiscal year end. |
| <i>ln(MVE)_{t-1}</i> | Lag of natural log of market value of equity (MVE). |
| <i>Return_Var</i> | Return variability. Measured as annual standard deviation of monthly stock returns. |
| <i>ln(Return_Var)_{t-1}</i> | Lag of natural log of return variability (Return_Var). |
| <i>Turnover_Ratio</i> | Turnover ratio. Ratio of annual trading volume (in Indian Rupee) and market value of common equity. |
| <i>ln(Turnover_Ratio)_{t-1}</i> | Lag of natural log of turnover ratio (Turnover_Ratio). |

Table 2
Sample selection process.

| Sample composition | |
|---|--------|
| Number of firms in the BSE and NSE superset from Prowess dx. | 6067 |
| Less: Financial firms | (1412) |
| Less: Firms with missing accounting and market data during the study period | (3448) |
| Less: Firms that do not adopt IFRS in financial year 2015–2016 | (791) |
| Less: Firms whose financial year does not end on 31st March | (3) |
| Less: Firms with zero industry peers | (2) |
| Number of firms in the final sample | 411 |

The study covers an eight-year period, from fiscal year 2011–2012 to 2018–2019.

narios. This output-based approach is considered more accurate in measuring accounting comparability (Gross & Perotti, 2017). Following Neel (2017), we use three similar output-based approaches to measure comparability.

The first measure of comparability, suggested by De Franco et al. (2011) (hereafter *COMP1*), involves an earnings–return linkage. The underlying intuition behind this relationship is that earnings are an accounting output, and any change in mar-

Table 3
Descriptive statistics for all accounting and market variables.

| Variable | N | Mean | SD | 25% | Median | 75% |
|----------------|------|-----------|-----------|----------|----------|-----------|
| Tobin's Q | 3288 | 1.99 | 1.85 | 0.86 | 1.29 | 2.33 |
| Bid-ask Spread | 3286 | 0.01 | 0.01 | 0.01 | 0.01 | 0.02 |
| Volatility | 3286 | 2.44 | 0.88 | 1.80 | 2.26 | 2.90 |
| Earnings | 3288 | 5645.60 | 17291.99 | 162.3 | 957.95 | 3145.38 |
| Return | 3288 | 0.20 | 0.66 | -0.22 | 0.04 | 0.40 |
| ACC | 3288 | -2539.66 | 15512.88 | -1614.17 | -134.35 | 728.20 |
| CF | 3288 | -60.34 | 3091.48 | -164.2 | 1.2 | 174.45 |
| CFO | 3288 | 8743.87 | 25541.19 | 307.67 | 1 594.4 | 5 104.07 |
| Asset_Ratio | 3288 | 0.07 | 0.18 | 0.00 | 0.01 | 0.03 |
| Leverage_Ratio | 3288 | 0.14 | 0.19 | 0.03 | 0.06 | 0.16 |
| MTB_Ratio | 3288 | 0.11 | 0.19 | 0.02 | 0.03 | 0.10 |
| TA | 3288 | 110235.24 | 287275.27 | 10808.35 | 26161.6 | 64228.32 |
| Leverage | 3288 | 0.10 | 0.12 | 0.00 | 0.06 | 0.17 |
| TA_Growth | 3288 | 0.10 | 0.16 | 0.01 | 0.08 | 0.17 |
| MVE | 3288 | 134490.85 | 340450.00 | 5785.77 | 23188.97 | 88,201.29 |
| Return_Var | 3286 | 0.12 | 0.06 | 0.08 | 0.11 | 0.15 |
| Turnover_Ratio | 3286 | 300.02 | 712.79 | 2.74 | 23.78 | 182.37 |

Notes: Please refer to Table 1 for definitions of the variables.

ket value reflects an investor's capital allocation decision. Therefore, market return amounts to an economic outcome. Further, we map the returns and earnings using a firm-level regression model [Eq. (1)] over four years of annual data for both pre-IFRS (2012–2015) and post-IFRS periods (2016–2019).

$$Earnings_{it} = \alpha_i + \beta_i Return_{it} + \epsilon_{it} \quad (1)$$

Here and throughout the paper, i refers to firm i and t refers to year t . The coefficients α_i and β_i indicate the impact of economic events on accounting outcomes for firm i . $Earnings$ in this equation represent earnings after taxes, but before extraordinary items that are scaled by the market value of equity eight months before the fiscal year end. The scaling ensures the compatibility of this relationship across different firms. $Return$ represents the holding period returns for the period starting eight months before the fiscal year and ending four months after the fiscal year end. We assume that the accounting data becomes available to investors four months after the fiscal year end. Therefore, the returns for our periods are not influenced by the accounting information that comes later.

To measure the similarity among firms, we predict the earnings of firm i , using the coefficients of other firms belonging to the industry peer group [from Eq. (1)]; this is further illustrated through Eqs. (2) and (3).

$$E(Earnings)_{iit} = \hat{\alpha}_i + \hat{\beta}_i Return_{it} \quad (2)$$

$$E(Earnings)_{ijt} = \hat{\alpha}_j + \hat{\beta}_j Return_{it} \quad (3)$$

where $E(Earnings)_{iit}$ is the estimated earnings of a firm i using firm i 's earnings function [Eq. (1)], and $E(Earnings)_{ijt}$ is the estimated earnings of firm i using firm j 's earnings function. Both Eqs. (2) and (3) are estimated separately for the same economic environment, i.e., return of firm i . Following this, we compute the accounting comparability between the two firms (i and j) for pre-IFRS and post-IFRS periods as follows:

$$COMP_{ij} = -\frac{1}{4} \sum_{t=3}^t |E(Earnings)_{iit} - E(Earnings)_{ijt}| \quad (4)$$

As seen from Eq. (4), the comparability between firm i and firm j is calculated by taking the negative value of the average absolute difference between the estimated earnings calculated using Eqs. (2) and (3). These equations are then applied such that each set of firms (i and j) belong to the same class of industry, as per their two-digit NIC code. Larger values (smaller negative values) indicate greater comparability. Finally, the first comparability measure (i.e., $COMP1$) for firm i is the median of $COMP_{ij}$ values calculated from Eq. (4) by combining all the other firms (j) in the industry classification of firm i .

The second measure of comparability (hereafter $COMP2$) considers accruals as a measure of accounting outcome and cash flows as a measure of economic outcome. Extant literature has documented the relationship between contemporaneous accruals and cash flow. Dechow (1994) had posited the "noise" reduction feature of accruals, particularly their role in mitigating momentary variation in cash flow. Ball and Shivakumar (2006) acknowledged the role of accruals in recognizing appropriate gain and loss in reported earnings. Similar to $COMP1$, we use accounting data for four years for both pre-IFRS and post-IFRS and estimate the following:

$$ACC_{it} = \alpha_i + \beta_i CF_{it} + \epsilon_{it} \quad (5)$$

where ACC_{it} and CF_{it} are accruals and cash flow of firm i for year t . Both these variables are scaled by the market value of equity eight months before the current fiscal year end. Further, accruals are calculated using items in the balance sheet

(Accruals = Δ Current Assets – Δ Current Liabilities – Depreciation + Δ Short term borrowings – Δ Cash). We estimate *COMP2* by using Eq. (5), following the procedure discussed for *COMP1*.

The third measure of comparability (*COMP3*) uses the earnings and next year's cash flow as the proxies for accounting effect and economic outcome, respectively. The subsequent year's cash flow represents the economic event because many equity valuation models use forecasted cash flow as an input for valuation exercise (Barth et al., 2012). It provides information to investors in their capital-allocation decisions. We estimate Eq. (6) using accounting data for the pre-IFRS and post-IFRS periods.

$$\text{Earnings}_{it} = \alpha_i + \beta_1 \text{CF}_{it+1} + \epsilon_{it} \quad (6)$$

COMP3 is calculated using Eq. (6) and the process mentioned for *COMP1*.

4.2. Reporting quality measures

Managers generally try to smooth out earnings, which in turn affects the RQ. We employ two RQ measures based on income smoothness. The first RQ measure (hereafter *RQ1*) is the correlation between accruals (*ACC*) and cash flow from operating activities (*CFO*). Both the variables are scaled using total assets at the beginning of the fiscal year. Neel (2017) previously documented the impact of IFRS adoption on this RQ measure. During periods of higher cash flows, firms tend to raise their level of accruals to create reserves, and during periods of low cash flows, they bring down their reserves. Thus, accruals and cash flows are generally negatively correlated. $\rho(\text{ACC}, \text{CFO})$ is a firm-level correlation, calculated using four years of annual data for both pre-IFRS (2012–2015) and post-IFRS (2016–2019) periods. The larger the value of the correlation, the higher the RQ.

The second measure of RQ (hereafter *RQ2*) is the ratio of the standard deviation of earnings to the standard deviation of cash flow from operations (*CFO*). *Earnings* used in this ratio are net income before extraordinary items. Both *Earnings* and *CFO* are scaled by the value of total assets at the beginning of the fiscal year. Perotti and Wagenhofer (2014) used this measure of income smoothness. In firms with compromised RQ, managers use accruals to smoothen out earnings, resulting in smaller variances in reported earnings. A higher value of *RQ2* is indicative of higher earnings quality.

4.3. Dependent variables

We calculate a firm's value using *Tobin's Q* (the ratio of the replacement cost of total assets of a firm to the book value of total assets, where the replacement cost of a firm's assets is the sum of the market value of equity, preference shares, and total liability). The effective bid-ask spread is used to calculate stock liquidity. Following Roll (1984), we calculate the bid-ask spread as follows: $2 \times [-1 \times \text{Covariance}(\text{Stock_Return}_t, \text{Stock_Return}_{t-1})]^{1/2}$; *Stock_Return* stands for daily stock returns. We ensure that there are at least 24 observations, and 20% of them are nonzero. This bid-ask spread measure needs a negative covariance. Thus, following Neel (2017), we force the covariance to be negative even when it is positive. Following Habib, Hasan, and Al-Hadi (2020), the idiosyncratic return volatility (*Volatility*) is estimated using the market model for each firm on daily stock returns (i.e., $\text{Stock_Return}_{it} = \alpha_i + \beta_1 \text{Market_Return}_t + \epsilon_{it}$). The standard deviation of the residuals of the market model is our yearly measure of *Volatility*.

4.4. Test design

Following Neel (2017), we classify firms on the change in comparability and RQ observed from the pre-IFRS period to the post-IFRS period. Firms with change in comparability above (below) the median of the sample firms are classified as High-Comp (Low-Comp) firms. The same classification criterion is followed for RQ. Following this classification scheme, all the firms are categorized into four groups (see Fig. 1).

Further, to test the impact on the economic outcomes of the two accounting constructs around the time of adopting Ind-AS, we estimate the following model:

$$\begin{aligned} \text{DepVar} = & \alpha + \beta_1 \text{IFRS} \times D_{\text{HCOMP-HRQ}} + \beta_2 \text{IFRS} \times D_{\text{HCOMP-LRQ}} + \beta_3 \text{IFRS} \times D_{\text{LCOMP-HRQ}} + \beta_4 \text{IFRS} \times D_{\text{LCOMP-LRQ}} \\ & + \beta_5 D_{\text{HCOMP-HRQ}} + \beta_6 D_{\text{HCOMP-LRQ}} + \beta_7 D_{\text{LCOMP-HRQ}} + \beta_8 \text{Controls}_{it} + \text{IndustryFE} + \epsilon_{it} \end{aligned} \quad (7)$$

$D_{\text{HCOMP-HRQ}}$, $D_{\text{HCOMP-LRQ}}$, $D_{\text{LCOMP-HRQ}}$, and $D_{\text{LCOMP-LRQ}}$ are dummy variables with a value of 1 when firms belong to the corresponding group, and 0 otherwise. For instance, $D_{\text{HCOMP-HRQ}}$ takes the value 1 for firms characterized by high comparability and high RQ (zero for all the other firms). The other dummy variables for comparability and RQ are defined on similar lines. The dummy variable *IFRS* assumes the value 1 for the period after mandatory adoption of Ind-AS (2016–2019), and zero otherwise. The focal variables of the study are the four interaction terms of Eq. (7): $\text{IFRS} \times D_{\text{HCOMP-HRQ}}$, $\text{IFRS} \times D_{\text{HCOMP-LRQ}}$, $\text{IFRS} \times D_{\text{LCOMP-HRQ}}$, and $\text{IFRS} \times D_{\text{LCOMP-LRQ}}$. These variables help us analyze the relative importance of comparability and RQ on the dependent variables (the economic outcomes of firm valuation, liquidity, and return volatility) following IFRS adoption.

Next, we include controls commensurate with the dependent variable in question. Following Neel (2017), when firm valuation is the dependent variable, we control for size (*TA*), leverage (*Leverage*), and growth opportunity (*TA_Growth*). With

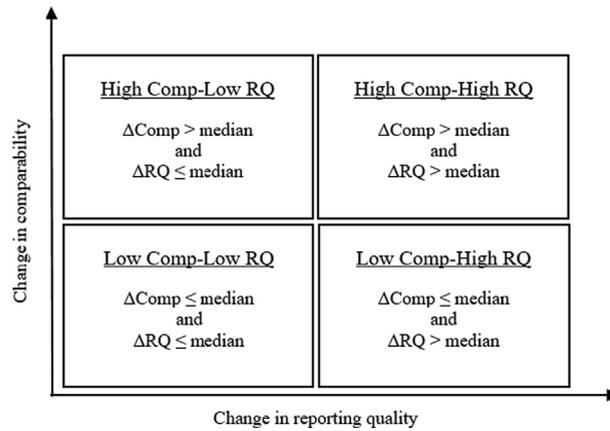


Fig. 1. Classification of firms into groups.

liquidity and return volatility, we use lagged value of market equity (*MVE*), return variability (*Return_Var*), and share turnover (*Turnover_Ratio*). We also assume that a firm’s accounting characteristics are largely influenced by its peers in the industry because they are exposed to a similar information environment, and hence, we use industry-adjusted values of *Asset_Ratio*, *MTB_Ratio*, and *Leverage_Ratio* as control variables. These ratios are explained in Table 1. Further, to remove the impact of extreme values, we winsorize all continuous variables at the bottom and top one percent. We also control for industry fixed effect (*IndustryFE*) in estimation. All test statistics are estimated using robust standard errors clustered at the industry level. Using this research design, we examine the relative role of financial RQ and comparability of economic outcomes around the Ind-AS adoption period. To validate the comparative roles of two variables, we follow Neel (2017) and perform a test of differences across coefficients.

5. Results

5.1. Estimation of comparability measures

Table 4 reports the descriptive statistics for regressions used in estimating the three comparability measures, *COMP1*, *COMP2*, and *COMP3*, that we calculate using Eqs. (1), (5), and (6). Further, we estimate each equation twice; first for the pre-IFRS adoption period, and then for the post-IFRS adoption period. Thus, Table 4 presents the results for the 822 estimations of each comparability measure. Notably, the median *beta coefficient* is 0.02 for *COMP1*, signaling a positive relation between earnings and return. Importantly, the results are consistent with the findings of Neel (2017), who reported the median *beta coefficient* equal to 0.03. Table 4 also reports that for *COMP2*, the median *beta coefficient* signals a -0.44 negative relationship between accruals and cash flow. These results are also in line with the results of Neel (2017), who reported the *beta coefficient* equal to -0.73. A similar relationship is also observed for *COMP3*.

5.2. Accounting constructs: Pre- and Post- adoption windows

Table 5 reports the median values of comparability and RQ measures for the pre-IFRS and post-IFRS periods. It also exhibits the change in these variables from pre-IFRS to post-IFRS periods. We perform the analysis on three groups: the entire

Table 4
Descriptive statistics of three comparability measure estimates.

| Comparability Measures | Variable | N | Mean | SD | 25% | Median | 75% |
|------------------------|---------------------------|-----|-------|-------|-------|--------|------|
| COMP1 | Intercept (α) | 822 | 0.02 | 0.53 | 0.02 | 0.04 | 0.08 |
| | β coefficient | 822 | 0.10 | 2.04 | -0.01 | 0.02 | 0.05 |
| | Regression R ² | 822 | 0.43 | 0.31 | 0.14 | 0.41 | 0.70 |
| COMP2 | Intercept (α) | 822 | -0.06 | 0.45 | -0.06 | -0.01 | 0.02 |
| | β coefficient | 822 | 0.45 | 37.85 | -2.34 | -0.44 | 1.92 |
| | Regression R ² | 822 | 0.39 | 0.32 | 0.09 | 0.33 | 0.67 |
| COMP3 | Intercept (α) | 822 | -0.01 | 0.68 | 0.02 | 0.05 | 0.08 |
| | β coefficient | 822 | -1.12 | 26.92 | -0.80 | -0.07 | 0.70 |
| | Regression R ² | 822 | 0.39 | 0.33 | 0.08 | 0.31 | 0.66 |

Notes: $Earnings_{it} = \alpha_i + \beta_i Return_{it} + \epsilon_{it}$ for COMP1, $ACC_{it} = \alpha_i + \beta_i CF_{it} + \epsilon_{it}$ for COMP2, and $Earnings_{it} = \alpha_i + \beta_i CF_{it+1} + \epsilon_{it}$ for COMP3. The regression estimation for each measure is performed at the firm level separately for the pre-adoption period (2012–2015) and post-adoption period (2016–2019).

Table 5
Comparability and reporting quality measures: Pre- and Post-IFRS adoption.

| Variable | Group | Firms | Pre-IFRS (a) | Post-IFRS (b) | Post-Pre (b)-(a) | Wilcoxon Signed Rank Test p-value of (b)-(a) = 0 |
|----------|-------------|-------|--------------|---------------|------------------|--|
| COMP1 | Full Sample | 411 | -0.066 | -0.033 | 0.033 | 0.000 |
| | Low | 206 | -0.048 | -0.034 | 0.014 | 0.000 |
| | High | 205 | -0.108 | -0.032 | 0.076 | 0.000 |
| COMP2 | Full Sample | 411 | -0.129 | -0.077 | 0.052 | 0.000 |
| | Low | 206 | -0.077 | -0.089 | -0.012 | 0.303 |
| | High | 205 | -0.233 | -0.069 | 0.164 | 0.000 |
| COMP3 | Full Sample | 411 | -0.068 | -0.041 | 0.028 | 0.000 |
| | Low | 206 | -0.049 | -0.042 | 0.006 | 0.002 |
| | High | 205 | -0.107 | -0.040 | 0.068 | 0.000 |
| RQ1 | Full Sample | 411 | -0.428 | -0.421 | 0.007 | 0.392 |
| | Low | 206 | -0.034 | -0.725 | -0.691 | 0.000 |
| | High | 205 | -0.737 | 0.026 | 0.763 | 0.000 |
| RQ2 | Full Sample | 411 | 0.582 | 0.504 | -0.078 | 0.177 |
| | Low | 206 | 0.830 | 0.329 | -0.501 | 0.000 |
| | High | 205 | 0.376 | 0.769 | 0.393 | 0.000 |

Notes: The table gives the median values of the three measures of comparability (*COMP1*, *COMP2*, and *COMP3*), and the two measures of RQ (*RQ1* and *RQ2*) across the pre-adoption period (2012–2015) and post-adoption period (2016–2019). The results are reported for three groups of the samples: full sample, lower than the median sample (Low), and higher than the median sample (High). Three measures of comparability and two measures of RQ are explained in Table 1.

sample, the high group, and the low group. These high and low groups are formed based on the changes in accounting constructs of comparability and RQ. For example, the High (Low) *COMP1* group consists of firms whose change in the first measure of comparability is above (below) the sample median. The comparability measures of different firms exhibit on average an increase after the adoption of IFRS. For *COMP1*, the entire sample of firms moves from median comparability of 6.6% to -3.3%. Similarly, for the second and third comparability measures, firms move from a median comparability of -12.9% to -7.7% and from -6.8% to -4.1% respectively. This improvement in comparability is statistically significant for all three measures, which is in line with Yip and Young (2012) and Neel (2017). This can be explained by the IFRS' capability to restrict managerial discretion by limiting the choices within the accounting standards (Christensen, Lee, Walker, & Zeng, 2015). Thus, we argue that consistency in the interpretation of higher quality accounting standards leads to improved comparability among similar firms. On the other hand, the average firm does not exhibit statistically significant improvement in RQ post-IFRS adoption. These results are in line with the findings of Daske et al. (2008, 2013). They suggest that improvements in the financial RQ may not occur by the mere adoption of IFRS, at least not in the initial period. Other researchers also report that the improvement is observed in countries with a strong legal environment and reporting incentives.

Panel A and B of Table 6 report the frequencies for the different classifications, namely High (Low) Comp and High (Low) RQ based on the median values of these measures. The High Comp-High RQ group contains the firms whose comparability

Table 6
Distribution of firms across comparability/reporting quality groups.

| Panel A: Frequencies for High (Low) Comp and High (Low) RQ1 | | | | | | |
|---|-----------|------------|-----------|------------|-----------|------------|
| | COMP1 | | COMP2 | | COMP3 | |
| | Frequency | Percentage | Frequency | Percentage | Frequency | Percentage |
| High Comp-High RQ1 | 107 | 26.0 | 109 | 26.5 | 105 | 25.5 |
| High Comp-Low RQ1 | 98 | 23.8 | 96 | 23.4 | 100 | 24.3 |
| Low Comp-High RQ1 | 98 | 23.8 | 96 | 23.4 | 100 | 24.3 |
| Low Comp-Low RQ1 | 108 | 26.3 | 110 | 26.8 | 106 | 25.8 |
| Panel B: Frequencies for High (Low) Comp and High (Low) RQ2 | | | | | | |
| | COMP1 | | COMP2 | | COMP3 | |
| | Frequency | Percentage | Frequency | Percentage | Frequency | Percentage |
| High Comp-High RQ2 | 88 | 21.4 | 102 | 24.8 | 100 | 24.3 |
| High Comp-Low RQ2 | 117 | 28.5 | 103 | 25.1 | 105 | 25.5 |
| Low Comp-High RQ2 | 117 | 28.5 | 103 | 25.1 | 105 | 25.5 |
| Low Comp-Low RQ2 | 89 | 21.7 | 103 | 25.1 | 101 | 24.6 |

Notes: The table lists the frequencies and percentage of firms falling under the four groups based on accounting comparability (COMP) and RQ measures. See Table 1 for variable definitions. High Comp-High RQ group contains the firms whose comparability changed more than the median change and whose RQ also changed more than the median change from pre-IFRS period to post-IFRS period. Similarly, Low Comp-Low RQ group contains the firms in which the change in the two attributes is below the sample median. Panel A reports the distribution of firms across three comparability measures (*COMP1*, *COMP2*, and *COMP3*) with *RQ1*, which is measured by $p(\text{ACC}, \text{CF})$. Panel B reports the distribution of firms across three comparability measures with *RQ2*.

and RQ changed more than the median change. Similarly, the Low Comp-Low RQ group contains the firms in which the change in the two accounting constructs is below the sample median. Panel A presents the frequencies for RQ1. The percentage of firms falling under *High Comp-High RQ1*, *High Comp-Low RQ1*, *Low Comp-High RQ1*, and *Low Comp-Low RQ1* are 26.0%, 23.8%, 23.8%, and 26.3%, respectively. The results for the other two comparability measures with RQ1 are reported similarly in Panel A, while Panel B reports the frequencies for the groups of comparability and RQ measures for RQ2. We note that there are 21.4%, 28.5%, 28.5%, and 21.7% firms, which fall under *High Comp-High RQ2*, *High Comp-Low RQ2*, *Low Comp-High RQ2*, and *Low Comp-Low RQ2* subgroups for COMP1, respectively.

5.3. Economic effects of IFRS adoption: Univariate tests

We explore the impact of new accounting standards conditional on change in comparability and RQ on three economic outcomes, independent of each other. Table 7 shows the results of these univariate tests. For this purpose, we calculate the change in the average value of a firm's economic outcomes, namely, Tobin's Q, liquidity, and return volatility, between the two periods (pre-IFRS and post-IFRS). We report the median values of change in economic outcomes for each subgroup (such as the High and Low groups for both accounting constructs). For each of the three comparability measures and two RQ measures, we measure the median change in each outcome variable High and Low subgroup and test the significance using the Wilcoxon Signed Rank test.

We find that the firms characterized by improvement in comparability do exhibit a significant impact on all three economic outcomes in the period following IFRS adoption. These results are consistent and significant ($p < 0.01$) for all three measures of comparability. However, as regards the RQ measures, the economic impact is not consistent or significant. The results are in line with the findings of Neel (2017), who found that large increases in comparability led to better economic outcomes following IFRS adoption. We argue that the enhancement in accounting comparability acts as a catalyst for the inflow of foreign funds. For instance, Chauhan and Kumar (2019) show that both foreign equity investments and the number of investors have grown with the improvement of accounting comparability in India. Secondly, improved accounting comparability aids the evaluation process performed by various investors to make efficient investment decisions. Investors use the information of comparable firms to better estimate the cash flow and underlying risks, which leads to favorable economic outcomes.

5.4. Economic effects of IFRS adoption: Multivariate tests

For examining the impact of RQ and comparability on firms' valuation, we estimate regression Eq. (7). The firms are divided into four groups, based on the level of change between pre- and post-IFRS adoption periods, under the two accounting constructs. Table 8 reports the results of regression with Tobin's Q as a proxy for firm valuation. We report the coefficients of regression and their *t*-statistics (in parenthesis). Observing the results for High-Comp adopters, we find that the coefficients of $IFRS \times D_{HCOMP-HRQ}$ and $IFRS \times D_{HCOMP-LRQ}$ are all positive and statistically significant. In a few cases, such as COMP1_RQ1 and COMP3_RQ1, the coefficients are as high as 0.420 and 0.455, respectively. We also note that the coefficients for Low-Comp adopters $IFRS \times D_{LCOMP-HRQ}$ and $IFRS \times D_{LCOMP-LRQ}$ are positive and statistically significant; however, the mag-

Table 7
Univariate tests of economic effects of IFRS adoption and changes in comparability and reporting quality.

| | "Low" Group | "High" Group | High-Low | Wilcoxon Signed Rank Test p-value for the difference |
|-------------------------|-------------|--------------|----------|---|
| Panel A: Tobin's Q | | | | |
| COMP1 | 0.1317 | 0.3438 | 0.2121 | 0.0001 |
| COMP2 | 0.1441 | 0.3150 | 0.1709 | 0.0001 |
| COMP3 | 0.1441 | 0.3406 | 0.1965 | 0.0003 |
| RQ1 | 0.2452 | 0.2231 | -0.0221 | 0.8333 |
| RQ2 | 0.2324 | 0.2356 | 0.0032 | 0.9712 |
| Panel B: Bid-ask Spread | | | | |
| COMP1 | 0.0001 | -0.0024 | -0.0025 | 0.0000 |
| COMP2 | -0.0002 | -0.0017 | -0.0015 | 0.0001 |
| COMP3 | 0.0001 | -0.0020 | -0.0022 | 0.0000 |
| RQ1 | -0.0014 | -0.0002 | 0.0012 | 0.0132 |
| RQ2 | -0.0013 | -0.0005 | 0.0007 | 0.0556 |
| Panel C: Volatility | | | | |
| COMP1 | 0.0068 | -0.2921 | -0.2988 | 0.0000 |
| COMP2 | -0.0064 | -0.2191 | -0.2127 | 0.0000 |
| COMP3 | -0.0336 | -0.2262 | -0.1926 | 0.0000 |
| RQ1 | -0.1480 | -0.0791 | 0.0689 | 0.1633 |
| RQ2 | -0.1250 | -0.1335 | -0.0084 | 0.8527 |

Notes: The table reports the changes in the median value of three outcome variables: Tobin's Q, Bid-ask Spread, and Volatility, between the pre-IFRS adoption (2012–2015) and post-IFRS adoption (2016–2019) periods. The difference is tested for statistical significance between the High and Low subgroups of all the three comparability measures (COMP1, COMP2, and COMP3) and the two RQ measures (RQ1 and RQ2).

Table 8
Effect of IFRS adoption on firm value - Multivariate tests.

| | RQ1 | | | RQ2 | | |
|-------------------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| | COMP1 | COMP2 | COMP3 | COMP1 | COMP2 | COMP3 |
| <i>IFRS X D_{HCOMP-HRQ}</i> | 0.216*** (4.18) | 0.236*** (3.59) | 0.146** (2.00) | 0.344*** (8.37) | 0.269*** (3.29) | 0.247*** (5.83) |
| <i>IFRS X D_{HCOMP-LRQ}</i> | 0.420** (2.45) | 0.359** (2.40) | 0.455*** (4.46) | 0.304** (1.98) | 0.334*** (2.64) | 0.363*** (2.63) |
| <i>IFRS X D_{LCOMP-HRQ}</i> | 0.196*** (3.14) | 0.164*** (2.69) | 0.246*** (4.54) | 0.22*** (3.11) | 0.271*** (2.67) | 0.280*** (4.53) |
| <i>IFRS X D_{LCOMP-LRQ}</i> | 0.184*** (2.90) | 0.234*** (3.24) | 0.123 (1.57) | 0.166** (2.37) | 0.148** (2.16) | 0.100* (1.68) |
| <i>D_{HCOMP-HRQ}</i> | -0.788*** (-6.99) | -0.714*** (-8.74) | -0.594*** (-5.20) | -0.682*** (-5.76) | -0.548*** (-6.61) | -0.384*** (-3.24) |
| <i>D_{HCOMP-LRQ}</i> | -0.690*** (-5.80) | -0.723*** (-5.72) | -0.359*** (-3.77) | -0.704*** (-4.72) | -0.548*** (-5.08) | -0.802*** (-7.57) |
| <i>D_{LCOMP-HRQ}</i> | -0.315* (-1.74) | -0.409*** (-3.20) | -0.225* (-1.79) | -0.157 (-1.18) | -0.012 (-0.14) | -0.417*** (-4.91) |
| <i>Asset_Ratio</i> | -1.150* (-1.93) | -1.190** (-2.21) | -1.276** (-2.21) | -1.097* (-1.85) | -1.145** (-2.18) | -1.250** (-2.23) |
| <i>Leverage_Ratio</i> | 1.488*** (3.29) | 1.482*** (3.09) | 1.448*** (2.94) | 1.454*** (3.41) | 1.400*** (3.10) | 1.441*** (3.10) |
| <i>MTB_Ratio</i> | 4.803*** (2.92) | 4.771*** (3.04) | 4.791*** (2.92) | 4.75*** (2.98) | 4.737*** (3.00) | 4.733*** (3.00) |
| <i>ln(TA)</i> | -0.029 (-1.24) | -0.015 (-0.52) | 0.002 (0.06) | -0.043* (-1.70) | -0.026 (-0.87) | -0.020 (-0.62) |
| <i>Leverage</i> | -4.205*** (-7.65) | -4.248*** (-6.29) | -4.382*** (-7.20) | -4.16*** (-7.94) | -4.193*** (-6.41) | -4.284*** (-7.31) |
| <i>TA_Growth</i> | 0.646*** (4.17) | 0.691*** (5.27) | 0.673*** (4.72) | 0.638*** (4.26) | 0.678*** (5.08) | 0.642*** (4.41) |
| Industry Fixed Effect | Yes | Yes | Yes | Yes | Yes | Yes |
| Adjusted R ² | 32.94 | 32.99 | 32.01 | 32.49 | 32.29 | 32.17 |
| Firm Years | 3288 | 3288 | 3288 | 3288 | 3288 | 3288 |

One-tailed Test for Differences across Coefficients (*p*-values):

| Increase versus Decrease in Financial Comparability | | | | | | |
|---|------|------|-------|------|------|-------|
| <i>IFRS X D_{HCOMP-HRQ} > IFRS X D_{LCOMP-HRQ}</i> | 0.39 | 0.20 | 0.14 | 0.08 | 0.49 | 0.31 |
| <i>IFRS X D_{HCOMP-LRQ} > IFRS X D_{LCOMP-LRQ}</i> | 0.12 | 0.23 | <0.01 | 0.22 | 0.01 | 0.01 |
| Increase versus Decrease in Financial Reporting Quality | | | | | | |
| <i>IFRS X D_{HCOMP-HRQ} > IFRS X D_{HCOMP-LRQ}</i> | 0.06 | 0.13 | <0.01 | 0.38 | 0.23 | 0.21 |
| <i>IFRS X D_{LCOMP-HRQ} > IFRS X D_{LCOMP-LRQ}</i> | 0.43 | 0.21 | 0.07 | 0.29 | 0.18 | <0.01 |
| Relative Effects | | | | | | |
| <i>IFRS X D_{HCOMP-LRQ} > IFRS X D_{LCOMP-HRQ}</i> | 0.09 | 0.08 | 0.03 | 0.31 | 0.37 | 0.28 |

Notes: The table presents the impact of IFRS adoption on firm value (measured using the *Tobin's Q*) in relation to the changes in comparability (*COMP1*, *COMP2*, and *COMP3*) and RQ (*RQ1* and *RQ2*). The six different columns depict the results of regression analysis with different measures of comparability and RQ. All variables appearing in the table are explained in Table 1. The dependent variable is *Tobin's Q*. *D_{HCOMP-HRQ}*, *D_{HCOMP-LRQ}*, *D_{LCOMP-HRQ}*, and *D_{LCOMP-LRQ}* are dummy variables whose value is 1 when the sample firm belongs to High Comp-High RQ, High Comp-Low RQ, Low Comp-High RQ, and Low Comp-Low RQ group, respectively. Other control variables are also used in the estimation. All continuous variables are winsorized by one percent at both ends to avoid the distortion due to outliers. The *t*-statistics values are reported in parenthesis and are estimated using cluster-robust standard error (Arellano, 1987). *, **, and *** report the significance of results at 10%, 5%, and 1%, respectively.

nitude of the coefficients is well below those of High-Comp adopters. To validate whether valuation improves greatly for firms that show greater improvements in comparability from IFRS adoption, we test the differences across the coefficients. These differences are not statistically significant (*p*-values: 0.39 and 0.12). Thus, irrespective of their RQ, we cannot confirm that High-Comp adopters display better firm valuation than Low-Comp adopters. A similar analysis for RQ finds that improvements in financial reporting does not explain the changes in firm valuation.

Table 9 reports the results of the regression of Eq. (7) where *Bid-ask Spread*, a measure of liquidity, is the dependent variable (lower values of *Bid-ask Spread* indicate higher levels of liquidity). We find that the coefficients of the interaction term *IFRS X D_{HCOMP-HRQ}* and *IFRS X D_{HCOMP-LRQ}* are negative, and the statistical significance is low in 4 out of 12 cases. On the other hand, for the Low-Comp adopters the coefficients for *IFRS X D_{LCOMP-HRQ}* and *IFRS X D_{LCOMP-LRQ}* are in most cases are positive and significant (9 out of 12). To validate the impact of change in comparability, we test the differences across coefficients. Keeping the high RQ adopters constant, we find that high comparability adopters exhibit better liquidity outcomes for *COMP1* and *RQ1* (*p*-value of *IFRS X D_{HCOMP-HRQ} < IFRS X D_{LCOMP-HRQ}*: <0.01). The results are significant across all measures of comparability and RQ. Similarly, in conjunction with lower RQ adopters, highly comparable firms indicate higher levels of liquidity. Further, to substantiate the results, we perform the test to compare the relative magnitudes of RQ and comparability (i.e., *IFRS X D*.

Table 9
Effect of IFRS adoption on liquidity - Multivariate tests.

| | RQ1 | | | RQ2 | | |
|------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| | COMP1 | COMP2 | COMP3 | COMP1 | COMP2 | COMP3 |
| IFRS X $D_{HCOMP-HRQ}$ | 0.000 (-1.00) | 0.000 (-0.79) | 0.000 (-1.05) | -0.001 (-0.94) | 0.000 (-0.42) | -0.001 (-1.09) |
| IFRS X $D_{HCOMP-LRQ}$ | -0.002*** (-8.38) | -0.001 (-1.36) | -0.002*** (-3.82) | -0.002*** (-5.52) | -0.001 (-1.25) | -0.002*** (-2.61) |
| IFRS X $D_{LCOMP-HRQ}$ | 0.002*** (4.14) | 0.002*** (3.25) | 0.002*** (3.27) | 0.002*** (2.70) | 0.002** (2.20) | 0.002*** (3.40) |
| IFRS X $D_{LCOMP-LRQ}$ | 0.001 (1.47) | 0.000 (-0.43) | 0.001*** (2.76) | 0.001*** (3.06) | 0.000 (0.23) | 0.001** (2.28) |
| $D_{HCOMP-HRQ}$ | 0.000 (0.47) | 0.000 (-1.08) | 0.001*** (2.83) | 0.001 (0.60) | 0.000 (-1.11) | 0.001*** (3.56) |
| $D_{HCOMP-LRQ}$ | 0.001 (1.49) | -0.001 (-1.46) | 0.002*** (3.62) | 0.001* (1.84) | 0.000 (0.48) | 0.002*** (4.34) |
| $D_{LCOMP-HRQ}$ | 0.000 (-0.77) | -0.001* (-1.66) | 0.000 (0.52) | 0.000 (0.66) | 0.000 (0.13) | 0.000 (1.25) |
| Asset_Ratio | 0.004*** (2.76) | 0.004*** (2.74) | 0.004*** (2.84) | 0.004*** (2.76) | 0.004*** (2.76) | 0.004*** (2.79) |
| Leverage_Ratio | 0.003** (2.53) | 0.003** (2.50) | 0.003** (2.10) | 0.003** (2.42) | 0.003** (2.33) | 0.003** (2.02) |
| MTB_Ratio | 0.001 (1.04) | 0.001 (1.02) | 0.001 (1.08) | 0.001 (1.10) | 0.001 (0.99) | 0.001 (1.11) |
| $\ln(MVE)_{t-1}$ | -0.002*** (-28.79) | -0.002*** (-39.00) | -0.002*** (-37.71) | -0.002*** (-26.63) | -0.002*** (-37.15) | -0.002*** (-35.52) |
| $\ln(Return_Var)_{t-1}$ | 0.003*** (11.39) | 0.003*** (10.82) | 0.003*** (9.97) | 0.003*** (12.24) | 0.003*** (11.66) | 0.003*** (10.28) |
| $\ln(Turnover_Ratio)_{t-1}$ | 0.000*** (-4.69) | 0.000*** (-4.33) | 0.000*** (-4.15) | 0.000*** (-4.67) | 0.000*** (-4.49) | 0.000*** (-3.90) |
| Industry Fixed Effect | Yes | Yes | Yes | Yes | Yes | Yes |
| Adjusted R ² | 21.27 | 21.16 | 21.27 | 21.18 | 21.13 | 21.24 |
| Firm Years | 3286 | 3286 | 3286 | 3286 | 3286 | 3286 |

One-tailed Test for Differences across Coefficients (*p*-values):

| Increase versus Decrease in Financial Comparability | | | | | | |
|---|-------|-------|-------|-------|-------|-------|
| IFRS X $D_{HCOMP-HRQ}$ < IFRS X $D_{LCOMP-HRQ}$ | <0.01 | <0.01 | <0.01 | 0.02 | 0.05 | <0.01 |
| IFRS X $D_{HCOMP-LRQ}$ < IFRS X $D_{LCOMP-LRQ}$ | <0.01 | 0.15 | <0.01 | <0.01 | 0.14 | <0.01 |
| Increase versus Decrease in Financial Reporting Quality | | | | | | |
| IFRS X $D_{HCOMP-HRQ}$ < IFRS X $D_{HCOMP-LRQ}$ | <0.01 | 0.19 | 0.02 | 0.11 | 0.27 | 0.14 |
| IFRS X $D_{LCOMP-HRQ}$ < IFRS X $D_{LCOMP-LRQ}$ | <0.01 | <0.01 | 0.05 | 0.12 | 0.04 | 0.10 |
| Relative Effects | | | | | | |
| IFRS X $D_{HCOMP-LRQ}$ < IFRS X $D_{LCOMP-HRQ}$ | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |

Notes: The table presents the impact of IFRS adoption on liquidity of a firm in relation to the changes in comparability (*COMP1*, *COMP2* and *COMP3*) and reporting quality (*RQ1* and *RQ2*). *Bid-ask Spread* measures liquidity and is the dependent variable. The six different columns depict the results of regression analysis with different measures of comparability and reporting quality. The sample consists of 411 firms spanning 2012–2019 (3286 firm years; two firm years were deducted from the sample because of missing market data for those years). All the variables appearing in the table are explained in Table 1. $D_{HCOMP-HRQ}$, $D_{HCOMP-LRQ}$, $D_{LCOMP-HRQ}$ and $D_{LCOMP-LRQ}$ are the dummy variables whose value is 1 when the sample firm belongs to High Comp-High RQ, High Comp-Low RQ, Low Comp-High RQ, Low Comp-Low RQ group respectively. Other control variables are also used in the estimation. All continuous variables are winsorized by one percent at both ends to avoid the distortion due to outliers. The *t*-statistics values are reported in parenthesis and are estimated using cluster-robust standard error (Arellano, 1987). *, **, *** report the significance of results at 10%, 5%, and 1%, respectively.

$D_{HCOMP-LRQ}$ < IFRS X $D_{LCOMP-HRQ}$). We find the comparability effect significant across all six cases. Thus, we infer that these improvements in terms of the level of liquidity result from changing levels of comparability. This is in line with previous research by Drake, Myers, and Yao (2010), where they found that liquidity among 5000 firms from 22 countries improved after mandatory adoption of IFRS. They also found evidence suggesting the improvement in liquidity was attributable to the increase in comparability caused by the IFRS. However, the same cannot be said about high RQ firms, irrespective of their comparability levels. Our results reinforce the findings of Neel (2017) that improvements in comparability better explain concurrent improvements in economic outcomes from IFRS adoption.

Table 10 reports the impact of changes in accounting comparability and RQ from IFRS adoption on a firm's return volatility. Prior literature points out that extreme variations in the prices cannot be caused by the fundamentals of the firms alone, but rather volatility increases with increased information asymmetry (Gassen & Sellhorn, 2006). Because the IFRS is adopted with a mission to reduce information asymmetry, we hypothesize that it would lead to a reduction in the stock price volatility. The results of the regression analysis suggest that the relationship of idiosyncratic return volatility of a firm with comparability is consistent across all measures of RQ and comparability. For instance, in the case of *COMP1* and *RQ1*, the

Table 10
Effect of IFRS adoption on firms idiosyncratic return volatility - Multivariate Tests.

| | RQ1 | | | RQ2 | | |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| | COMP1 | COMP2 | COMP3 | COMP1 | COMP2 | COMP3 |
| <i>IFRS X D_{HCOMP-HRQ}</i> | -0.060** (-2.14) | -0.021 (-0.52) | -0.012 (-0.26) | -0.134*** (-5.24) | -0.050** (-2.00) | -0.065*** (-2.92) |
| <i>IFRS X D_{HCOMP-LRQ}</i> | -0.145*** (-9.90) | -0.080*** (-2.92) | -0.098*** (-3.96) | -0.078** (-2.41) | -0.048 (-0.67) | -0.046 (-0.82) |
| <i>IFRS X D_{LCOMP-HRQ}</i> | 0.203*** (6.20) | 0.172*** (4.71) | 0.152*** (4.37) | 0.143*** (4.71) | 0.106*** (3.75) | 0.113*** (4.39) |
| <i>IFRS X D_{LCOMP-LRQ}</i> | 0.069** (2.46) | 0.015 (0.54) | 0.033 (1.17) | 0.117*** (3.81) | 0.070*** (2.78) | 0.065** (2.53) |
| <i>D_{HCOMP-HRQ}</i> | 0.090* (1.92) | -0.003 (-0.13) | 0.050 (1.33) | 0.221*** (3.82) | 0.092*** (3.34) | 0.149*** (4.00) |
| <i>D_{HCOMP-LRQ}</i> | 0.172*** (4.41) | 0.071** (1.96) | 0.103*** (3.38) | 0.156*** (3.56) | 0.052* (1.76) | 0.114** (2.42) |
| <i>D_{LCOMP-HRQ}</i> | -0.014 (-0.68) | -0.012 (-0.24) | -0.035 (-1.19) | 0.080** (2.52) | 0.064** (2.18) | 0.073** (2.16) |
| <i>Asset_Ratio</i> | 0.345** (2.37) | 0.35** (2.43) | 0.356** (2.48) | 0.336** (2.28) | 0.351** (2.47) | 0.354** (2.46) |
| <i>Leverage_Ratio</i> | 0.335*** (3.61) | 0.325*** (3.49) | 0.331*** (3.20) | 0.343*** (3.53) | 0.334*** (3.58) | 0.337*** (3.09) |
| <i>MTB_Ratio</i> | 0.069 (0.93) | 0.087 (1.19) | 0.094 (1.27) | 0.091 (1.16) | 0.096 (1.28) | 0.101 (1.33) |
| <i>ln(MVE)_{t-1}</i> | -0.213*** (-24.10) | -0.218*** (-31.37) | -0.216*** (-32.54) | -0.211*** (-23.61) | -0.217*** (-29.54) | -0.214*** (-30.68) |
| <i>ln(Return_Var)_{t-1}</i> | 0.344*** (10.35) | 0.345*** (10.59) | 0.342*** (9.76) | 0.344*** (10.51) | 0.346*** (10.97) | 0.341*** (9.66) |
| <i>ln(Turnover_Ratio)_{t-1}</i> | -0.025** (-1.98) | -0.025** (-1.98) | -0.024** (-2.10) | -0.027** (-2.27) | -0.025** (-2.19) | -0.025** (-2.36) |
| Industry Fixed Effect | Yes | Yes | Yes | Yes | Yes | Yes |
| Adjusted R ² | 29.45 | 29.22 | 29.10 | 29.45 | 29.14 | 29.17 |
| Firm Years | 3286 | 3286 | 3286 | 3286 | 3286 | 3286 |

One-tailed Test for Differences across Coefficients (*p*-values):

| Increase versus Decrease in Financial Comparability | | | | | | |
|---|-------|-------|-------|-------|-------|-------|
| <i>IFRS X D_{HCOMP-HRQ} < IFRS X D_{LCOMP-HRQ}</i> | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| <i>IFRS X D_{HCOMP-LRQ} < IFRS X D_{LCOMP-LRQ}</i> | <0.01 | 0.01 | <0.01 | <0.01 | 0.08 | 0.02 |
| Increase versus Decrease in Financial Reporting Quality | | | | | | |
| <i>IFRS X D_{HCOMP-HRQ} < IFRS X D_{HCOMP-LRQ}</i> | <0.01 | 0.03 | <0.01 | 0.11 | 0.49 | 0.36 |
| <i>IFRS X D_{LCOMP-HRQ} < IFRS X D_{LCOMP-LRQ}</i> | <0.01 | <0.01 | 0.02 | 0.30 | 0.20 | 0.11 |
| Relative Effects | | | | | | |
| <i>IFRS X D_{HCOMP-LRQ} < IFRS X D_{LCOMP-HRQ}</i> | <0.01 | <0.01 | <0.01 | <0.01 | 0.01 | 0.01 |

Notes: The table presents the impact of IFRS adoption on idiosyncratic return volatility (*Volatility*) of a firm, our dependent variable, in relation to the changes in comparability (*COMP1*, *COMP2* and *COMP3*) and reporting quality (*RQ1* and *RQ2*). The six different columns depict the results of regression analysis with different measures of comparability and reporting quality. The sample consists of 411 firms spanning 2012–2019 (3286 firm years; two firm years were deducted from the sample because of missing market data for those years). All the variables appearing in the table are explained in Table 1. *D_{HCOMP-HRQ}*, *D_{HCOMP-LRQ}*, *D_{LCOMP-HRQ}*, and *D_{LCOMP-LRQ}* are the dummy variables whose value is 1 when the sample firm belongs to High Comp-High RQ, High Comp-Low RQ, Low Comp-High RQ, and Low Comp-Low RQ group respectively. Other control variables are also used in the estimation. All continuous variables are winsorized by one percent at both ends to avoid the distortion due to outliers. The *t*-statistics values are reported in parenthesis and are estimated using cluster-robust standard error (Arellano, 1987). *, **, *** report the significance of results at 10%, 5%, and 1%, respectively.

coefficients for *IFRS X D_{LCOMP-HRQ}* (0.203; *p*-value < 0.01) and *IFRS X D_{LCOMP-LRQ}* (0.069; *p*-value < 0.05) are significantly positive. On the other hand, the coefficients for *IFRS X D_{HCOMP-HRQ}* and *IFRS X D_{HCOMP-LRQ}* are negative and statistically significant. This indicates an inverse relationship between changes in comparability and return volatility of firms, unconditional on change in RQ. On testing the difference across coefficients, we observe similar results as found in the case of liquidity. We confirm that firms that experience greater enhancement in comparability exhibit better volatility outcomes, irrespective of change in RQ. We observe the coefficients are positive for high RQ firms when grouped with the low comparability group of firms (*IFRS X D_{LCOMP-HRQ}*: 0.203), while coefficients are negative when grouped with firms characterized with high comparability (*IFRS X D_{HCOMP-HRQ}*: -0.060). Thus, the results do not point towards a clear and consistent relationship between return volatility and changes in RQ.

To summarize, our results show the relative importance of improvements in comparability over RQ in explaining the economic benefits of Ind-AS adoption. In other words, we find that firms that exhibit greater improvement in accounting comparability show an increase in valuation and liquidity, and a decrease in return volatility. The results are significant in the case of liquidity and return volatility. Our results provide external validity to the findings of Neel (2017).

6. Conclusion

This study investigates whether Ind-AS adoption in India leads to improvement in the financial RQ and comparability. Further, we analyze the comparative role of these accounting effects in explaining the variations in the economic outcomes of a firm's valuation, liquidity, and return volatility. We use accounting and market data for Indian firms for an eight-year period, equally divided between pre- and post-IFRS adoption. Our results show that adopting these new accounting standards does improve the level of comparability. However, the RQ does not appear to significantly improve. Notably, the extant literature supports this ambiguous relation between IFRS adoption and RQ.

Further, we find that Ind-AS adoption has positive economic effects on firms with greater improvement in comparability, compared to other firms. However, the results do not show similar economic effects for changes in RQ. We find that improvements in financial comparability results in positive economic outcomes from Ind-AS adoption, as it improves liquidity and reduces return volatility. These results are unconditional on changes in RQ. Though our findings concur with the cross-country study conducted by Neel (2017), researchers should be cautious about further generalizing these results as (1) the study was conducted in a specific institutional context, and (2) it does not disentangle the effects of Ind-AS adoption from institutional and legal factors. Nonetheless, this research provides empirical evidence of the accounting and economic effects of IFRS-convergent Ind-AS standards on Indian firms.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Appendix A. Supplementary material

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.intaccudtax.2021.100427>.

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