



# Article Cost–Benefit Analysis of International Financial Reporting Standard and Russian Accounting Standard Integration: What Does Comparability Cost?

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Abstract: In Russia, firms with consolidated financial statements must produce financial statements in both RAS (Russian accounting standards) and IFRS (international financial reporting standards). Unconsolidated SMEs are only required to use RAS. Using hand-collected data from 2010–2013 (preand post-IFRS adoption periods), we find income measures under RAS are converging to income measures under IFRS. The quality of earnings exhibits no change under IFRS, while RAS earnings are being managed upward for firms that have adopted IFRS and downward for firms that have not adopted IFRS. The relative variation in market and book values differs more widely under IFRS when compared to RAS, implying more volatility and risk under IFRS. We attribute our findings to a monitoring effect derived from IFRS.

**Keywords:** Russian public companies; Russian accounting standards; IFRS; taxation; convergence; emerging market



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# 1. Introduction

The importance of business legitimacy in an increasingly globalized world is an important issue. In emerging markets, where legal enforcement is weak, the legitimacy of organizations' transactions becomes highly relevant (Wieland and Fischer 2020). As Wieland and Fischer (2020) note, a clear distinction exists between business legitimacy and legality. Legitimacy is determined by ethical expectations, while legality refers to public regulation. Something may be legal but not legitimate. In this paper, we examine whether earnings reported under domestic GAAP (Russian accounting standards (RAS)) are converging to earnings reported under international financial reporting standards (IFRS). We bring together two streams of literature: IFRS vs. local GAAP comparability and the tax impact of IFRS adoption in one of the leading emerging markets—the Russian Federation.

Russia provides a unique setting because publicly traded Russian companies with consolidated financial statements have, since 2012, been required to produce two sets of financial statements—one using IFRS and another using domestic GAAP. In Russia, firms without consolidated financial statements, generally small and medium-sized enterprises (SMEs), are permitted to file using only RAS. Although only former Soviet Bloc countries allow for dual accounting regime reporting, our findings are generalizable to other emerging markets because academics, regulators, and institutions involved in the process for implementing IFRS in emerging markets can directly observe over a much longer period of time how accounting information in different types of firms adapts to the adoption of IFRS.

Comparability between RAS and IFRS improves accounting information quality because of higher disclosure quality. Turner et al. (2024) find an increase in the quality of accounting practices, a knowledge transfer, when developed countries (the US and Canada) have trade surpluses with a developing country (Mexico). They find that foreign investors demand comparability between the accounting regimes of all the countries involved. Ho et al. (2023) state:

[C]omparability can promote the transmission of information and assist investors and other stakeholders in analyzing, comparing, and predicting a company's financial status, operating performance, and prospects without needing to conduct research (emphasis added)... [C]omparability enables stakeholders to fully understand a company's status and to make practical decisions regarding optional projects, thereby increasing the usefulness of accounting information in decision-making and enabling the optimal allocation of resources. (p. 222)

The success of capital markets depends on the legitimacy of the financial information. This is especially true for emerging markets.

Adopting IFRS, however, is not without costs. We examine one aspect of these costs—higher income taxes because of higher reported-income measures. In Russia, income taxes are accrued based on RAS net income figures. IFRS net income is not used to compute tax expenses. IFRS are, instead, adopted for public reporting and financial purposes and to encourage foreign direct investment (Kim 2013). The Russian cultural environment accepts behaviors that exhibit elements of official corruption, self-dealing, limited transparency, and a "black market" (off-the-books transactions), which may be considered as being unethical and inappropriate in other countries (Preobragenskaya and McGee 2003; Chui et al. 2020; Black et al. 2000; Bagaeva 2009). The resulting concealment of profits serves to limit tax burdens (Preobragenskaya and McGee 2003). Sucher and Bychkova (2001) document that the concealment of profits is mostly unchecked because the fines associated with misstated RAS financial statements are very low. Diversity of accounting and legal systems, political and economic environments, and the flow of information impact the comparability of reported financial information (Joos and Lang 1994; Abdel-Khalik et al. 1999; Ball et al. 2000; El-Gazzar and El-Sadek 2001; Cascino and Gassen 2015). We add to the literature by examining the impacts of broad internationalization on domestic customs and practices and, more specifically, whether convergence takes place despite an increase in corporate income taxes.

This paper explores the dichotomy between those who view financial statements as providing statistical data for tax purposes and those who see financial statements as providing information to external users/investors/creditors. There is a gap in the literature in this area. Ilaboya et al. (2016) highlight that studies on tax planning and firm value in a developing country context are next to non-existent and note that tax planning and firm value exhibit a significant negative relationship. We find a similar gap in the tax literature for most developing countries, despite the fact that taxes are a large source of revenue for governments and can drastically affect profitability for companies. Although one would not expect the tax base to be the focus of investors' attention, llaboya et al. (2016) posit that the negative relationship between tax planning and firm value is because of shareholders not valuing tax planning; investors do, however, care about net earnings measures (such as earnings per share), which are affected by tax expenses. Statutory corporate income tax rates impact business activity, acting as an incentive or obstacle to business investment (Stamatopoulos et al. 2019). On the other hand, most foreign investors would gravitate toward the use of IAS accounting numbers vs. domestic GAAP because of the perceived legitimacy of IFRS. Thus, there is a tension between decreasing firm value through tax avoidance (via reduced RAS income) and increasing firm value via higher IFRS income.

We examine balance sheet items and income statement items and construct several ratios to test comparability both before and after the adoption of IFRS in Russia. We find convergence in only limited areas, primarily those dealing with the "bottom line". We find that measures of income (operating income, ordinary income, and net income), book value, and return on equity are significantly higher under IFRS when compared to RAS accounting measures. We generally do not find convergence for balance sheet items concerning assets and liabilities, only equity. We find that income and equity measures, measures that are

important to investors, are converging between RAS and IFRS while other accounting measures are not.

So which accounting regime is converging to the other, or are they both changing? We also examine how IFRS adoption has affected different types of firms. Some firms adopted IFRS early (before 2012), and other firms were mandatory adopters (after 2012). Still, other firms were never required to adopt IFRS (and have chosen not to). The data are unique because they are hand-collected for three types of Russian firms (voluntary adopters, mandatory adopters, and never-adopters). Legal enforcement is weaker for statements prepared using RAS when compared to legal enforcement for statements prepared using IFRS (Chui et al. 2020). We find no change in the earnings management for IFRS during the period under study. On the other hand, we find that there are statistically significant differences in the level of earnings under RAS when comparing 2011 to 2013. For firms required to use both RAS and IFRS, we find that earnings have been managed upward. For firms using only RAS, we find that earnings have been managed downward. We also find that the statistical differences in the level of earnings management, when comparing IFRS to RAS, have disappeared. This suggests that convergence has been achieved in terms of earnings quality. This also implies that RAS is converging to IFRS, not the other way around. These changes in discretionary accruals occur despite there being no major changes to accounting rules during this time period (2010–2013).

Next, we examine the relevance of the financial reporting in terms of the book versus the market values of shareholders' equity because investors rely on information incorporated in the book value of the equity (Kim 2013). Our results show that the gap between the book and market values narrows between IFRS and RAS, which provides evidence for increasing convergence between those two accounting regimes. The relative variations in the market and book values differ more widely under IFRS when compared to RAS, implying more volatility and risk under IFRS.

This is the first research, of which we are aware, to examine this question of comparability in the context of IFRS adoption in a large emerging market over an extended period (4 years), where audited financial statements are available in two accounting regimes. Callao et al. (2007) use quarterly reports; and Abedana et al. (2016) rely on restatements in a single tax year for 22 firms in Ghana, and Hung and Subramanyam (2007) use one year of restatements for 88 German firms. Our sample is able to make comparisons for a larger sample of audited financial statements, where comparisons of IFRS to RAS were available for 2-4 years. The data collection process involves the manual collection of data from financial statements in both IFRS and RAS, primarily in the native Russian tongue, for 358 firms. With these data, we are able to examine the effects of both mandatory and voluntary adoption of IFRS in an emerging market over an extended period (4 years), as well as the effect of IFRS adoption on domestic GAAP, using both firms that adopted IFRS and firms that never adopted IFRS. We separate our sample into three datasets. The first set includes 56 firms (224 IFRS and Russian firm years) that employ RAS and IFRS throughout the entire period (Vol.). The second group includes 99 firms (332 RAS firm years with 176 IFRS firm years) that employed IFRS after 2012 (Man.). The third group includes 203 firms that never used IFRS. In Russia, companies that do not have consolidated financial statements are not required to produce financial statements using IFRS. Following Callao et al. (2007), 14 balance sheet and income statement items along with 9 common financial ratios were collected. We hand-collected stock market information from the Moscow Stock Exchange.

The results of our study are important for several reasons. First, they provide information to standard setters about the costs and benefits of the adoption of IFRS as it relates to income tax costs, a seldom-researched topic. Our study contributes to the literature by providing evidence of different levels of convergence between local GAAP and IFRS by testing how IFRS adoption has exerted its effect on RAS. The different levels of convergence persist over time despite tax regulators having access to both sets of audited financial statements. Second, we add to the literature by finding that publicly traded firms choose to avoid large IFRS-to-domestic-GAAP differences, even when this choice leads to higher income tax expenses because of higher reported corporate income under RAS because of its convergence to higher income reported using IFRS. Third, using a unique set of hand-collected data, we directly evaluate the impact of IFRS on domestic GAAP by both adopters and non-adopters over extended pre- and post-adoption periods. We attribute our findings to a monitoring effect derived from IFRS in that publicly traded firms are constrained from reporting RAS numbers that differ significantly from IFRS numbers, even when this results in higher income taxes. Firms that do not produce IFRS financial statements are not converging to IFRS and, as a result, are managing their earnings downward to lower their income taxes. This should be of great concern to tax authorities in Russia, given that tax revenues comprise about 13% of the GDP (Russia is ranked 5th for top ten GDP countries in the percentage of tax revenues to GDP, https://taxfoundation.org/corporate-tax-rates-by-country-2021/, retrieved 29 December 2022).

The remainder of this paper is organized as follows. The Section 2 presents the prior literature and hypothesis development, including a look at key differences between IFRS and RAS. The Section 3 describes the sample and methods. This is followed by the results of our study on how differences between IFRS and RAS impact financial comparability, quality of earnings, and book-to-market values. The Section 5 presents our conclusions and suggestions for future research.

#### 2. Literature Review and Hypothesis Development

# 2.1. Adoption and Convergence—Effect on local GAAP

In response to increased economic globalization, there have been calls to develop a single set of acceptable high-quality financial reporting standards. The International Accounting Standards Board (IASB) has responded to that call with the development of IFRS. The IASB Chairman Hans Hoogervorst (2015) describes the IASB mission thusly:

Our mission is to develop standards that bring transparency, accountability, and efficiency to financial markets around the world. Our work serves the public interest by fostering trust, growth, and long-term financial stability in the global economy.

In Russia, the state has historically determined and regulated the financial reporting framework rather than allowing for its development by professional bodies (Deloitte IASPlus 2018). Russian accounting standards were, therefore, primarily created for taxation purposes rather than to provide information to managers, creditors, investors, and other interested parties (Alon 2013).

After the Russian privatization process of 1991, and the resulting creation of shareholders and reductions in state ownership, financial reporting needed to pivot from a state-run (central planning) economy to a market economy (Vysotskaya and Prokofieva 2013; Enthoven 1999; Berglof and Lehmann 2008; Golubeva 2023). To attract foreign investors and to satisfy their demands for IFRS financial statements, Russian federal law 208-FZ was passed (effective 27 July 2010), which states that accounting standards as promulgated by the IASB are endorsed for adoption in Russia (Golubeva 2023). Burgstahler et al. (2006) find that demands from investors provide incentives for higher-quality financial reporting. Any amended IFRS (including interpretations) will be examined by the National Accounting Standards Board (NSFO), designated by the Ministry of Finance, and based on the results of that examination, the ministry will issue decisions on endorsement.

Knowing where to invest internationally is challenging. Among the world's fastest growing emerging markets are the BRICs: Brazil, Russia, India, and China (https://brics2023.gov.za/, accessed on 6 February 2024). Indexes, such as *Economic Freedom*, provide measures concerning property rights, judicial effectiveness, government integrity, and tax burden, as well as measures of regulatory efficiency and open markets. BRIC countries rank in the mostly unfree range (59.9–50, the higher the ranking, the freer the market). Currently (2024), Russia is ranked as the highest in economic freedom among the BRIC countries (at 53.8), which is less free than the period under study. In the period under study (2010–2013), it was the lowest-ranked BRIC country (50.3–51.1) in terms of economic

freedom, followed by China (51–52), India (53.8–55.2), and Brazil (55.6–57.9) (https:// indexdotnet.azurewebsites.net/index/ranking, accessed on 6 February 2024). Studies have shown that in countries that adopt IFRS, firms have increased the value relevance of their financial statements—the value of the legitimacy (Barth et al. 2012). Prior studies have shown how conformity between IFRS and domestic GAAP has affected foreign direct investment (FDI). Conformity between IFRS and domestic GAAP precedes increases in foreign investment (Bradshaw et al. 2004). Dugan et al. (2018) find that foreign investors experienced increased information-processing costs associated with the increased difficulty to judge conformity between IFRS and the domestic GAAP with the elimination of the 20-F reconciliation requirement. Following that loss of information comparability, there was an associated overall decrease in the international asset allocation of US institutional investors in European Union (EU) American depository receipts (ADRs).

Several studies link political and law systems to FDI. La Porta et al. (2006) find that countries with highly concentrated political systems have less developed financial markets. Russia has a code law system heavily influenced by governmental priorities. Information produced by firms located in code law countries has lower value relevance (Ball et al. 2000; Joos and Lang 1994), and emerging markets are characterized by insufficient regulation, market inefficiencies, and the production of financial information that is less value relevant (Abdel-Khalik et al. 1999; El-Gazzar and El-Sadek 2001). La Porta et al. (1998) find that legal enforcement is lower in code law countries than in common law countries, and Bushman et al. (2011) find that firms in countries with a high probability of government interference are unwilling to show high profits and are more likely to expedite bad news. Li et al. (2014) use firm-level data from Brazil, India, China, and Russia to examine the reliability of financial information. Using a revenue-profit model, they find evidence suggesting greater earnings management by firms in Russia. They also find misreporting by Brazilian and Indian firms is not as severe as that of Chinese and Russian firms. They argue this is because of their common legacy of communism and the focus of financial reporting on tax collection. La Porta et al. (2006) find that countries with highly concentrated political systems are linked to less-developed financial markets, while Burgstahler et al. (2006) find that demands from investors provide incentives for higher-quality financial reporting. Soderstrom and Sun (2007) argue that factors such as legal and political systems and financial-reporting incentives can affect earnings quality. Turner et al. (2024) find that trade agreements, in particular, one that produced persistent trade surpluses for an emerging economy (Mexico), are associated with an increase in the quality of accounting practices for the emerging economy. They find the quality of earnings decreased under local GAAP but improved under IFRS. Garanina and Kim (2023) find corporate social responsibility is associated with accounting conservatism. State ownership has a negative moderating effect on the association. The adoption of IFRS offers international legitimacy to emerging economies, such as Russia, through higher-quality accounting information. This has the potential to increase market efficiency (Ho et al. 2023) and, in turn, foreign direct investment (FDI).

The adoption of IFRS was finalized in 2012<sup>1</sup> for publicly listed Russian firms that file consolidated financial statements. Since 2012, IFRS has been required for the consolidated financial statements of entities listed on stock exchanges. This requirement does not, however, remove the requirement that every legal entity registered in Russia prepare standalone RAS financial statements for each fiscal (calendar) year ending 31 December (Deloitte IASPlus 2018). Audits of annual RAS financial statements are mandatory for publicly listed companies, joint stock companies, banks and other financial institutions, and entities with annual revenue exceeding RUB 400 million (12.5 million USD). Russia, therefore, provides us with a unique situation where some traded companies have, since 2012, been required to file financial statements under both IFRS and RAS. No significant changes were made to Russian accounting standards during this period (Deloitte IASPlus 2018). It is also important to note that the corporate tax rate (based on net income) in the period from 2011 to 2013 in Russia was a steady 20% (Trading Economics 2021).

To judge where the differences in accounting numbers and ratios are being generated, we first examine the differences between RAS and IFRS. Deloitte IASPlus (2018) lists the following as significant differences between IFRS and RAS:

- Under RAS, PPE is not impaired, although revaluation to the current replacement cost is allowed. As a result, losses because of impairment will not be recognized under RAS, and NI will be overstated when compared to IFRS. See IAS 36;
- The fair value concept is not applied under RAS;
- The useful life of fixed assets is, under RAS, often in line with the useful life applied for tax purposes;
- Deferred taxes are calculated using the income statement method, although the methodology differs between RAS and IFRS;
- Revenues or expenditures are often recognized in accordance with tax rules. For instance, IAS 18 Revenue Recognition recognizes revenue when the earning process is complete, and benefits are realized or realizable. Under RAS, risk is not considered as it relates to transactions. Rather the key element of revenue recognition is the ownership of goods;
- Complex IFRS topics, such as hedging, pension plans, and joint arrangements, are not covered under RAS. Consolidation and business combination rules are not relevant under RAS because they apply only to standalone financial statements. It is unknown whether firms choose to apply relevant IFRS in these circumstances.

There are additional differences between RAS and IFRS in recognition, measurement, and presentation. Generally, we find income under RAS is lower than under IFRS. Tax authorities and investors have access to both sets of financial statements; however, tax authorities generally only utilize the RAS statements. Foreign investors, although relying primarily on IFRS financial statements, often dislike and decrease investment in international asset allocation, where there is a lack of comparability between domestic GAAP and IFRS (Dugan et al. 2018).

In research that is closely aligned with our current effort, Callao et al. (2007) look for significant differences between accounting numbers and ratios under IFRS and Spanish accounting standards over a six-month period surrounding IFRS adoption. They find that when IFRS was applied, domestic comparability declined, and there was no improvement in the value relevance of financial reporting. Our study adds to the research into these questions by examining comparability over a longer time period (four years as opposed to six months) and by examining audited annual reports rather than interim results (Callao compared pre-adoption quarterly reports to post-adoption annual reports). In addition, we are able to assess contemporaneous reports across standards.

According to the prior research, and the fact that Russia is a code law country with high government involvement and a domestic GAAP focused on tax compliance, we predict that domestic GAAP and IFRS will not be comparable in Russia. Differences in the reported values may, however, converge over time. Thus, we predict that pressures to compete for FDI will result in higher income measures and higher book-to-equity values despite an increase in income tax expenses, and the differences between RAS and IFRS financial information will converge. Our first hypothesis is as follows:

#### H1: Accounting variables between IFRS and RAS will converge after the adoption of IFRS.

### 2.2. Quality of Earnings

Many studies have examined earnings management using accruals (e.g., Jones 1991; Dechow et al. 1995; Kothari et al. 2005), and several have analyzed earnings management in conjunction with the adoption of IFRS (Barth et al. 2012; Jeanjean and Stolowy 2008). Van Tendeloo and Vanstraelen (2005) examine German firms adopting international accounting standards (IAS is the predecessor to IFRS) and find that IAS firms have an increase in discretionary accruals. Atwood et al. (2011) find that earnings are not more or less persistent, but losses are less persistent. On the other hand, Barth et al. (2008) compare earnings management for firms that voluntarily switched to IAS with firms that use domestic accounting standards and find greater value relevance for IAS earnings.

More recently, Pelucio-Grecco et al. (2014) examine whether changes in accounting practices brought a reduction in earnings management. They find that the most limiting effect is the regulatory environment. Using a sample of 67 private sector Indian companies, Rudra and Bhattacharjee (2012) find that with the adoption of IFRS, earnings management actually increases. They find that although accounting standards may control earnings management in some cases, that does not necessarily mean less earnings management. In contrast, Palacios Manzano et al. (2014) find that the adoption of IFRS in Mexico is associated with lower earnings management. Turner et al. (2024) find a spillover effect when trade agreements link a developing country (Mexico) with mature economies (US and Canada): Mexico not only experienced economic growth but also an increase in earnings quality. IFRS adoption brought a transfer of accounting knowledge with it. Turner et al. (2024) find the quality of earnings decreased under local GAAP but improved under IFRS.

According to Turner et al. (2024), we examine whether the quality of earnings changes under RAS and IFRS after mandatory IFRS adoption. We predict that earnings will be managed upward under RAS after the adoption of IFRS to eliminate large differences between the two accounting regime numbers despite an increase in taxable income. We expect that SMEs (never-IFRS) will continue to manage earnings downward to achieve lower taxes in the absence of this pressure. We do not expect any changes in discretionary accruals under IFRS. By comparing earnings qualities using RAS in public firms that file in both IFRS and RAS to firms that have never used IFRS, we also eliminate the possibility that these differences are simply mechanical in nature. Our second and third hypotheses are as follows:

**H2:** Given that earnings under RAS are lower than earnings under IFRS, voluntary and mandatory IFRS adopters will converge RAS earnings to IFRS earnings by managing RAS earnings upward.

H3: Firms that are not required to use IFRS will continue to manage RAS earnings downward.

# 2.3. Foreign Direct Investment—Information Incorporated into the Book Value and Market Value of the Equity

One of the goals for adopting international standards is to provide useful information to equity markets. The adoption of IFRS (and any convergence of domestic GAPP to IFRS) would, thus, suggest that the gap between a firm's book and market values of equity should narrow (Callao et al. 2007). Kim (2013) examines value relevance and RAS in the period 1995–2010 and suggests that "mandatory IFRS adoption in Russia that will be incorporated by 2015 is likely to result in improved information quality" (p. 525). Employing returns–earnings (Easton and Harris 1991) and price–earnings models (Burgstahler and Dichev 1997; Ohlson 1995), Kim (2013) finds evidence to suggest Russian firms that list on the London Stock Exchange (and report using IFRS) produce more value-relevant reports when compared to firms that report in RAS only.

In contrast, Garanina and Kormiltseva (2013) examine 67 public Russian firms over the period 2006–2010 and find no evidence of increased value relevance in the financial information after adopting IFRS. They examine the difference between the book and market values of companies and conclude that (1) the costs associated with IFRS disclosure are quite high relative to the benefits, and (2) disclosure is less desirable because it leads to a reduction in the firm's value. Our study is the follow-up to that study, post-IFRS adoption.

We first need to determine whether book-to-market values differ between domestic and international standards. Because traded firms may wish to minimize the differences between IFRS and RAS, we expect to find differences in the relative variance of book-tomarket values when comparing RAS for firms that have used IFRS to those that have never used IFRS. This is because we expect the never-IFRS firms to focus on reducing income taxes, while firms using both IFRS and RAS to focus on the comparability of their reported income numbers. If our conjectures are correct, then book-to-market values under domestic GAPP should converge to book-to-market values under IFRS for the latter group. To examine this issue, we test the following hypothesis:

**H4:** There are significant differences between the relative variation in book-to-market values under RAS and IFRS.

# 3. Data and Method

# 3.1. Data—Sample Construction

Russia officially adopted IFRS in 2012 for firms with consolidated financial statements and are listed on stock exchanges. All Russian firms are required to produce financial statements using RAS for tax purposes, allowing two accounting systems to coexist and to be used simultaneously (Alon 2013). IFRS is not required for SMEs (small or medium enterprises) or non-listed domestic companies. To ensure that confounding events do not affect our results, we limit the data collection to 2 years prior to the adoption of IFRS (2010–2011) and 2 years after (2012–2013). The data collection process involved the manual collection of data from financial statements, primarily in the native Russian language, from the Center of Financial Information (2016) at http://www.e-disclosure.ru/poisk-posoobshheniyam, accessed 1 January 2016. We divide our sample into the 3 sets described above, reflecting the extent of the IFRS adoption (Table 1). We examine the financial reports of Russian companies in 17 industries, every industry except banking and investing. Firms with missing data were removed from the sample. Overall, this produced data on 56 voluntary adopters (224 firm years in both RAS and IFRS), 99 mandatory adopters (332 RAS firm years with 176 firm years), and 203 SMEs (780 RAS firm years), for a total of 358 firms (1336 RAS firm years and 400 IFRS firm years). Stock prices were hand-collected from the Moscow Exchange (MOEX) accessed 1 November 2017. All the data are publicly available.

Table 1. Status of adoption of IFRS.

Dataset	Type of Firm	Extent of IFRS Adoption	Number of Firms in Sample	Number of RAS Firm Years	Number of IFRS Firm Years
Vol.	Publicly listed firms with consolidated financial statements	Voluntary adopters (used IFRS before 2012)	56	224	224
Man.	Publicly listed firms with consolidated financial statements	Mandatory adopters (did not use IFRS until after 2011)	99	332	176
Never	SMEs	Not required	203	780	0
Total Number			358	1336	400

3.2. Method

3.2.1. Differences in Accounting Numbers

Russia has a mixed transitional economy. A mixed economy is defined as "a market system of resource allocation, commerce, and trade in which free markets coexist with government intervention" (Young 2016) (International Monetary Fund, Government Finance Statistics Yearbook and data files, and World Bank and OECD GDP Estimates. https://data.worldbank.org/indicator/GC.TAX.TOTL.GD.ZS, retrieved 17 February 2024). A transitional economy is one that is making structural adjustments from a state-run (central planning) economy to a market economy (Golubeva 2023). During the period surrounding Russia's adoption of IFRS, Russia's rank, based on GDP, rose from #10 to #8. Of the countries in the top ten based on GDP, all the countries listed, with the exception of the United States, have adopted IFRS or are using domestic standards that are substantially converged to IFRS (n.d.) (e.g., China and India) (https://www.ifrs.org/use-around-the-world/useof-ifrs-standards-by-jurisdiction/, accessed on 6 February 2024). During the same period, Russia has maintained the lowest corporate income tax rate among these countries.

The Russian business environment accepts behaviors that may be considered as being unethical and inappropriate in other countries (Preobragenskaya and McGee 2003; Chui et al. 2020; Black et al. 2000), and tax burdens are often reduced by the concealment of profits (Preobragenskaya and McGee 2003). Furthering such behavior, the fines associated with misstated RAS financial statements are very low and do little to reduce the prevalence of the concealment of profits for tax purposes (Sucher and Bychkova 2001). There are drastically higher penalties for an incorrect IFRS audit opinion, and audit risks are lower for an RAS audit when compared to an IFRS audit. Audit firms see the RAS audit as being less risky and less profitable, and the RAS audit is often viewed simply as being a conduit to the more lucrative and rigorous IFRS audit (Chui et al. 2020).

These characteristics of Russia's economy (relatively low tax rates, a cultural environment that condones the concealment of income, low fines associated with misstated RAS financial statements and taxes, and the general poor quality of tax administration (Alm et al. 2009)) are important in assessing the cost of legitimacy (Table 2). Taxes are a substantial percentage of the Russian GDP, despite having a low corporate tax rate. Many studies have found that firms' values across countries are negatively related to effective tax rates. Given that IFRS produces higher income measures when compared to income measures reported under RAS and the constant income tax rate (coupled with no substantial changes to the Russian tax code during this period), Russian publicly listed firms are paying higher income taxes because of the adoption and convergence to IFRS when compared to Russian firms that never adopted IFRS.

Table 2. GDP and corporate tax rates for top ten GDP, current prices.

(Bray 2021; International Monetary Fund n.d.).

According to Callao et al. (2007), the information is analyzed on the basis of the following:

F<sub>iRASYear</sub> = the value of the variable F<sub>i</sub> under RAS annually (2010, 2011, 2012, and 2013);

F<sub>iIFRSYear</sub> = the value of the variable F<sub>i</sub> under IFRS annually (2010, 2011, 2012, and 2013);

where F represents the following accounting numbers and financial ratios. From the balance sheet, we include fixed assets, inventory, receivables, cash, current assets, total assets, equity,

Country		2010			2011			2012			2013	
	GDP (\$USB)	Corporate Tax Rate	Tax Revenue as Percentage of GDP	GDP (\$USB)	Corporate Tax Rate	Tax Revenue as Percentage of GDP	GDP (\$USB)	Corporate Tax Rate	Tax Revenue as Percentage of GDP	GDP (\$USB)	Corporate Tax Rate	Tax Revenue as Percentage of GDP
US	15,049	39.21	8.6	15,600	39.13	9.5	16,254	39.13	9.8	16,843	39.05	10.5
China	6034	25	10.2	7492	25	10.3	8540	25	10.3	9625	25	9.9
Japan	5759	39.54	n/a	6233	39.54	n/a	6272	39.54	n/a	5212	36.99	n/a
Germany	3402	30.18	11.2	3749	30.18	11.5	3529	30.18	11.6	3734	30.18	11.6
France	2647	34.43	22	2865	36.10	21.8	2685	36.10	22.5	2812	38.00	23.2
UK	2494	29	25.3	2676	26	25.8	2720	24	25.1	2805	23	25.1
Brazil	2209	34	14.2	2614	34	14.9	2464	34	14.3	2472	34	14.1
Italy	2138	31.4	23.7	2295	31.4	23.6	2088	31.29	24.9	2142	31.29	25.1
India	1708	33.99	10.4	1823	32.44	10.2	1828	32.45	10.8	1857	33.99	11
Russia	1633	20	13	2047	20	14	2191	20	13.8	2288	20	12.9
Russian Rank	10	10	5	9	10	5	8	10	5	8	10	5

long-term liabilities, short-term liabilities, total liabilities, and long-term resources. From the income statement, we include operating income, ordinary income, and net income. Also included are the following financial ratios: current ratio, acid test, cash ratio, solvency, indebtedness, return on assets per operating income, return on assets per ordinary income, return on equity per ordinary income, and return on equity per net income. Stamatopoulos et al. (2019), using a sample of Greek firms (2000–2014), find that financial leverage, firm size (in terms of the total assets), solvency/leverage, and inventories influence the corporate effective tax rate. Appendix A presents the definitions of these accounting numbers and financial ratios. In total, we examine 23 variables measured under two sets of accounting regimes over the 2010–2013 period.

#### 3.2.2. Differences in Earnings Management

We address earnings management by testing for the presence of significant differences in earnings management, as detected by discretionary accruals. We calculate discretionary accruals using RAS and IFRS separately. We then assess whether any differences that exist change over time. Size (measured as the natural log of the total assets) is a significant consideration in evaluating earnings management. Ali et al. (2015) find there is a positive and significant association between firm size and earnings management. We examine earnings management for three sets of Russian firms: voluntary adopters, mandatory adopters, and never-adopters (SMEs). Mandatory adopters and SMEs are quite a bit smaller when compared to voluntary adopters. This is expected, given that mandatory adopters have consolidated financial statements.

We expect that when firms use IFRS, they may manage earnings under RAS to save taxes while converging to IFRS. This trend should develop in the early years of the adoption of IFRS and decrease over time as firms use IFRS for a longer period. Minimizing the differences between IFRS and RAS by converging RAS to IFRS, with the resulting increase in income taxes because of higher income measures, is one of the costs of legitimacy. Firms that do not consolidate (never-IFRS firms), on the other hand, have no such incentive because there is no alternative information to impose a monitoring effect. Instead, these firms would likely manage earnings downward as much as possible to avoid taxation.

The information is analyzed on the basis of the following variables:

 $F_{iRASYear}$  = the value of the variable  $F_i$  under RAS annually (2011, 2012, and 2013);

F<sub>iIFRSYear</sub> = the value of the variable F<sub>i</sub> under IFRS annually (2011, 2012, and 2013);

where F represents the following figures and ratios (Jones 1991):

Total Accruals = 
$$(\Delta CA_t + \Delta CL_t + \Delta Cash_t + \Delta STD_t - Dep)/(TA_{t-1})$$
 (1)

where

 $\Delta CA$  = change in current assets;  $\Delta CL$  = change in current liabilities;  $\Delta Cash$  = change in cash and cash equivalents;  $\Delta STD$  = change in the debt included in current liabilities; Dep = depreciation and amortization expenses; TA = total assets.

Nondiscretionary Accruals<sub>t</sub> =  $\alpha_1 (1/TA_{t-1}) + \alpha_2 (\Delta Rev_t) + \alpha_3 (PPE_t)$  (2)

where

 $\Delta \text{Rev}_t$  = change in revenues from year t to year t - 1; PPE<sub>t</sub> = gross property, plant, and equipment in year t scaled by total assets at t - 1; TA<sub>t-1</sub> = total assets at t - 1;  $\alpha_1$ ,  $\alpha_2$ ,  $\alpha_3$  = firm-specific parameters. Estimates of the firm-specific parameters,  $\alpha_1$ ,  $\alpha_2$ , and  $\alpha_3$ , are generated using the following model for each year:

$$Total Accruals_t = a_1 (1/TA_{t-1}) + a_2 (\Delta Rev_t) + a_3 (PPE_t)$$
(3)

where  $a_1$ ,  $a_2$ , and  $a_3$  denote the OLS estimates of  $\alpha_1$ ,  $\alpha_2$ , and  $\alpha_3$ , and Total Accruals is the total accruals scaled by the lagged total assets.

Discretionary accruals (DAccs) are then estimated by subtracting the predicted level of non-discretionary accruals (NDAs) from the total accruals (standardized by the lagged total assets).

$$DAcc_{it} = Total Accruals_{it} - NDA_{it}$$
 (4)

We examine the change in the quality of the earnings (based on discretionary accruals) under the two sets of accounting regimes across the 2010–2013 period.

#### 3.2.3. Differences in Book-to-Market Ratios

Finally, we examine the impacts of the standards on the market relevance of Russian financial reporting. When firms disclose comparable information to investors (convergence of domestic standards and international standards), the gap between a firm's book and market values of shareholders' equity should narrow.

Again, as per Callao et al. (2007), we test the market values of Russian firms under IFRS and RAS to see whether the figures differ significantly. The variables are defined as follows:

$$BtM_{iRAS} = \frac{B_{iRAS}}{MV_i}$$
(5)

and

$$BtM_{iIFRS} = \frac{B_{iIFRS}}{MV_i}$$
(6)

where

 $\begin{array}{l} BtM_{iRAS} = book-to-market \ ratio \ per \ RAS;\\ BtM_{iIFRS} = book-to-market \ ratio \ per \ IFRS;\\ \underline{B_{iRAS}} = book \ value \ per \ RAS;\\ \underline{B_{iIFRS}} = book \ value \ per \ IFRS;\\ \overline{MV_i} = market \ value. \end{array}$ 

We then test whether the market values evolve over the period, in line with the evolution of book values per international standards, by measuring whether market values are closer to book values under IFRS or under RAS.

The variables are defined as follows:

$$VAR_{iMV} = \left| \frac{MV_{it} - MV_{it-1}}{MV_{it-1}} \right|$$
(7)

$$VAR_{iBRAS} = \left| \frac{B_{iRASt} - B_{iRASt-1}}{B_{iRASt-1}} \right|$$
(8)

$$VAR_{iBIFRS} = \left| \frac{B_{iIFRSst} - B_{iIFRSt-1}}{B_{iIFRSt-1}} \right|$$
(9)

# 4. Results and Discussion

#### 4.1. Impact of Adoption on Financial Comparability

The first objectives of our study are to test for the presence of significant differences in key accounting numbers and financial ratios calculated on the basis of RAS and IFRS and to examine whether RAS and IFRS accounting numbers and ratios converge (differences decreasing over time). It is significant to note that we are able to test for the presence of significant differences not only for firms that adopted IFRS (both early and mandatorily)

but also for firms that never adopted IFRS. This gives us a clearer and more complete picture of IFRS and RAS integration over the pre- and post-adoption periods. We can thus examine whether RAS is integrating with IFRS for all the firms or only for those firms that are required to employ IFRS.

To test for normality, we use the Shapiro–Wilk test and find that none of the accounting numbers or ratios are normally distributed. Given the results of the Shapiro–Wilk test, we perform non-parametric tests, specifically the Wilcoxon signed-rank (designed for matched or dependent samples) and Kruskal–Wallis tests (which also does not assume a normal distribution of the residuals), to assess the equality of the medians of our variables.

Table 3 presents descriptive statistics for the 56 firms that used RAS and IFRS simultaneously from 2010 to 2013 (voluntary adopters, Vol.). Panel A shows that the median accounting numbers under IFRS are generally greater than those under RAS, except for receivables (2010–2014) and operating income (2011 and 2012). In Panel B, the median current ratio, acid tests (2011 and 2013), solvency (2012–2013), and ROA (based on operating income) are, under RAS, generally greater than under IFRS, while the median cash ratio, indebtedness, ROA (based on ordinary income), ROE (based on ordinary income), and ROE (based on net income) are generally lower under RAS than under IFRS.

Next, we test to see if the differences are statistically significant using the Wilcoxon test, i.e., whether the two samples originate from the same distribution. The results of our tests of comparability (Wilcoxon) are presented in Table 4, Panels A and B. The differences between the current assets and equity are not significantly different across period 2010– 2013. We examine the balance sheet items more closely to see what is producing the statistical differences under the two different accounting regimes. All the items of the current assets measured by our study (inventories, receivables, and cash) provide strong evidence (p value < 0.01) that there are statistical differences between accounting numbers under IFRS vs. RAS when examined individually. But when aggregated, the differences between the current assets under IFRS and RAS are not statistically significant. We also find the differences between the total assets measured under IFRS and RAS are highly statistically significant. This implies that any statistical differences are being generated by the long-term assets. This is to be expected because the initial cost of assets under RAS is often lower when compared to the cost of assets under IFRS; impairment is not recognized under RAS, and goodwill is amortized under RAS (it is not under IFRS) (Deloitte IASPlus 2018). We also find that the total liabilities (short- as well as long-term liabilities) provide strong evidence that there are statistical differences between accounting numbers under IFRS vs. RAS across the period.

It is a different story when we examine the measures of the income: operating income, ordinary income, and net income. Operating income refers to income generated to keep the business running. Ordinary income includes income generated by financial items, such as investment income (capital gains/losses, dividends, and interest income), and is taxed at marginal rates. Net income includes not only ordinary income (the effect of taxes) but also the effect of extraordinary items. Across the period of this study, the differences between the operating incomes under RAS and IFRS are not statistically significant. However, the differences between the two income measures, which determine how much the company is taxed at marginal rates, ordinary and net income, are highly statistically significant before the national adoption of IFRS. The differences between ordinary and net incomes lose their statistical significance by 2013. This implies that unlike the balance sheet measures, RAS income measures are converging to IFRS income measures. It is interesting to note that income measures, which give investors information about net profit and margins (the "bottom line"), are converging RAS to IFRS.

ROA (OI)

ROA (OrdI)

ROE (OrdI)

ROE (NI)

0.123

0.089

0.187

0.141

0.129

0.070

0.116

0.099

0.122

0.088

0.190

0.146

0.145

0.078

0.134

0.106

		Panel A: A	Accounting N	Numbers (Me	edians)			
	20	)10	20	11	20	12	20	13
Variable	IFRS	RAS	IFRS	RAS	IFRS	RAS	IFRS	RAS
Fixed Assets	61.5	49.4	65.8	63.7	71.8	66.4	80.7	72.8
Inventories	5.01	2.06	5.75	2.31	6.48	2.85	6.74	3.95
Receivables	9.83	13.2	13.9	16.9	14.7	20.2	15.0	20.3
Cash	3.88	3.09	5.93	3.75	5.47	4.53	3.57	2.78
Current Assets	22.5	19.5	26.8	29.9	28.8	31.6	30.9	32.1
Total Assets	83.6	71.4	87.9	85.9	93.5	103	104	105
Equity	41.3	40.9	42.6	49.2	48.2	46.9	48.4	51.0
Long-term Liabilities	22.9	16.7	29.7	23.5	26.0	18.3	33.5	26.8
Short-term Liabilities	17.4	14.0	22.2	18.8	26.4	22.2	32.8	25.2
Total Liabilities	40.1	31.1	53.4	42.2	58.1	49.2	63.9	50.5
Long-term Resources	57.8	55.9	65.7	67.9	49.4	72.8	76.1	78.2
Operating Income	11.9	9.59	11.0	12.6	11.0	11.4	16.3	12.3
Ordinary Income	6.57	4.35	6.36	4.90	6.36	5.23	5.06	3.67
Net Income	4.93	3.46	6.08	3.76	5.20	3.73	3.64	2.56
		Panel I	3: Financial F	Ratios (Medi	ans)			
Variable	20	010	20	11	20	12	20	13
	IFRS	RAS	IFRS	RAS	IFRS	RAS	IFRS	RAS
Current Ratio	1.06	1.34	1.13	1.44	1.03	1.22	1.11	1.30
Acid Test	0.703	0.110	0.883	1.102	0.800	0.708	0.708	1.077
Cash Ratio	0.218	0.192	0.258	0.207	0.229	0.160	0.160	0.163
Solvency	2.09	2.33	2.03	2.24	2.13	2.33	1.87	2.19
Indebtedness	0.870	0.718	0.848	0.758	0.740	0.753	0.924	0.878

**Table 3.** Descriptive statistics (billions of rubles) for 56 firms that used RAS and IFRS simultaneously over the 4 years: 2010–2013 (voluntary adopters).

Income measures under IFRS are generally higher when compared to income measures under RAS. So, if managers are managing earnings under RAS upward to converge with earnings under IFRS, this results in higher income taxes. We attribute our findings to a monitoring effect derived from IFRS that constrains firms from reporting RAS income measures that differ significantly from IFRS measures, even if it results in higher income taxes. The value of the legitimacy from adopting international accounting standards outweighs the resulting income tax costs of the comparability.

0.121

0.078

0.135

0.105

0.121

0.049

0.103

0.077

0.108

0.057

0.132

0.089

0.112

0.028

0.088

0.064

		Pa	nel A: Account	ing Numbers				
Variable	20	10	20	11	20	12	20	13
	Statistic Z	Sig.	Statistic Z	Sig.	Statistic Z	Sig.	Statistic Z	Sig.
Fixed Assets	2.937	0.003 ***	2.374	0.018 **	2.170	0.030 **	1.917	0.055
Inventories	3.638	0.000 ***	3.108	0.002 ***	3.818	0.000 ***	3.502	0.001 *
Receivables	-3.540	0.000 ***	-4.911	0.000 ***	-3.760	0.000 ***	-2.659	0.008 '
Cash	5.110	0.000 ***	4.784	0.000 ***	5.249	0.000 ***	5.102	0.000 '
Current Assets	0.671	0.8440	1.224	0.221	1.273	0.203	0.168	0.862
Total Assets	3.249	0.001 ***	2.406	0.016 **	2.447	0.014 **	1.868	0.062
Equity	1.032	0.302	0.012	0.990	0.791	0.429	0.139	0.890
Long-term Liabilities	3.944	0.000 ***	3.822	0.000 ***	4.723	0.000 ***	3.393	0.001 '
Short-term Liabilities	2.765	0.006 ***	2.916	0.004 ***	3.092	0.002 ***	2.977	0.003 '
Total Liabilities	4.258	0.000 ***	3.924	0.000 ***	4.030	0.000 ***	3.964	0.000 *
Long-term Resources	2.174	0.030 **	1.399	0.162	1.737	0.082 *	0.824	0.410
Operating Income	-0.555	0.579	-0.424	0.671	-0.269	0.788	0.179	0.858
Ordinary Income	3.573	0.000 ***	3.304	0.001 ***	2.223	0.026 **	1.183	0.232
Net Income	3.083	0.002 ***	2.673	0.008 ***	1.705	0.088 *	0.432	0.666
			Panel B: Finan	cial Ratios				
Variable	20	10	20	11	20	12	2013	
	Statistic Z	Sig.	Statistic Z	Sig.	Statistic Z	Sig.	Statistic Z	Sig.
Current Ratio	-3.165	0.002 ***	-3.679	0.000 ***	-3.181	0.002 ***	-3.016	0.003
Acid Test	-4.136	0.000 ***	-4.038	0.000 ***	-4.103	0.000 ***	-4.127	0.000 *
Cash Ratio	1.468	0.142	2.202	0.028 **	2.439	0.015 **	2.651	0.008 *
Solvency	2.806	0.005 ***	-2.822	0.005 ***	-2.610	0.009 ***	-2.706	0.007
Indebtedness	1.207	0.227	0.848	0.396	-0.547	0.585	0.057	0.955
ROA (OI)	-1.273	0.203	-1.028	0.304	-0.530	0.596	-0.419	0.675
ROA (OrdI)	1.680	0.093 *	1.476	0.140	0.995	0.320	0.352	0.72
ROE (OrdI)	2.537	0.011 *	1.411	0.158	-1.020	0.308	0.620	0.535
ROE (NI)	2.137	0.033	1.131	0.258	-1.419	0.156	0.057	0.955

Table 4. Test of con	parability (Wilco	oxon test) IFRS vs	. RAS (56 firms).
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\*, \*\*, and \*\*\* indicate significance at the 0.10, 0.05, and 0.01 levels, respectively.

Next, we examine the differences between IFRS and RAS using financial ratios. Ratios help investors to determine financial viability. Investors want assurances that companies are not misrepresenting their financial performance, and foreign investors are generally more familiar with IFRS than RAS. It is important for increasing foreign direct investment that investors are able to compare a company's financial statements with other companies in the same industry in another country. The ratios dependent on income measures (ROA\_OI, ROA\_Ord, ROE\_Ord, and ROE\_NI) become less significantly different (*p*-values are becoming higher) across the population as time passes, especially in 2013. In fact, there is a larger annual change in *p*-values after IFRS is nationally adopted (2012 and 2013) when compared to the annual changes in *p*-values before the national adoption of IFRS, in spite of there being no major accounting rule changes for RAS during this period. The percentage change (measured as p-value<sub>2013</sub> – p-value<sub>2010</sub> divided by p-value<sub>2010</sub>) is considerably larger (from 680% to 233%) when comparing ROA\_OI to ROA\_Ord as time passes. This implies that income measures that more closely coordinate with the marginal income tax rate are converging at a greater rate than those that do not. Ratios that depend on equity as well as income measures adjusted for income taxes (ROE\_Ord and ROE\_NI) converge at even greater rates (7464% and 2794%, respectively). Once again, the data suggest a

Indebtedness

ROA (OI)

ROA (OrdI)

ROE (OrdI)

ROE (NI)

monitoring effect derived from IFRS that constrains firms from reporting RAS income measures that differ significantly from IFRS income measures.

Of the other ratios, indebtedness (total liabilities to equity) is the only ratio that is not significantly different under IFRS and RAS across the period under study (the cash ratio is not statistically different in 2010). Investors rely on measures involving debt because if a company goes out of business, debt holders are paid first before equity holders. Debt also eats up cash and can hinder a company's ability to meet daily expenses (like payroll) as well as hinder a company's ability to handle surges in orders or emergency expenses (equipment replacement). The monitoring effect of the adoption of IFRS seems to primarily affect ratios involving income.

The descriptive statistics are contained in Tables 5 and 6.

		Panel A: A	Accounting N	Numbers (Me	edians)			
Variable	20	10	20	)11	20	12	20	13
	IFRS	RAS	IFRS	RAS	IFRS	RAS	IFRS	RAS
Fixed Assets		3.131		3.298	3.816	2.598	1.192	2.796
Inventories		0.795		0.924	1.070	0.701	0.136	0.469
Receivables		1.964		2.505	1.692	2.211	0.311	2.129
Cash		0.104		0.098	0.221	0.074	0.302	0.074
Current Assets		3.721		4.407	4.298	3.569	1.035	2.865
Total Assets		8.269		9.328	11.496	6.411	2.464	6.143
Equity		2.131		2.517	2.447	2.209	0.149	2.350
Long-term Liabilities		0.671		0.745	1.417	0.864	0.184	0.752
Short-term Liabilities		2.335		3.266	3.177	2.444	0.862	2.268
Total Liabilities		3.959		4.226	5.898	4.139	1.409	3.171
Long-term Resources		4.225		4.586	4.991	4.311	0.886	3.770
Operating Income		1.382		1.489	1.110	1.316	1.354	0.958
Ordinary Income		0.365		0.307	0.316	0.194	0.266	0.165
Net Income		0.270		0.230	0.273	0.166	0.228	0.148
		Panel H	3: Financial I	Ratios (Medi	ans)			
Variable	20	10	20	)11	20	12	20	13
	IFRS	RAS	IFRS	RAS	IFRS	RAS	IFRS	RAS
Current Ratio		1.342		1.250	0.975	1.225	0.696	1.238
Acid Test		0.998		0.954	0.646	0.909	0.328	0.992
Cash Ratio		0.041		0.041	0.80	0.039	0.016	0.030
Solvency		1.698		1.721	1.639	1.514	1.103	1.568

1.126

0.138

0.059

0.145

0.111

0.779

0.111

0.039

0.099

0.076

1.235

0.144

0.042

0.104

0.091

0.237

0.045

0.016

0.023

0.012

1.388

0.132

0.031

0.080

0.066

1.500

0.161

0.060

0.139

0.012

**Table 5.** Descriptive statistics (billions of rubles) for mandatory adopters (99 firms) that used RAS(332 firm years) and IFRS (176 firm years) over the 4 years: 2010–2013.

Pane	<b>1 A: Accounting</b>	Numbers (Medi	ans)	
Variable	2010	2011	2012	2013
	RAS	RAS	RAS	RAS
Fixed Assets	0.162	0.179	0.163	0.214
Inventories	0.023	0.023	0.017	0.019
Receivables	0.098	0.094	0.094	0.955
Cash	0.0044	0.0067	0.0048	0.0050
Current Assets	0.170	0.228	0.174	0.190
Total Assets	0.492	0.478	0.451	0.424
Equity	0.127	0.148	0.123	0.135
Long-term Liabilities	0.0070	0.0088	0.0074	0.0115
Short-term Liabilities	0.183	0.169	0.153	0.153
Total Liabilities	0.212	0.260	0.209	0.261
Long-term Resources	0.212	0.193	0.221	0.255
Operating Income	0.058	0.063	0.065	0.055
Ordinary Income	0.030	0.028	0.024	0.024
Net Income	0.022	0.018	0.019	0.017
Pa	nnel B: Financial	Ratios (Medians	s)	
Variable	2010	2011	2012	2013
	RAS	RAS	RAS	RAS
Current Ratio	1.236	1.229	1.369	1.360
Acid Test	0.949	0.885	0.934	0.982
Cash Ratio	0.049	0.049	0.044	0.046
Solvency	2.054	1.938	1.922	1.788
Indebtedness	0.414	0.622	0.706	0.809
ROA (OI)	0.160	0.161	0.158	0.145
ROA (OrdI)	0.072	0.064	0.053	0.055
ROE (OrdI)	0.132	0.129	0.119	0.130
ROE (NI)	0.097	0.091	0.093	0.095

**Table 6.** Descriptive statistics (billions of rubles) for 203 firms (780 firm years) that used RAS only over the 4 years: 2010–2013.

For our sample of voluntary adopters, the total assets increased from 71.4 billion rubles to 105 billion rubles. The total assets for the mandatory adopters increased before IFRS adoption, dropped in 2012, and increased once again in 2013 (but still lower than they were in 2010). They amounted to 2.5% and 6.1% of the amount of the total assets for the voluntary sample. SMEs are even smaller. SMEs saw decreasing total assets, becoming much smaller after the adoption of IFRS. They amount to 0.69% in 2010 and decrease to 0.40% in 2013.

Next, we look at a measurement of liquidity, the cash ratio. This ratio measures a company's ability to pay all the current liabilities. If a company's ratio is less than 1 (the point at which the company has exactly the same amount of current liabilities as it does cash and cash equivalents), it means a firm may have insufficient cash on hand to pay off short-term liabilities or handle positive emergency events (surges in orders) or negative emergency events (breakdowns in equipment). According to the medians, all the firms in our sample suffer from a low cash ratio (the highest median cash ratio is 0.207 for the

voluntary adopters in 2011). The cash ratios for the voluntary adopters, vary from 16.3% to 20.7%, which are much higher than the cash ratios for the mandatory adopters and SMEs. The cash ratios for the mandatory adopters and SMEs are similar, hovering around 4%. This may not be bad if the Russian firms skew toward long-term credit terms with suppliers, very little credit extended to customers, and efficiently managed inventories (Kenton 2022).

According to the medians, voluntary adopters have a safer level of risk based on their reliance on debt when compared to mandatory adopters but a higher level of risk when compared to MSEs. According to the medians, however, all the classes of adopters are not considered as being risky (generally, values of 2 or higher are considered as being risky), but voluntary adopters and SMEs demonstrate rising levels of risk based on indebtedness. Contrary to this, mandatory adopters saw a decrease in risk over the period (there was a rise in 2013 when compared to 2012, but indebtedness is lower than indebtedness in 2010). This, coupled with low cash ratios, also helps to explain that Russian firms possibly tend to skew toward long-term credit terms with suppliers, very little credit extended to customers, and efficiently managed inventories.

Next, we compare ROA\_Ord values, which capture how efficiently a company converts invested capital (including any capital borrowed to run operations) into ordinary income. Once again, we use RAS numbers to compare voluntary and mandatory adopters and SME samples. Using RAS, ROA\_Ord is 0.070 (0.078, 0.049, and 0.028) for 2010 (2011, 2012, and 2013), respectively. ROA\_Ord is lower after the adoption of IFRS. For mandatory adopters and never-IFRS, we see slightly lower returns but a similar pattern (0.060, 0.059, 0.042, and 0.031 for mandatory adopters and 0.072, 0.064, 0.053, and 0.055 for never-IFRS). An ROA of over 5% is generally considered as being good, so the Russian firms, for the most part, are efficient, making adequate returns on assets.

#### 4.2. Impact of Adoption on Earnings Management

Discretionary accruals are a measure of earnings management (Jones 1991). As the magnitude of discretionary accruals decreases, the quality of earnings increases. The question then becomes: is this because of changes in the earnings quality under IFRS or RAS? The next important question is: are earnings being managed for different classes of firms depending on their use of IFRS? If RAS earnings are being managed differently for firms that also use IFRS when compared to firms that only use RAS, this would indicate that the earnings under RAS are perhaps being used to signal quality for those firms using IFRS. This adds to our knowledge of the costs and benefits of IFRS and RAS integration and what Russian managers are willing to spend on the legitimacy that IFRS brings. We have shown that earnings under IFRS are higher and that if RAS is converging to this higher earnings measure, a part of the cost of the legitimacy is higher corporate income taxes. We find that this is, in fact, happening: in Russia, firms are not managing earnings when using IFRS. The same is not true when Russian firms use RAS. For firms that are using both RAS and IFRS, RAS earnings are being managed upward to close the gap between earnings under IFRS and RAS, while firms that are not using IFRS manage their earnings downward to minimize income taxes.

Table 7 presents our tests of the comparability of discretionary accruals for firms using IFRS and RAS simultaneously. Panel A shows that only in 2011 is there strong evidence of differences in discretionary accruals when firms use RAS versus IFRS. When IFRS is adopted, any differences between earnings quality under IFRS and RAS have disappeared. Is this, however, because of changes in the earnings quality under IFRS or RAS?

Panel A: RAS Compared to IFRS (Wilcoxon)								
	2011	2012	2013					
Difference	0.259 ***	0.032	0.013					
Z Statistic	3.067	1.305	0.276					
Panel B: IFRS (W	ilcoxon) Firms That Have	Always Used IFRS thro	oughout the Period					
	2011 vs. 2012	2012 vs. 2013	2011 vs. 2013					
Difference	0.027	-0.041	-0.014					
Z Statistic	1.517	-1.175	-0.212					
Panel C: RAS (W	ilcoxon) Firms That Have	Always Used IFRS thro	oughout the Period					
	2011 vs. 2012	2012 vs. 2013	2011 vs. 2013					
Difference	0.253 ***	-0.021	0.232 ***					
Z Statistic	2.977	-0.260	4.952					

**Table 7.** Comparability of discretionary accruals for firms using IFRS and RAS simultaneously (56 firms).

\*, \*\*, and \*\*\* indicate significance at the 0.10, 0.05, and 0.01 levels, respectively.

There is not enough evidence to suggest a difference in earnings management under IFRS (Panel B). The results are different when we compare earnings management under RAS from 2011 to 2013 (Panel C). Although there is not enough evidence to suggest a difference in earnings management when comparing 2012 and 2013 (post-finalization period), there are statistically significant differences in the levels of earnings management when comparing 2011 to 2012 and 2011 to 2012 and 2011 to 2013 (the differences are significant at the 0.01 level.). This evidence suggests that the convergence of the quality of the earnings since the adoption of IFRS is because of changes in the earnings management under RAS.

Next, we expand the sample to include firms that used RAS and IFRS after 2011 (mandatory adopters) and firms that never used IFRS (SMEs). The results of these tests are presented in Table 8. We combine the sample of 56 firms that used both IFRS and RAS with the 199 mandatory adopters. We calculate the DAcc RAS and DAcc IFRS (discretionary accruals) for the combined set of 255 firms. We also calculate the annual DAcc for the 203 firms that never used IFRS. This gives us a total of 402 firms. The medians are presented in Table 8, Panel A.

In Table 8, Panel B, we present the tests of whether there is any significant change in annual discretionary accruals when using IFRS over time. Comparing consecutive years (from 2011 to 2012 or from 2012 to 2013), the data indicate moderate or weak evidence that the amount of discretionary accruals has changed over time. We do find, however, that when comparing 2011 to 2013, the quality of earnings has not changed. This implies from little to no change in the quality of the earnings when using IFRS after the adoption of IFRS.

When using RAS (Panel C), the data suggest that the level of discretionary accruals did not change the first year after IFRS adoption but did in 2013. The change is positive, meaning the quality of earnings under RAS decreased and that earnings are being managed upward under RAS after the adoption of IFRS. Again, this translates into a higher level of income taxes.

Next, we check to see if the quality of the earnings when using RAS has changed for SMEs that never adopted IFRS (Panel D). As expected, earnings are being managed downward at a higher rate (the magnitude is increasing). These firms are managing earnings downward to avoid taxation.

	Panel A:	Medians	
Variable	2011	2012	2013
DAcc IFRS	-0.0454	0.0114	-0.0368
DAcc RAS	-0.0261	-0.0299	0.0137
DAcc Never-IFRS	0.0463	-0.0051	-0.1771
Panel B	: IFRS (Wilcoxon) Volu	ntary and Mandatory Ac	lopters
	2011 vs. 2012	2012 vs. 2013	2011 vs. 2013
Difference	0.0568 *	-0.0482 **	0.0086
Z Statistic	1.864	-2.229	0.440
Panel C	C: RAS (Wilcoxon) Volu	ntary and Mandatory Ad	lopters
	2011 vs. 2012	2012 vs. 2013	2011 vs. 2013
Difference	-0.0038	0.0436 ***	0.0398 ***
Z Statistic	-0.004	2.784	4.540
	Panel D: Never-	IFRS (Wilcoxon)	
	2011 vs. 2012	2012 vs. 2013	2011 vs. 2013
Difference	-0.0514	-0.1720 ***	-0.2234 ***
Z Statistic	-1.503	-7.384	-8.481

Table 8. Comparability of discretionary accruals for voluntary, mandatory, and never-IFRS adopters.

\*, \*\*, and \*\*\* indicate significance at the 0.10, 0.05, and 0.01 levels, respectively.

These results demonstrate differences in how earnings are managed for firms in Russia according to which accounting regimes are being utilized. RAS earnings are converging to higher IFRS earnings only for firms that are required to use IFRS. Earnings are being managed downward for firms that only use RAS; RAS earnings are not converging to IFRS for SMEs. Overall convergence to IFRS for all Russian firms is not occurring. Given a cultural environment that condones the concealment of income, coupled with low fines associated with misstated RAS financial statements and taxes and the general poor quality of the tax administration and low tax rates, we find that adopters and never-adopters can pursue two different strategies to increase the firm's value simultaneously (one that increases the firm's value by increasing RAS income so that it converges with IFRS income and the other that increases the firm's value through tax avoidance), in spite of tax authorities having access to IFRS financial statements.

#### 4.3. Impact of Adoption on Book-to-Market Values

Book-to-market values help investors to judge whether a company's stock is currently under- or overvalued. A market value that is higher than the book value indicates that the company is expected to grow earnings in the future. Large differences between bookto-market RAS values and book-to-market IFRS values imply that those familiar with RAS might know something about the company's financial position, which differs with what the IFRS numbers are communicating. Large differences, therefore, increase risk. We test to see if the book-to-market values of the firms using RAS are converging to the book-to-market values of the firms using IFRS. To avoid look-ahead bias, we collect market data based on the financial year end of the Russian firms. In this way, accounting data are not lagged behind the market data. Our results are presented in Table 9. We find that differences between book and market values are high under both standards for all the years (p < 0.01, untabulated).

Variable	2011	2012	2013
BtM IFRS	0.0015	0.0017	0.0023
BtM RAS	0.0010	0.0015	0.0021
Difference	0.000453 ***	0.000208 **	0.000155 **
Z Statistic	2.990	2.269	2.254

Table 9. Comparison of book-to-market values under IFRS and RAS.

\*, \*\*, and \*\*\* indicate significance at the 0.10, 0.05, and 0.01 levels, respectively.

We find that the gap between BtM<sub>iIFRS</sub> and BtM<sub>iRAS</sub> narrows over time and decreases in statistical significance. The data suggest that the information about book and market values is converging between domestic standards and international standards.

Once again, we check to see if RAS is converging to IFRS or if IFRS is converging to RAS by examining the ratios under each accounting regime across time. We find that the relative variation in book values, depending on the accounting regime, and the observed difference in market values, are significantly different at the 0.01 levels under both accounting regimes (Tables 10 and 11) but are decreasing over time. The book-to-market values are higher and increasing under IFRS. The book-to-market values are much lower under RAS, but they are increasing at a much higher rate (1.1 compared to 0.53) when we look at the values in 2011 and 2013. This implies book-to-market values are adjusting under both accounting regimes, but RAS is actually converging to IFRS values.

Table 10. Relative variation in book values per IFRS and the variation in the market value.

Variable	2011	2012	2013
VAR IFRS	0.1486	0.1075	0.1283
VAR Market	0.3838	0.2186	0.2997
Difference	-0.2352 ***	-0.1111 ***	-0.1713 ***
Z Statistic	-4.134	-1.903	-5.475
* ** 1 *** 1 ' ' ' '.		01.1 1 1 1	

\*, \*\*, and \*\*\* indicate significance at the 0.10, 0.05, and 0.01 levels, respectively.

Table 11. Relative variation in book values per RAS and the variation in the market value.

Variable	2011	2012	2013
VAR RAS	0.1299	0.2099	0.0942
VAR Market	0.3838	0.2186	0.2997
Difference	-0.2540 ***	-0.00867 ***	-0.2054 ***
Z Statistic	-7.321	-2.732	-7.278

\*, \*\*, and \*\*\* indicate significance at the 0.10, 0.05, and 0.01 levels, respectively.

Variance analysis is a way to assess the difference between the estimated and actual financial performances. Our results suggest book-to-market values are converging when comparing IFRS to RAS. The relative variation in the market and book values is generally higher under IFRS when compared to RAS, except in the year of the mandatory adoption (2012). This implies that there is more risk to equity investors when using IFRS. The upside, however, is that higher risk also brings higher returns. It is expected that the market would be a little more uncertain when using a new accounting regime in an emerging market with low information and would be willing to compensate investors for the higher risk. As Ho et al. (2023) noted: "[C]omparability can promote the transmission of information and assist investors and other stakeholders in analyzing, comparing, and predicting a company's financial status, operating performance, and prospects without needing to conduct research (emphasis added)" (p. 222). The difference in the relative variation in book values is decreasing under

both accounting regimes, which implies more favorable tradeoffs between risk and returns. Comparability between the two regimes is starting to eliminate any differences between the information being transmitted by RAS and IFRS financial statements for firms reporting under both regimes.

#### 5. Conclusions and Suggestions for Future Research

Russia provides us with a unique opportunity to study how domestic GAAP may or may not converge to international accounting standards after adoption because financial statements in Russia are prepared using both domestic and international standards. When we examine the comparability of accounting numbers and financial ratios, we find that, for the most part, balance sheet comparability does not exist between RAS and IFRS but is increasing with RAS converging to IFRS. This is especially true with regard to the income statement accounts, with comparability in income measures improving or achieving comparability for firms that adopted IFRS. We also find that comparability has improved or has been achieved for financial ratios involving returns per unit of income. Given that income measures are higher under IFRS when compared to income measures under RAS, Russian firms are apparently willing to pay more in income taxes to strengthen their business legitimacy through comparability with IFRS (Hypothesis 1 holds for income measures). The same cannot be said for balance sheet measures, where statistically significant differences still exist.

We next examined differences in the quality of the earnings, as evidenced by discretionary accruals, and tested whether any differences persist over time. Because IFRS financial statements are viewed as deriving from a quality accounting regime, Russian companies would be expected to adjust their RAS accounting information to conform with IFRS accounting information. A firm's value is derived from comparability with IFRS, even if some of the firm's value is lost because of higher income taxes. Where there are no market incentives (IFRS is not required), Russian firms continue to increase the firm's value by managing earnings downward to avoid taxes. This issue is of regulatory importance in that it examines changes in accounting practices internationally—particularly concerning practices in developing nations as firms adopt IFRS and capital markets become increasingly globalized.

Given the unique situation in Russia, where some firms file financial statements in RAS and IFRS and some firms file financial statements in RAS only, we are able to examine whether RAS is converging to IFRS or vice versa. We find accounting values under IFRS are not changing. They are changing, however, under RAS but only for firms that are required to file under both accounting regimes. This pattern persists over time even though both investors and tax regulators have access to both RAS and IFRS financial statements. We expect that adopters, whether voluntary or mandatory, would manage RAS earnings upward to converge with the higher income measures under IFRS and, thereby, increase the firm's value by strengthening business legitimacy. Without the monitoring effect of IFRS, we expect that firms not using IFRS would continue to manage earnings downward to achieve increased firm value through tax avoidance. We find that there are statistically significant differences in earnings management between RAS and IFRS and that these differences persist over time. We find that earnings management has continued under RAS but remains unchanged under IFRS. Given a cultural environment that condones the concealment of income, we find that adopters and never-adopters can pursue these two divergent strategies simultaneously to increase the firm's value. The consequences (fines and penalties) for misstating earnings on IFRS financial statements are much higher, and IFRS audits are more lucrative and rigorous than RAS audits. Thus, there appears to be little consequence to the lack of comparability between RAS and IFRS at the regulatory level. It appears, therefore, that there is a clear distinction between legitimacy and legality and that there are two different results when we conduct a cost-benefit analysis of IFRS and RAS, i.e., how managers decide to increase the firm's value depends on whether the firms are mandated to use IFRS. Our study suggests that concerns regarding business legitimacy

drive the cost of the convergence, not legality. This supports the hypotheses that earnings management differs when using RAS as compared to IFRS and that earnings management differs for adopters and never-adopters (Hypotheses 2 and 3).

Finally, we examine the gap between the book and market values of the shareholders' equity. We find that the gap between the book-to-market ratios under IFRS and RAS does, indeed, narrow as time progresses. This supports the hypothesis that significant differences exist between the relative variation in the book-to-market values when comparing RAS to IFRS (Hypothesis 4), but it may also be the case that FDI is applying pressure toward comparability between the two accounting regimes. We do find higher variance in market values under IFRS when compared to RAS, except in the year of the mandatory adoption (2012). This is expected because investors are uncertain if IFRS is as dependable at assessing financial risk in Russian firms. After all, RAS has been used for years, and under the efficient markets theory that share prices reflect all the available information, stocks should be fairly priced using RAS. The gaps, however, are closing between the book-to-market ratios under RAS and IFRS, and the differences in the market value variances are also decreasing. This supports our conclusion for increasing convergence between RAS and IFRS in a way that favors the needs of investors and their desire for convergence to a widely accepted system of international accounting standards (legitimacy).

In sum, we attribute our findings to a monitoring effect derived from IFRS. Publicly traded firms are constrained from reporting RAS numbers that differ significantly from IFRS numbers, even when this results in higher income taxes. We add to the literature by examining the impact of broad internationalization on domestic customs and practices and, more specifically, whether convergence takes place despite an increase in corporate income taxes. We also find a difference between earnings management behavior for firms that adopt IFRS and those that do not. Our study suggests that it is RAS that is converging to IFRS, not the other way around. Our results indicate that firms are willing to pay for the cost of legitimacy (comparability) even when it means paying additional income taxes.

As with other studies of comparability and earnings quality, our results should be of interest to institutions interested in harmonizing domestic GAAP and international accounting. Because of the peculiarities of the Russian setting (dual financial statements) and the political situation, we believe some commonalities will exist for those emerging markets, where legal enforcement is weak, and, as a result, when an increase in FDI is desired, the legitimacy of organizations' transactions become highly relevant. Likely, firms will want to converge to IFRS.

Our results may also help Russian standard setters to improve the convergence of RAS to IFRS for all Russian companies. Users of financial statements can also benefit from our findings because they highlight another aspect of the comparability problems and improvements between RAS and IFRS as well as changes in the earnings quality for firms after the adoption of IFRS. Our study adds to the discussion that business legitimacy impacts transaction costs, combining economic theory with ethical expectations (Wieland and Fischer 2020).

Areas for future research include expanding the dataset to later years. RAS has been reformed since 2014, so differences in balance sheet values may reflect IFRS values. It would be interesting to see if balance sheet items under RAS begin to converge to IFRS as time passes for never-adopters, as they feel pressure to increase business legitimacy. Also, using an expanded dataset, it would be interesting to see if our expectations about tax avoidance through RAS are confirmed or not over the passage of time. Future research could also study the effects of the devaluation of the ruble on IFRS adoption as well as the effects of wars and embargos. The cost–benefit analysis of IFRS and RAS integration might change under these circumstances. It would also be interesting to see if other former Soviet bloc countries that file financial statements under both local and international accounting regimes have similar patterns when it comes to convergence, earnings management, and stock price volatility. This stream of research could also be applied to other BRIC countries to see if our findings (convergence to IFRS leads to business legitimacy) are confirmed or

not. There are many possibilities for future research in this area of the cost of local GAAP and IFRS integration in developing countries.

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# Appendix A

Table A1. Definitions of Accounting Numbers and Financial Ratios.

Accounting Number	Definition
Operating Income	Operating Income – Operating Expenses
Ordinary Income	Operating Income + Financial Income – Financial Expenses
Net Income	Ordinary Income – Extraordinary Income – Extraordinary Expenses – Taxes
Fixed Assets	Intangible Assets + Property, Plant, and Equipment + Long-term Investments + Goodwill
Inventories	Goods Produced for Sale + Goods in the Process of Production + Materials or Supplies
Receivables	Receivables + Short-term Investments
Cash	Cash + Cash Equivalents
Current Assets	Inventories + Receivables + Cash (as defined above)
Total Assets	Fixed Assets + Current Assets (as defined above)
Equity	Funds Contributed by Shareholders + Retained Earnings + Other Reserves + Net Income + Minority Interest + Deferred Income
Long-term Liabilities	Long-term Creditors + Long-term Provisions
Short-term Liabilities	Short-term Creditors + Short-term Provisions
Total Liabilities	Long-term Liabilities + Short-term Liabilities (as defined above)
Long-term Resources	Equity + Long-term Liabilities (as defined above)
Ratio	
ROA_OI	Operating Income/Total Assets (as defined above)
ROA_Ord	Ordinary Income/Total Assets (as defined above)
ROE_Ord	Ordinary Income/Equity (as defined above)
ROE_NI	Net Income/Equity (as defined above)

Accounting Number	Definition
Current Ratio	Current Assets/Short-term Liabilities (as defined above)
Acid Ratio	(Receivables + Cash)/Short-term Liabilities (as defined above)
Cash Ratio	Cash/Short-term Liabilities (as defined above)
Solvency	Total Assets/Total Liabilities (as defined above)
Indebtedness	Total Liabilities/Equity (as defined above)

# Table A1. Cont.

#### Note

<sup>1</sup> Financial institutions in Russia have been using IFRS since 2005, but we do not include any of these firms in our sample.

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