Financial Reporting Quality and International Trade*

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Abstract

This paper examines the effects of financial reporting quality on exports and imports. I begin by using survey data from executives to measure accounting quality and conduct country-sector-level analyses. I find that a one standard deviation increase in financial reporting quality in a country is associated with increases in manufacturing exports and imports of 3.6 percent and 4.5 percent, respectively. I then exploit a reporting regulation change in China and use administrative firm-level international trade data to conduct differences-in-differences and triple-difference analyses. These results show that treated firms export 15.3 percent more after the financial reporting reform. They also export to more countries and export more types of goods after the reform. Next, I provide evidence for potential mechanisms for these effects; specifically, improvements in financial reporting quality (i) facilitate communication among people of different cultures, (ii) decrease information asymmetry between trade partners, and (iii) help firms raise external capital. This paper extends understanding of the real economic effects of financial disclosure and provides a potential link between information transparency and global economic growth.

Keyword: Financial Reporting Quality, International Trade, Information Asymmetry

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1 Introduction

Globalization has advanced at an unprecedented pace in recent decades. International trade, in particular, has swelled. Understanding the impetus for this growth is critical for the world economy. This paper highlights one potential factor, financial reporting quality, and examines whether its improvement facilitates international trade. An investigation of this question can illuminate ways to address frictions, such as information asymmetry, that inhibit trade, can advance understanding of the economic consequences of improved transparency, and can illuminate a link between financial reporting quality, corporate sector transparency, and economic growth, as suggested, for example, by Leuz and Wysocki [2016].

Financial reporting quality might affect global trade in at least three ways. First, improvements in reporting can help reduce cultural barriers and facilitate communication among people of diverse cultures. Studies document that cultural barriers hinder economic exchange by reducing trust, increasing costs of communication (e.g., Guiso et al. [2009]). Firms involved in international trade need to sustain relationships with trade partners with diverse cultural backgrounds. Providing more transparent information enables firms to enhance trust with partners in other countries and, in turn, facilitates international trade.

Second, improvements in reporting may increase the information available to a firm's international trading partners. The literature shows that a firm's suppliers and customers care about its financial reports because the reports illuminate its underlying economic performance (e.g., Hui and Yeung [2012]). Compared to firms that focus on domestic markets, firms trading internationally have greater information asymmetry between themselves and their suppliers and customers. Improved reporting enables a firm's international trading partners to better assess its performance and thus reduce their risks and costs from trading internationally. Consequently, partners may be more willing to trade with the firm. Firms are also more likely to use financial covenants in supply contracts when financial statement reliability is high (e.g., Costello [2013]). Thus improvements in financial reporting facilitate contracting, which further decreases risk and increases trade.

Third, improvements in financial reporting may also facilitate access to external capital. Firms trading internationally face higher risks and costs, such as time delays when receiving payments from trading partners, and they depend on external capital to sustain their liquidity (e.g., Schmidt-Eisenlohr [2013]). As a consequence, the ability to raise external capital is crucial for these firms. Research documents positive capital market reactions and more usage of external financing after

improvements in reporting quality (e.g., Djankov et al. [2010], Naranjo et al. [2019], Armstrong et al. [2010]). The ease of obtaining external funding can provide a comparative advantage in the global market, and this, in turn, can facilitate a firm's international trading.

While financial information can help firms enter the international market for the above-mentioned reasons, better financial reporting quality might not help and could even hinder international trade. First, firms can privately communicate with their trade partners. Thus the quality of public information may not have much effect on trade. Second, better reporting quality enables firms' international trade partners to observe the firm's bad news more clearly and promptly, which may decrease a trading partner's willingness to do business with a firm or extend its trade credit.

In this paper, I examine whether and how improvements in the quality of financial reporting boost exports and imports in manufacturing industries. This is a significant economic effect of financial reporting that has received little attention to date. First, I formally model how accounting quality would affect international trade. The model discusses the case in which exporters have private information regarding firm type. There are good- and bad-type firms in each exporting country. Bad firms can pool with good ones when trading with importers if there is no public information about firm type. An importer may not want to trade under this circumstance. Intuitively, improved accounting quality enables the importer to better differentiate good firms from bad ones, increasing the likelihood of trade. The model generates a similar prediction in cases where importers have private information about their types.

Next, I conduct empirical analyses to support the theoretical prediction. I first conduct country-sector-level analyses. I use the World Trade Flows bilateral data, which contains total bilateral trade between country pairs, at the four-digit industry-year level. Using executive survey data from The World Economic Forum's Global Competitiveness Report (GCR) to measure financial reporting quality across countries in different years, I find that a one standard deviation (s.d.) improvement in financial reporting quality boosts manufacturing exports and imports by approximately 3.6 percent and 4.5 percent, respectively. These results are robust under various specifications and after adding various fixed effects.[1]

Second, I exploit China's 2007 reform of financial reporting and use administrative firm-product-level international trade data to alleviate the endogeneity concern that unobserved time-varying country-level factors stimulate both improvements in financial reporting and increases in interna-

[1]These fixed effects include year×sector, sector×origin country, and destination country fixed effects. They control for unobserved country-level, country-sector-level, and year-sector factors, which may affect both accounting quality and import and export volumes.

tional trade. Before 2007, public firms in China had to comply with Chinese Accounting Standards (CAS). In 2007, public firms were required to implement new reporting standards to improve financial reporting quality.[2] This change should affect public firms but not private ones. I use the differences-in-differences method and find that, after implementation of the 2007 reform, public firms' exports of manufacturing goods increased by 15.3%.[3] In addition, the number of trade countries and trade products for public firms also increased, compared to those of private firms.

To alleviate the endogeneity concern that unobserved time-varying factors affect public and private firms differently in each year, I conduct a triple-difference analysis. Chinese firms can issue both A- and B-shares.[4] Before 2007, firms that issued B-shares were required to comply with IFRS. As a consequence, the 2007 regulation changes likely affected this type of firm less than firms that only issued A-shares. I exploit the difference between the two types of public firms and confirm that the regulation change mainly affected public firms that only issued A-shares before 2007. I also use nearest-neighbor matching to find 10 private firms for each public firm based on firm characteristics in 2006. The results from the matching sample are consistent with those from the full sample.

I further provide evidence to support three mechanisms through which better financial reporting affects international trade. The first is that improved reporting facilitates communication among people of different cultures. When two countries have greater differences in culture, improvements in reporting can help reduce barriers to communication. This mechanism is unique in the international market. By using measures of ancestry distance and religious distance constructed by Spolaore and Wacziarg [2016] to proxy for cultural differences, I find that the wider the cultural distance between trading partners, the larger the effects of improvements in financial reporting on their trade.

The second potential channel is that improved financial reporting reduces information asymmetry and thus provides trading partners with information regarding risk and cost reduction. In cases when a firm has a larger proportion of relationship-specific investments, its financial information should be more useful to its trading partners. To test this channel, I use the proportion of differentiated intermediate inputs in a certain sector, constructed by Nunn [2007], to proxy for sector-level relationship-specific investments. The results show a positive association between the proportion of differentiated intermediate inputs and the size of the effects of accounting quality

[2]Research finds mixed evidence of the impact of China's 2007 financial reporting reform on the capital market. The potential negative effects of the reform, if any, would only attenuate any positive effects on global trade that I might find.

[3]There are no significant effects on imports, which might be due to the fact that China's manufacturing sector, to some extent, is export-oriented.

[4]A-shares are only traded in RMB, while B-shares are traded in foreign currencies, such as the U.S. dollar, and are more widely available to foreign investors.

improvement on international trade. Moreover, I find that higher sector-level R&D intensity, which also proxies for larger relationship-specific investments, increases the impact of improvements in financial reporting on exports.

The last mechanism is that improved financial reporting may facilitate raising external capital, which is helpful in conducting global trade. In this case, we would expect that improvements to financial reporting would offer a comparative advantage in the international trade market to sectors with greater financial vulnerability. I use sector-level measures of asset tangibility from Rajan and Zingales [1998] and Braun [2003] to capture the level of financial vulnerability and find evidence to support this mechanism. Countries with better financial reporting export and import more in sectors that have less asset tangibility.

Finally, I conduct additional analyses. I first provide evidence that results documented in this paper are mainly driven by transparency rather than comparability. The introduction of new CAS in 2007 makes treated firms in China export more to countries that had not adopted IFRS but has no significant effects on treated firms' export values to countries that had adopted IFRS before 2007. Moreover, I find IFRS adoption on average has no effects on exports and imports. This is likely because IFRS adoption does not significantly improve financial reporting quality in some countries, only improves comparability. Second, I use three alternative measures of financial reporting quality to test the robustness of the results. I find that the export results are robust to two alternative measures and the import results are robust to one alternative measure, which implies that the main results are not driven by the choice of the GCR measures.

This paper contributes to several streams of the literature. First, research on international trade documents that various frictions, such as financial market imperfections, can severely inhibit trade flows. Manova [2013] demonstrates that credit constraints distort international trade. She shows that financially developed economies export more in financially vulnerable sectors. Feenstra et al. [2014] provide complementary firm-level evidence. Their findings indicate that credit constraints become more stringent as firms' export share grows, especially when shipping times increase so that working capital needs become more acute. My paper extends this literature by demonstrating a new means, that is, providing more transparent information, to help address frictions like information asymmetry that prevent international trade. This finding suggests increasing transparency as a factor contributing to the rapid growth of international trade in recent decades.

Studies of the economic consequences of disclosure and financial reporting regulation document a positive association between improved disclosure and liquidity (e.g., Leuz and Verrecchia

[2000], Brown and Hillegeist [2007], Daske et al. [2008]) and mixed effects of improved disclosure and financial reporting on the cost of capital (Botosan [1997], Botosan and Plumlee [2002], Daske et al. [2008]). The literature also demonstrates real effects from improved corporate disclosure and reporting, such as increased labor investment efficiency [Jung et al., 2014], corporate investment [Roychowdhury et al., 2019], capital allocation efficiency [Cho, 2015], and foreign direct investment [Gordon et al., 2012]. Likewise, Glaeser and Omartian [2019] and Yang [2019] document a positive association between public firm presence or segment disclosure regulation and import competition. Li et al. [2020] find that firms in countries that adopt IFRS receive more trade credit from their suppliers.[5] Márquez-Ramos [2011] investigates the consequences of IFRS adoption in the European Union on trade in goods and foreign direct investments. However, as I will show below, the positive association between IFRS adoption and trade in goods documented by Márquez-Ramos [2011] is not robust to important control variables and fixed effects.[6] Broadly speaking, my paper also relates to the work of Ramanna and Sletten [2014] and Cheng et al. [2020]. Ramanna and Sletten [2014] find that perceived network benefits, which may come in part from trade, increase the likelihood that a country adopts IFRS. Cheng et al. [2020] demonstrate that private firms whose financial statements are audited export more than those whose financial statements are not. My paper extends understanding of the real economic effects of financial information disclosure by documenting the effects of financial reporting quality on international trade. Using administrative firm-level data from China and exploiting the regulation change in 2007 enable me to draw causal inferences from the analyses. Moreover, since global trade contributes significantly to world economic growth, I propose a link between financial reporting quality, corporate sector transparency, and economic growth, as emphasized by Leuz and Wysocki [2016].

Finally, the evidence here indicates the value of firm transparency in domestic transactions. The literature documents that information from a firm's financial reports matters to its domestic suppliers and customers (e.g., Bowen et al. [1995], Hui and Yeung [2012], Costello [2013], Kim-Gina [2018], Chawla and Kim-Gina [2020]). My paper adds to this literature by showing that improvements in financial reporting help alleviate information asymmetry and boost trade. Large

[5]Glaeser and Omartian [2019], Yang [2019] and Li et al. [2020] focus on either import competition or trade credit, while this paper focuses on the total value of international trade. Moreover, Glaeser and Omartian [2019] and Yang [2019] show the proprietary cost of public firm presence, while this paper demonstrates that improved financial reporting increases information transparency and thus facilitates international trade.

[6]Márquez-Ramos [2011] only uses country-level trade data and runs country-year level OLS regressions. Due to the lack of detailed data, the author cannot control for country, sector, year-sector-level, and country-sector-level fixed effects. Moreover, the author does not control for currency value and other important time-varying country-level characteristics, such as the rule of law and corruption. In addition, the author does not cluster the standard errors.

variations in financial reporting quality across countries and years provide a suitable setting to demonstrate that financial reporting quality matters to trade partners. This is more difficult to document in domestic markets, due to the homogeneity of the reporting environment within a single country.

This paper is organized as follows. Section 2 discusses why financial reporting quality matters in international trade. Section 3 builds a model to formally show the argument. Section 4 introduces the main datasets. Section 5 discusses the country-sector analyses and presents the results. Section 6 explains the Chinese regulatory change and presents the results. Section 7 provides evidence to support the three economic mechanisms behind the main results. Section 8 presents additional tests. Section 9 concludes.

2 Financial Reporting Quality Matters in International Trade

Exporter and importer financial information is useful to trading partners in other countries for a number of reasons. First, a firm that trades internationally may be concerned that its trading partners cannot meet their short-term trading obligations. From the perspective of the importer, it is important to verify quality and receive goods on time. Cross-border shipping and delivery usually take much longer to complete than domestic orders, and it is harder to monitor quality. The exporter's financial report can be used by importers to assess potential short-term trading risks. From the perspective of the exporter, there is a risk of late payment from the importer, and late payments could cause cash-flow problems. Importer financial reports allow exporters to assess the likelihood payments will be made on time.

Second, exporters/importers involved in long-term trading relationships will study their trading partner's accounting performance to assess long-term financial viability and determine risks associated with relationship-specific investments (Bowen et al. [1995]; Banerjee et al. [2008]; Hui and Yeung [2012]). Given it is challenging for a firm to assess its trading partners' performance in foreign markets, the information in financial reports becomes more important. For example, an importer may consider adopting new production technology that uses specific components that must be obtained from an exporter. Before making this decision, the importer must make sure that the exporter can continue to provide high-quality components. Importers therefore may use financial information to evaluate their trading partners' economic performance and whether they should maintain long-term supply-chain relationships with these partners. Exporter concerns are

similar. An exporter may not want to invest in a new production line to supply an importer without knowing about importer's long-term performance.

Third, more reliable financial statements facilitate contract design and enforcement, which is crucial for firms involved in international trade, as they face different legal environments in various countries. Firms use financial covenants in contracts for monitoring. The literature documents that firms are more likely to impose contractual terms based on accounting numbers when financial statement reliability increases (Ball et al. [2008]; Costello and Wittenberg-Moerman [2011]; Costello [2013]). Improvements in financial reporting thus can reduce under-investment through facilitating contracting and monitoring, especially when the investments are relationship-specific.

Fourth, stronger accounting standards and better financial information ease firms' ability to raise external capital, giving them a comparative advantage in international trade markets. International trade is associated with additional upfront costs, such as market research, advertising, and infrastructure investment. Therefore, compared to firms that focus on domestic markets, importers and exporters rely more on external financing [Manova, 2013]. Studies find that improving financial reporting helps firms reduce the cost of capital and raise external capital (e.g., Lambert et al. [2007]). Based on the results of these studies, we would expect improved financial reporting to facilitate international trade by making it easier for exporters to secure financing and improve international competitiveness.

3 Model

In this section, I build a model based on Schmidt-Eisenlohr [2013] and Krugman [1980] to demonstrate how accounting quality can affect international trade. The model focuses on the case in which exporters have private information about firm type. The model would have a similar prediction if importers had private information instead.

3.1 Setup

The basic setup resembles the model of Schmidt-Eisenlohr [2013]. Each exporter in a country is matched with an importer in the destination country. There are good-type exporters, y_g, and bad-type exporters, y_b, in each country. The proportion of good firms in the source country is $\eta \in (0, 1)$. Good firms fulfill their contractual obligations all the time, while bad ones may deviate if defaulting on the contract is better for them. The type of firm is private information. Beyond

the model setup of Schmidt-Eisenlohr [2013], there is a noisy signal $\beta \in \{\beta_g, \beta_b\}$ for firm type. $\theta = Pr(\beta = \beta_g | y = y_g) = Pr(\beta = \beta_b | y = y_b)$ measures the quality of the noisy signal, with $\theta \in (\frac{1}{2}, 1)$. In this model, θ proxies for the level of accounting quality in the source country. The higher the θ, the more accurate the signal. The exporter and importer play a one-shot subgame.

At the beginning of the game, the exporter, who has all the bargaining power, makes a take-it-or-leave-it offer to the importer. Before delivery, the importer pays a full pre-payment C to the exporter. After that, the exporter decides whether to produce and deliver the goods to the importer. Due to the long transport times in international trade (e.g., Hummels and Achaur [2013]), sent goods arrive at the destination country after t units of time, and then sales revenues are realized for the importer. Let $r^* \geq 0$ denote the interest rate in the destination country. As mentioned earlier, a good exporter always delivers the goods, while a bad one may default on the contract. When a bad exporter defaults, the importer spends a share δ of revenue to force the bad exporter to fulfill the obligation and deliver the goods. The enforcement succeeds with probability $\lambda \in (0, 1)$. λ depends on the level of the rule of law in the source country. Let K denote the exporter's production costs and R denote the importer's sales revenues.

Without the firm-type signal, β, bad firms can pool with good ones in the international trade market. In this case, a good exporter maximizes the firm's expected profits as follows.

$$\max E\big[\prod\nolimits_e^p\big] = \max(C^p) - K, \tag{1}$$

s.t.

$$\mathrm{E}\big[\prod\nolimits_i^p\big] = \frac{\eta + (1-\eta)\lambda(1-\delta)}{(1+r^*)^t} R - C^p \geq 0,^{7} \tag{2}$$

$$E\big[\prod\nolimits_e^p\big] = C^p - K \geq 0, \tag{3}$$

Equations 2 and 3 are participation constraints of the importer and the good-type exporter respectively. Since the exporter has bargaining power, equation 2 binds under the optimal contract. The maximization of equation 1, subject to equations 2 and 3, gives the optimal payment C and the

[7]With probability η, the exporter is good and always delivers the goods. With probability $(1-\eta)$, the exporter is bad and defaults. In this case, the importer would spend some costs to force the exporter to fulfill the contract. With probability λ, the enforcement would succeed, and the enforcement cost is δ of revenues R after selling the goods. Therefore the importer would receive and sell the goods to get revenue R with probability $\eta + (1-\eta)\lambda(1-\delta)$. Given it takes t time for the exporter to deliver the goods after receiving the payment C^p and the interest rate in the destination country is r^*, the importer's expected revenue is $\frac{\eta+(1-\eta)\lambda(1-\delta)}{(1+r^*)^t} R$

expected profits of the exporter as:

$$C^p = \frac{\eta + (1-\eta)\lambda(1-\delta)}{(1+r^*)^t} R, \tag{4}$$

$$\mathrm{E}\big[\prod\nolimits_e^p\big] = \frac{\eta + (1-\eta)\lambda(1-\delta)}{(1+r^*)^t} R - K, \tag{5}$$

as long as $\frac{\eta+(1-\eta)\lambda(1-\delta)}{(1+r^*)^t} R \geq K$. Similarly, a bad-type exporter maximizes the firm's expected profits as $\max E\big[\prod_e^p\big] = \max(C^p) - \lambda K$. The participation constraint of bad exporters is $E\big[\prod_e^p\big] = C^p - \lambda K \geq 0$. I assume that, in the case without the signal, the participation constraints of both types of exporters do not hold, and consequently there is no trade in the international market. This condition means:

$$\frac{R}{K} < \frac{\lambda(1+r^*)^t}{\eta + (1-\eta)\lambda(1-\delta)}. \tag{6}$$

Based on equation 6, the participation constraint fails for both bad and good firms. As a result, no exporters enter the international trade market.

With the firm-type signal β, an importer updates its beliefs of the probability that an exporter is good. Let $y_{i,j}$ denote the probability that an exporter is type i and has a signal β_j, then

$$y_{gb} = \frac{Pr(\beta = \beta_b | y = y_g) Pr(y = y_g)}{Pr(\beta = \beta_b)} = \frac{(1-\theta)\eta}{\theta(1-\eta) + (1-\theta)\eta}, \tag{7}$$

$$y_{gg} = \frac{Pr(\beta = \beta_g | y = y_g) Pr(y = y_g)}{Pr(\beta = \beta_g)} = \frac{\theta\eta}{(1-\theta)(1-\eta) + \theta\eta}, \tag{8}$$

$$y_{bg} = \frac{Pr(\beta = \beta_g | y = y_b) Pr(y = y_b)}{Pr(\beta = \beta_g)} = \frac{(1-\theta)(1-\eta)}{(1-\theta)(1-\eta) + \theta\eta}, \text{ and} \tag{9}$$

$$y_{bb} = \frac{Pr(\beta = \beta_b | y = y_b) Pr(y = y_b)}{Pr(\beta = \beta_b)} = \frac{\theta(1-\eta)}{\theta(1-\eta) + (1-\theta)\eta}. \tag{10}$$

In this case, exporters with different signals offer different prices to importers. I assume that the participation constraint of exporters with good signals is satisfied, while that of exporters with bad signals is not. As a result, only exporters with good signals trade in the international market. This condition means:

$$\frac{R}{K} \geq \frac{(1+r^*)^t}{y_{gg} + y_{bg}\lambda(1-\delta)} \quad \text{and} \quad \frac{R}{K} < \frac{\lambda(1+r^*)^t}{y_{gb} + y_{bb}\lambda(1-\delta)}. \tag{11}$$

The export revenue, C, of an exporter with a good type signal would be:

$$C_g = \frac{y_{gg} + y_{bg}\lambda(1-\delta)}{(1+r^*)^t} R. \tag{12}$$

Let

$$\alpha = \frac{y_{gg} + y_{bg}\lambda(1-\delta)}{(1+r^*)^t}. \tag{13}$$

Taking derivatives yields $\frac{\partial \alpha}{\partial \theta} > 0$. This indicates that improving the quality of the signal, θ, increases the export revenue of an exporter with a good signal.

3.2 International trade with information asymmetry

To show how the amount of total exporter revenue in the source country, which is the sum of the export revenue of each exporter, varies with the level of accounting quality, θ, I incorporate the model in the previous section into a standard trade model based on Krugman [1980].

There are L representative consumers in the economy. Each consumer supplies one unit of labor inelastically. The individual utility function is as follows.

$$U = \Big(\int_{\Omega} q(\omega)^{\frac{\sigma-1}{\sigma}} d\omega \Big)^{\frac{\sigma}{\sigma-1}}, \tag{14}$$

where $\sigma > 1$ is the elasticity of substitution between different products. $\omega \in [0,1]$ denotes a continuum of differentiated goods. Let Q denote a CES (constant elasticity of substitution) basket of these goods and $P = \Big(\int_{\omega \in \Omega} p(\omega)^{1-\sigma} \Big)^{\frac{1}{1-\sigma}}$ denote the price index of the optimal CES basket.

The demand function for the differentiated goods is:

$$q(\omega) = p(\omega)^{-\sigma} P^{\sigma} Q \tag{15}$$

In this trade model, the only input factor is labor. Firms operate in a monopolistic competition market. Goods produced by different firms are not substitutable, and a units of labor can produce one unit of the differentiated goods.

3.3 Predictions

In the domestic monopolistic competition market, a firm maximizes the profit $\prod_d = pq - aq$. The prices, quantities, and profits for the firm in the domestic market are:

$$p_d = \frac{\sigma}{\sigma - 1}a; \qquad q_d = p_d^{-\sigma} P^{\sigma} Q; \qquad \prod_d = q_d\Big[\frac{a}{\sigma - 1}\Big]. \tag{16}$$

Now we can derive the profits from exporting when there is a firm with signal β. Under the condition in equation 11, only exporters with good signals trade. I focus on these exporters. As defined earlier:

$$\alpha = \frac{y_{gg} + y_{bg}\lambda(1-\delta)}{(1+r^*)^t} \tag{17}$$

Among firms with good signals, good firms maximize profits in the international market as follows.

$$\text{Good type:} \quad \max_p \mathrm{E}\big[\prod\nolimits_e^p\big] = \alpha R - K, \tag{18}$$

where $R = pq = p^{1-\sigma}(P^*)^{\sigma}Q^*$ and $K = aq = ap^{-\sigma}(P^*)^{\sigma}Q^*$.

Solving the maximization problem gives the expected price, quantity, and export revenue per firm in the international trade market as follows.

$$p_e = \frac{1}{\alpha}\frac{\sigma}{\sigma - 1}a = \frac{1}{\alpha}p_d^*; \tag{19}$$

$$E\big[q_e\big] = p_e^{-\sigma} P^{\sigma} Q = \alpha^{\sigma} q_d^*; \tag{20}$$

$$E\big(R_e\big) = p_e E\big[q_e\big] = \alpha^{\sigma-1} R_d^*; \tag{21}$$

The expected total export revenue of the whole country is:

$$\sum \big(E\big(R_e\big)\big) = \eta\theta\alpha^{\sigma-1}R_d^* + (1-\eta)(1-\theta)\alpha^{\sigma-1}R_d^* \tag{22}$$

Finally, we can analyze the effects of accounting quality θ on the expected export profit $\sum \big(E\big(R_e\big)\big)$. Taking the derivatives:

$$\frac{\partial \sum \big(E\big(R_e\big)\big)}{\partial\theta} = (2\eta - 1)\alpha^{\sigma-1}R_d^* + [\eta\theta + (1-\eta)(1-\theta)](\sigma-1)\alpha^{\sigma-2}\frac{\partial\alpha}{\partial\theta}R_d^*; \tag{23}$$

Since $\frac{\partial\alpha}{\partial\theta} > 0$, the right-hand side of equation is positive when $\eta \geq \frac{1}{2}$. This implies that improved

accounting quality (increasing θ) increases export revenue as long as the fraction of good firms is sufficiently high. Intuitively, improved accounting quality enables the importer to differentiate good firms from bad ones more accurately. As a consequence, the importer faces less risk of the exporter defaulting on the contract. Therefore the participation constraint of the importer is easier to satisfy, and it is more likely that an importer will trade with the exporter in the source country. The discussion above in this section uses exports as an example. Assuming instead that the importer makes a take-it-or-leave-it offer to the exporter and has all bargaining power, the model would have a similar prediction for imports. Based on the model shown above, rational good-type firms should improve financial reporting quality to differentiate themselves from bad-type firms to facilitate trade. In the real world, while some good-type firms do so, others may not because there are both direct costs (e.g., preparation and distribution) and indirect costs (e.g., proprietary costs) of providing better quality information (e.g., Leuz and Wysocki [2016], Hayes and Lundholm [1996]). Consequently, financial reporting quality improvements may not have net benefits for a firm. As a result, financial reporting quality is not always at the optimal level for a firm in terms of international trade.

4 Data

In this section, I introduce datasets I use in this paper.

4.1 World Trade Flows bilateral data

I obtain international trade flow data from World Trade Flows bilateral data, covering the period of 1999 to 2017.[8] The trade flows data from 1999 to 2000 were provided by Robert Feenstra at The Center for International Data.[9] More recent data, from 2001 to 2017, were obtained from the UN Comtrade Database, which provides information regarding import country, export country, year, four-digit Standard International Trade Classification (SITC) Rev.2 industry code, and total value of exports and imports. The unit of observation is at the importer-exporter-year-sector level. The bilateral trade values are reported in nominal US $1,000.[10] For the analyses, I normalize the value of exports and imports, based on Jan. 1, 2017, dollars. Feenstra et al. [2005] describe the bilateral

[8] The original data covers 1962 to 2017. I only use the data from 1999 since the accounting quality measure starts from 1999.

[9] Available from: `https://cid.econ.ucdavis.edu/`

[10] World Trade Flows bilateral data (from 1962 to 2017) are available from: `https://atlas.media.mit.edu/en/resources/data/`

trade data in detail.

4.2 Global Competitiveness Report (GCR)

The measure of financial reporting quality is presented in the World Economic Forum (WEF)'s Global Competitiveness Report (GCR). The GCR has been published annually since 1999. Its information is based on the World Economic Forum's yearly extensive Executive Opinion Survey. During the first quarter of each year, the survey collects responses from thousands of executives, most of whom are CEOs or at a similar executive level, through a network of the WEF's partner institutions. In the 1999 and 2000 GCR surveys, executives indicated their agreement with the statement: "The level of financial disclosure required is extensive and detailed. (1=strongly disagree; 7=strongly agree)." From 2001 to 2017, the GCR adjusted the questionnaire and asked executives' opinions of the strength of financial auditing and reporting standards related to company financial performance in respondent countries, on a scale of 1 (extremely weak) to 7 (extremely strong – the best in the world).[11]. The GCR reported average country/region-level responses to this statement every year.[12] These measures have been used extensively in previous studies, such as Gelos and Wei [2005], Jin and Myers [2006], Bushee and Friedman [2016], Christensen et al. [2016] and Friedman [2019].

There are a few reasons why I use GCR scores to measure financial reporting quality. First, the scores cover most countries and are at the country-year level, while many other financial reporting quality measures have narrower coverage and are at the country level without time variation.[13] Only if I use country-year level measures can I exploit the variation of financial reporting quality within a country over time to conduct the main analyses. Second, GCR scores capture accounting quality. Friedman [2019] shows that higher GCR scores are associated with higher accruals quality, and earnings response coefficients (ERCs) are higher in country years with higher GCR scores.[14] In addition, country-mean GCR scores are positively and significantly correlated with other reporting quality measures and negatively correlated with PwC's opacity index [Friedman, 2019].

[11]The World Economic Forum's Global Competitiveness Report (GCR) is available at: `https://www.weforum.org/reports`

[12]The GCR scores reported prior to 2006 are simple averages of all responses in a certain year. From 2007, the GCR scores are averages of responses based on current and prior years' surveys.

[13]As mentioned by Friedman [2019], other financial reporting quality measures include CIFAR score [Bushman et al., 2004], the prospectus disclosure index [La Porta et al., 2006], the opacity index constructed by PricewaterhouseCoopers [Gelos and Wei, 2005], the SP Transparency and Disclosure Survey mean country score [Khanna et al., 2004], and the anti-self-dealing business disclosure index from the World Bank [Djankov et al., 2008].

[14]ERCs from return-earnings regressions are commonly used as a proxy for investor confidence in earnings disclosures.

4.3 Chinese Customs Trade Statistics (CCTS)

When exploiting the change in Chinese financial reporting regulations in 2007, I use two administrative datasets from China. The first is CCTS data, which is collected by the Chinese customs office and reported in US dollars. CCTS data details all cross-border transactions made by Chinese firms from 2003 to 2013. There are over 100 million transactions annually. This data covers 243 destination/source countries and 7,526 different products in the eight-digit Harmonized System. This dataset reports the value and quantity of exports and imports, according to product type and trading partner.

4.4 Annual Survey of Industrial Firms (ASIF)

The second dataset is the Annual Survey of Industrial Firms (ASIF), which is collected and reported by China's National Bureau of Statistics. ASIF covers the period 2003 to 2013. This dataset details more than 100 standard financial items in the balance sheet, income statement, and cash flow statement for all state-owned enterprises (SOEs) and all non-SOEs companies with annual sales exceeding 5 million RMB.[15] ASIF covers 196,222 firms in 2003 and 344,875 firms in 2013. ASIF data enables me to control for basic firm performance in the analyses.

4.5 Other data

The following additional datasets were used in the main tests. Country characteristic information, such as GDP, GDP per capita, CPI, overall rule of law, and level of corruption were obtained from the World Bank. For the China analyses, I manually matched CCTS data to the China Stock Market & Accounting Research (CSMAR) data, which provide information on the financial statements of China's listed companies, to identify public firms and their IPO years. Data used for tests of effect heterogeneity will be described later.

5 Country-Sector Level Analyses

5.1 Model specification

In this section, I exploit the time-varying financial reporting quality in each country to investigate whether improved reporting facilitates international trade. I focus on manufacturing industries to

[15] This is equivalent to 0.83 million USD, based on the 2013 USD-CNY exchange rate.

reduce the dependence on country-specific factors like natural resources. To measure the country-year level financial reporting quality from 1999 to 2017, I use the GCR country-year ratings of the strength of financial auditing and reporting standards. Although the GCR financial reporting quality measure might suffer from subjective bias, it captures factors that cannot be captured using measures simply based on financial reports. Moreover, in many cases, it is executive perception of quality that drives business-to-business trade. The GCR measures have been used extensively in the literature. For example, Bushee and Friedman [2016] use the GCR measure to proxy for disclosure standard quality. Christensen et al. [2016] use it as a proxy for regulatory quality related to transparency and market abuse. I standardize the GCR measures to have zero mean and one s.d. in each year to facilitate comparison across years. I restrict the sample to include countries and regions that have an above-median rule of law. The effectiveness of financial reporting quality improvements requires enforceable contracts. Limited confidence in enforcement of contracts or trade agreements would attenuate the effects of improvements on the real economy.[16] The GCR measures in the final sample cover 70 countries and regions.

The following regression form presents the basic specification I use to conduct the analysis.

$$Trade_{ijst} = \beta Fin\_Quality_{jt} + \gamma X_{jt} + \delta Y_{it} + \phi_j + \zeta_i + \eta_s + \lambda_t + \epsilon_{ijst} \tag{24}$$

The dependent variable $Trade_{ijst}$ is the logarithm of the value country j exports to or imports from country i at a four-digit SITC Rev.2 industry level s in year t. $Fin\_Quality_{jt}$ is the measure of financial reporting quality in country j in year t. X_{jt} and Y_{it} are country-level exporter and importer characteristics, respectively, such as the distance between origin and destination countries and the logarithm of real GDP in these countries, for year t.[17] I also add importer and exporter country fixed effects, ϕ_j and ζ_i, sector fixed effects, η_s, and year fixed effects, λ_t. ϵ_{ijst} is the error term. β is the coefficient of interest. I use a number of additional specifications to check the robustness of the results.

[16]The World Bank website states: "Rule of Law captures perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence. Estimate gives the country's score on the aggregate indicator, in units of a standard normal distribution, i.e. ranging from approximately -2.5 to 2.5."

[17]Country distance data comes from the Centre d'Etudes Prospectives et d'Informations Internationales: `http://www.cepii.fr/CEPII/en/bdd_modele/bdd.asp`

5.2 Summary statistics

Table 1 presents the summary statistics of the bilateral trade flow data, which contain approximately 20 million country-sector-year level observations. The median value of exports and imports are approximately 69 million and 65 million dollars respectively, while the average value of exports and imports are around 2.36 and 2.52 billion dollars respectively. Among countries for which financial reporting quality scores are available in the final sample, the median and mean of standardized scores of exporting countries are 0.95 and 0.78, respectively. The fifth percentile score in the sample is -0.51, while the 95th percentile score is 1.80, around 2.3 units higher than the lowest score. The financial reporting quality scores for importing countries are slightly lower than those for exporting countries. A similar pattern emerges for the real GDP per capita. The average GDP per capita of exporting countries is slightly higher than that of importing countries. Finally, the average physical distance between importing and exporting countries is around 5,800 kilometers.

[Insert Table 1]

5.3 Trade across countries by reporting quality

The value of imports, exports, number of trading partners, and number of trading products vary substantially across countries and sectors in the data, with patterns emerging. I first aggregate the exports of all sectors in each year for each country. Figure 1a, which plots the correlation between financial reporting quality and logarithm of country-year-level exports, shows that, on average, countries with higher financial reporting quality export more; the correlation coefficient is 0.44. This pattern is verified even when further aggregating exports across the entire analysis period for each country; the correlation is plotted in Figure 1b.

[Insert Figure 1]

I next aggregate imports for all sectors in each year and country. Figure 2a plots the correlation between financial reporting quality and logarithm of country-year level imports, revealing a similar pattern to that of Figure 1a. Countries with higher financial reporting quality on average import more; the correlation coefficient is 0.51. The pattern persists when further aggregating the imports across the whole period for each country; see Figure 2b.

[Insert Figure 2]

5.4 The effects of accounting quality on international trade

Although Figure 1 and Figure 2 suggest an association between financial reporting quality and the value of exports and imports, they do not account for other factors that might drive both reporting quality and exports and imports. In this section, I present regression results.

I exclude observations with values of exports and imports that are larger than the 99th percentile or smaller than the first percentile in the final sample to alleviate the concern that outliers drive the results. Panel A of Table 2 shows exports results from estimating Equation 24. In the first column of Table 2, I add the logarithm of real GDP in the origin and destination countries and the logarithms of the distance between exporters and importers as control variables. In addition, I add origin country fixed effects, destination country fixed effects, sector fixed effects, and year fixed effects. The coefficient β equals 0.044, which indicates that, when financial reporting quality scores increase by one s.d., manufacturing exports increase by $e^{0.044}-1 \approx 4.5$ percent, which is statistically significant.[18] The increase in exports is also economically important. US exports of goods and services totaled $2.5 trillion in 2018. If the US improved its financial reporting quality scores by approximately one s.d., the total value of exports would be expected to increase by approximately 110 billion US dollars; this would be a very significant boost to the US economy. In the second column of Table 2, I cluster standard errors at the level of origin-destination country pair to allow correlation of error terms within each pair of origin and destination countries across all years. The coefficient of $Fin\_Quality_{jt}$ remains statistically significant. To address the possibility that the CPI of a destination country affects the trade value, in the third column, I control for importer CPI and allow for heterogeneous effects of sectors, depending on destination country CPI. The results are the same as those in the first two columns.[19] In the fourth column, I add year×sector fixed effects, thus allowing different sectors to have different market environments in each year. In the fifth column, I control for the currency value and the CPI in both origin and destination countries, the logarithm of GDP per capita, the rule of law, and corruption levels in the origin country.[20,21] This specification

[18] In 2018, the standardized score of the United States is 1.41. In the same year, Mexico has 0.41 of the standardized score. This is an example of a one s.d. difference in financial reporting quality scores.

[19] The coefficient of CPI_{dest} is omitted due to the collinearity.

[20] The currency value information comes from the International Monetary Fund's (IMF) International Financial Statistics. It measures yearly currency value per special drawing rights (SDR). SDR are monetary reserve currencies created by the IMF. The value of a SDR is based on a basket of key international currencies reviewed by IMF every five years.

[21] The World Bank website states: "Control of corruption captures perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as 'capture' of the state by elites and private interests. Estimate gives the country's score on the aggregate indicator, in units of a standard normal distribution, i.e., ranging from approximately -2.5 to 2.5."

alleviates concerns that the results are driven by other country-level time-varying factors rather than changes in financial reporting quality.[22] Although these changes in the specifications cause a slight degree of variability in the results, they are statistically significant and self-consistent within the analysis.[23] In the final column of Table 2, I add both year×sector fixed effects and origin country×sector fixed effects. The purpose of adding origin country×sector fixed effects is to allow each country to have different characteristics that affect value of exports in different sectors. The coefficient of interest indicates that a one s.d. improvement in financial reporting quality would be expected to cause a boost in manufacturing exports of approximately $e^{0.035} - 1 \approx 3.6$ percent.

Panel B of Table 2 presents the results of the imports analysis. The coefficient of $Fin\_Quality_{jt}$, calculated from the basic specification, shows that a one s.d. increase in the financial reporting quality score would be expected to stimulate manufacturing imports by approximately $e^{0.040} - 1 \approx$ 4.1 percent. In the next few columns, I use different specifications to allow for more flexible correlations among error terms, and I consider CPI effects and how each export country and year affect trade values in different sectors. The coefficients vary from 0.040 to 0.044, and they are statistically significant in all columns. In summary, this analysis demonstrates that improved financial reporting increases manufacturing imports.

[Insert Table 2]

6 Financial Reporting Regulation Changes in China

The country-sector level analyses in the previous section may still have endogeneity issues if there are unobserved time-varying country-level factors that jointly affect financial reporting quality and international trade. To further alleviate endogeneity concerns, I exploit financial reporting reforms that happened in China at the beginning of 2007.

[22] Tariffs are stable and low in most countries and industries. Therefore, after controlling for sector fixed effects and especially year×sector level fixed effects, tariffs have little explanatory power. In untabulated tests, I get country-pair trade agreements information from Nguyen and Vaubourg [2021] and add a dummy variable in the regression. The dummy variable equals one if there is a trade agreement between origin and destination country in year t and equals zero otherwise. The results vary little and are still statistically significant.

[23] The number of observations varies somewhat across different specifications due to the 'reghdfe' Stata package automatically dropping singletons. Correia [2015] explains this in detail. The number of observations in the fifth and sixth columns of Table 2 decrease due to the lack of additional control variables.

6.1 Institutional background

Prior to 2007, public firms in China had to comply with CAS. In 2005, China's Ministry of Finance announced a plan to converge CAS with IFRS and formally issued the new IFRS-based CAS on February 15, 2006. Public firms were required to implement the new standards on January 1, 2007. It is generally accepted that the new CAS closely mirrored IFRS, with just a few differences that were designed to accommodate the Chinese environment (Peng and Smith [2010]; IASB [2006]).[24]

Studies document positive economic consequences of the reform. Liu et al. [2011]'s results indicate that accounting quality improved in China after implementation, in 2007, with decreased earnings management and increased value relevance of accounting measures. Chen et al. [2019] document that the stock market reacted favorably to IFRS convergence, with the reaction being more pronounced among firms depending on external capital. This is consistent with the expectations from improved financial reporting and better access to external financing. In contrast, other studies draw different conclusions about the reform. For example, DeFond et al. [2019] demonstrate that, afterward returns by foreign institutional investors decreased and there was no increase in foreign institutional investment. He et al. [2012] find that unintended consequences of the new CAS, including managers' earnings management to meet regulatory earnings targets, which compromised the intended benefit of the reform. Despite this mixed empirical evidence, we should note that any potential negative effects can only serve to attenuate the positive effects I document on global trade. Moreover, to provide more direct evidence on the extent to which China's 2007 reform enhances accounting quality, I present China's GCR scores from 2002, the first year the GCR score is available for China, to 2018 in Figure 3. As shown in Figure 3, China's GCR scores before 2007 vary from 3.5 to 3.9, except for an outlier of 4.4 in 2004. In contrast, after 2007, China's GCR scores increase substantially to as high as 4.8 and stay at or above 4.5.[25] The significant improvement of GCR scores after 2007 supports the assumption that China's 2007 reform enhanced accounting quality.

[Insert Figure 3]

[24]The two main differences are (i) that firms cannot revalue fixed assets upward after they have been written down for impairment, and (ii) firms cannot use the equity method or proportional consolidation for joint ventures. The new CAS also accounts for large government holdings in some public firms and modifies related-party transaction disclosures [DeFond et al., 2019].

[25]China GCR score in 2007 does not increase a lot because of the timing of the GCR survey collections. First, normally the GCR surveys are collected in the first quarter of each year, and it took time for executives to adjust their assessment of China's accounting quality in 2007. Second, starting from 2007, the GCR reported scores as averages of responses from the current and prior years' executive surveys, which implies that the 2007 GCR scores include surveys in both 2006 and 2007.

China's 2007 reform provides a good setting to test the research question for a number of reasons. First, as the world's second-largest economy, China is the world's largest exporter and second-largest importer; this status means that changes in its financial reporting regulations matter for the global economy. Second, prior to implementing the IFRS-based CAS, China suffered from poor quality financial reporting, with pre-2007 CAS having significantly different reporting rules than those in countries that had already adopted IFRS. Thus China's 2007 reform resulted in changes to reporting standards that produced sizeable effects. Third, there was no other substantial change in financial reporting enforcement in China in 2007. Christensen et al. [2013] point out that many countries bundled IFRS adoption with changes in enforcement, raising the possibility that the observed effects of adoption reflect at least in part enforcement changes. Without a concurrent enforcement change, China's reform alleviates the concern. Last, there are administrative datasets at the firm-product level to conduct detailed tests and identify causal effects. For example, it is possible to investigate whether the 2007 regulation change affected public firms but not private ones and whether it affected firms that only issued A-shares more than those that issued both A- and B-shares.[26]

6.2 Sample construction

As introduced in Section 4, CCTS and ASIF, the two main datasets used for the China analyses, provide data at the firm-product-year level and firm-year level respectively. I construct the final sample for the firm-product level analysis as follows. In the first step, I use criteria similar to those suggested by Yu [2015] and Cai and Liu [2009] to clean the ASIF firm-level production data. First, observations with missing key financial variables, such as total assets and sales, are dropped. The 2010 ASIF data does not have many important variables, like total production, total assets, liabilities, profits, and so on. Therefore I drop the 2010 data from the sample. Second, Brandt et al. [2012] note that firms with fewer than eight workers fall under a different legal regime, so I drop these firms. Third, I delete observations if any of the following are true: (a) liquid assets are greater than total assets; (b) total fixed assets are greater than total assets; (c) the firm's identification number is missing; or (d) the established time is invalid (e.g., the opening month is later than December or earlier than January). Fourth, I exclude purely trading companies that do not have production activity. They only export goods collected from domestic firms or import goods and

[26]Since the level of the rule of law is not high in China and limited confidence in law enforcement would decrease the effects of accounting quality improvements, the China setting is not ideal. However, these potential limitations would attenuate any results I may find.

sell them domestically. Specifically, I drop firms with names including any Chinese characters for "trading company," "importing company," or "exporting company."

In the next step, I clean the CCTS as below: (i) adjust the CPI, (ii) normalize the value of exports and imports based on Jan. 1, 2017, dollars, and (iii) exclude trade flow observations that fall above the 99th percentile or below the first percentile to drop outliers. In the final step, I merge the two cleaned datasets. To be consistent with the country-sector level analyses, I focus on manufacturing industries in this section.

6.3 Identification and specifications

In this section, I exploit the fact that the 2007 financial reporting reform in China affected public firms but not private ones to identify the causal effects of financial reporting quality on international trade. The assumption of the identification strategy is that public and private firms in China have parallel trends in exporting and importing. Figure 4 presents a graphical illustration to support this assumption. For each public firm that has valid data in 2006, I use nearest neighbor matching to find 10 private firms that have the same industry code, closest total output, total sales, the total number of employees, total assets, total liabilities, and total profit in 2006. Figure 4 uses the matched sample and shows the mean logarithm of total exports for public firms and private firms separately in each year from 2003 to 2013, using the logarithm of total exports in 2000 as the benchmark. The mean of total value of exports for public firms and matched private firms have similar time trends before the reform in 2007. After the reform, there is a significant increase in exports for public firms. On the contrary, matched private firms' exports stay at the same level after 2007. In summary, the parallel time trend of exports of treated and control firms during the pre-treatment period in Figure 4 supports the identification assumption.

[Insert Figure 4]

After showing the graphical evidence, I use the following regression to conduct the analysis.

$$Trade_{ijst} = \beta PubFirm_{it} + \gamma PubFirm * Reform_{it} + \delta X_{it} + \theta Y_{jt} + \phi_i + \zeta_j + \eta_s + \lambda_t + \epsilon_{ijst}. \quad (25)$$

The dependent variable $Trade_{ijst}$ is the logarithm of value firm i exports/imports to/from country j in sector s and year t. $PubFirm_{it}$ is an indicator variable that equals one if firm i is a public in year t and zero otherwise. $PubFirm * Reform_{it}$ is a dummy variable that equals one

if firm i is a public in year t after the reform that was implemented in 2007. X_{it} are firm-level characteristics, such as size, logarithm of output, logarithm of sales, logarithm of the number of employees, logarithm of total assets, logarithm of total liabilities, and total profit in year t.[27] Y_{jt} are destination country characteristics, such as the currency value in country j in year t. I also add firm fixed effects, ϕ_i, destination country fixed effects, ζ_j, sector fixed effects, η_s, and year fixed effects, λ_t. ϵ_{ijst} is the error term. The coefficient of interest, γ, represents whether improved financial reporting facilitates international trade. I delete public firms with IPO years after 2007, since the coefficients of $PubFirm_{it}$ and $PubFirm * Reform_{it}$ capture the same effects for these firms. Untabulated results are similar if I keep them in the final sample.

6.4 Summary statistics and results

I first present summary statistics for the Chinese CCTS and ASIF data in Table 3. Panels A and B show the value of imports and exports and basic firm performance characteristics for public firms and private firms, separately. The exports and imports are derived from CCTS data, and they are reported in thousands of US dollars. Other firm-year level production and performance variables are derived from ASIF data, and they are reported in thousands of RMB. Generally speaking, exports exceed imports for firms in China. Unsurprisingly, public firms are, on average, larger than private ones.[28]

[Insert Table 3]

Table 4 presents the main results of the China regulation change. In Column (1), I use Equation 25 and control for firm-level, year-level, destination-country-level, and product-level fixed effects. In addition, I cluster standard errors at the firm level. The results show that, after implementing the new financial reporting standards in 2007, public firms' manufacturing exports increased by approximately $e^{0.116} - 1 \approx 12.3$ percent. The magnitude of the effects is large. This may be because China, to some extent, is an export-oriented economy. Therefore the effects on exports could be larger than those in many other countries. This section also captures treatment effects on the treated group, public firms, while the country-sector level analysis captures the average effects at the country-sector level, which includes both treated and untreated firms. Last, there

[27] I do not take the logarithm of total profit because many firms have negative total profit. Taking a logarithm of total profit would generate lots of missing values and substantially decrease the sample size in the regressions.

[28] To alleviate the concern that firm size drives test results, I control for size in some specifications, and I also use a matched sample to conduct the analyses in Table 8.

might be substitution effects across Chinese firms after the regulation change. Specifically, trading partners in other countries may shift trade toward public firms and away from private firms in China, which would amplify the difference-in-differences estimate. Despite adding various levels of fixed effects in Column (1), one remaining concern is that exports increase more rapidly after a firm becomes public. As a result, we would expect public firms' exports to follow different time trends to those of private firms. To alleviate this concern, in Column (2), I allow public firms to have different time trends. The documented effects remain the same. Moreover, a firm's production and its overall performance vary over time and are likely to influence its global trade behavior. Thus I control for the logarithms of total output, logarithms of total sales, logarithms of the total number of employees, logarithms of total assets, logarithms of total liabilities, and total profits in the regression of Column (3). Because some values are missing, the number of observations in Column (3) decreases, while the coefficient of interest increases from 0.116 to 0.142, which implies that manufacturing exports of public firms increased by approximately $e^{0.142} - 1 \approx 15.3$ percent. In the last two columns, I allow public firms to follow different time trends, relative to private firms. In the last column, I cluster the standard errors at the year level, rather than the firm level. The estimated effects are the same as those in Column (3).[29]

In Figure 4, private firms have a drop in exports in 2008, while public firms do not. To alleviate the concern that the results in Table 4 are driven by the sample in 2008, I exclude the observations in 2008 and reconduct the analysis. Untabulated results show that the magnitude of the effects resembles those in Table 4. The different trends in 2008 shown in Figure 4 between public and private firms could be driven by different destination countries for exports, different products, or different firm-level characteristics that are not controlled for in Figure 4 but are controlled for in the regressions. In summary, the results support the claim that implementation of the new financial reporting regulations facilitates exports by publicly held manufacturers in China. Untabulated results, however, show that the effects of the regulatory change on public firm imports are not robust. This might be because importers in other countries care about Chinese firms' product quality to a larger extent than exporters in other countries worry about the risk of late payment from Chinese firms. Moreover, China exports a large proportion of intermediate goods but imports more commodities and final goods, like high-tech products. Therefore importers in other countries

[29]To further alleviate the concern that firms choose to go public because of the introduction of the new accounting regulation, I exclude firms that go public after 2003, which limits the final sample to firms that either stay public or private throughout the estimation period. Untabulated results show that the effects are a bit larger than those shown in Table 4 and are still statistically significant.

must assess the risks of relationship-specific investments. In summary, the improved information transparency after the accounting reform helps firms export but does not encourage imports.

[Insert Table 4]

In additional to the total exports, I investigate, for public firms, the impact of the 2007 regulation change on the numbers of trade countries and trade products. Table 5 presents the results for the number of countries. Using the basic specification in Column (1), I find that the financial reporting regulation change enabled public firms to export to about 3.2 additional countries. Allowing public firms to follow a different time trend has a minimal effect on the coefficient of interest. When controlling for firm-level production and performance variables, the effects increase to about 3.4 additional trade countries in columns (3), (4), and (5). In the last column, the effect is still statistically significant when I cluster standard errors at the year level, instead of the firm level.

[Insert Table 5]

Table 6 shows the results for the number of trade products. The dependent variable is $Product-Num_{jst}$. Without adding the firm background controls, the coefficient of $PubFirmXReportReform_{it}$ implies that public firms export about 6.2 more products after the regulation change. After controlling for firm background controls, the coefficient of $PubFirmXReportReform_{it}$ decreases to about 4.8 and remains statistically significant. In the last two columns, when I allow for public firms to follow a different time trend, the coefficients of interest are still significant. Untabulated results demonstrate that public firms import about 3.1 additional goods after the reform. To summarize, robust results show that there are effects of financial reporting regulation on the number of trade products. Both Table 5 and Table 6 support the inference that 2007 financial reporting reform in China had both intensive and extensive margin effects on international trade.

[Insert Table 6]

To further alleviate the endogeneity concern that unobserved time-varying factors may affect public and private firms differently in each year, I conduct a triple-differences test that exploits the unique setting of Chinese A-B shares. In China, public firms can issue both A- and B-shares. A-shares are only traded in RMB. Firms that only issue A-shares target domestic investors and must only comply with CAS. Some public firms also issue B-shares. Before 2001, B-shares were only allowed to be traded by foreign investors; this restriction was removed in 2001. In contrast to firms

only issuing A-shares, public firms that issued both A- and B-shares had to comply with IFRS. As a consequence, if the 2007 financial reporting regulation change had effects on international trade, it was likely to have had less of an effect on public firms that issued both A- and B-shares than those that only issued A-shares. On the contrary, if unobserved year-specific factors of public firms drive the results, there should be no different effects between two types of public firms. I revise Equation 25 to the following regression form.

$$Trade_{ijst} = \beta_1 PubFirm_{it} + \beta_2 IssueB_{it} + \gamma_1 PubFirm * Reform_{it} +$$
$$\gamma_2 PubFirm * Reform * IssueB_{it} + \delta X_{it} + \theta Y_{jt} + \phi_i + \zeta_j + \eta_s + \lambda_t + \epsilon_{ijst},$$

where $IssueB_{it}$ is a dummy variable that equals one if a public firm has issued B-shares before or in year t and zero otherwise. $PubFirm * Reform * IssueB_{it}$ is the interaction between $PubFirm * Reform_{it}$ and $IssueB_{it}$. The definitions of other variables are the same as those in Equation 25.

[Insert Table 7]

Based on the results in Column (1) of Table 7, public firms that only issued A-shares experienced large increases in exports after the 2007 regulation change. The negative coefficient of $PubFirm * Reform * IssueB_{it}$ implies that public firms that issued both A- and B-shares experienced much smaller increases in exports than firms that only issued A-shares. After controlling for firm-level time-varying characteristics and allowing public and private firms to have different time trends, the coefficients of interest remain statistically significant in Columns (3), (4), and (5). The results of the triple-differences test imply that China's regulation change in 2007 facilitated exporting for publicly held manufacturers.

Last, I use a matching sample to conduct a final test. There could be unobserved year-specific firm characteristics that affect a firm's trade value in the international market. To alleviate the concern, for each public firm that has valid data in 2006, I use nearest-neighbor matching to find 10 private firms that have the same industry code, closest total output, total sales, total number of employees, total assets, total liabilities, and total profit in 2006. Table 8 presents the results from the matched sample. Column (1) shows that, after the financial reporting reform, public firms export $e^{0.192} - 1 \approx 21.1$ percent more in manufacturing industries. The magnitude of the effects is larger than that from the full sample in Table 4. As explained in Table 4, I use various specifications in Columns (2) to (5). The coefficients nearly remain the same, implying the results

are robust.

[Insert Table 8]

7 Economic Mechanisms

After documenting that accounting improvements facilitate international trade, the next step is to investigate the mechanisms behind the effects. This section provides evidence to support three potential mechanisms: (i) the facilitation of communication among people of different cultures; (ii) the reduction of information asymmetry among trading partners in different countries; and (iii) the facilitation of firms to raise external capital, which is crucial for firms involved in international trade.

In this section, I focus on country-sector-level analyses for two main reasons. First, the analyses here exploit sector-level variation. Country-sector data provide more sector-level variation as the data covers 70 countries over around 20 years. Second, using data covering multiple countries and exploiting sector-level variation within a country enables me to add country-year fixed effects in all analyses in this section. Consequently, tests in this section rule out the endogeneity concern left in Section 5 that unobserved year specific country-level factors affect financial reporting quality and international trade at the same time.

7.1 Facilitate Communication across Different Cultures

Spolaore and Wacziarg [2016] discuss how cultural traits form barriers to interaction and communication between populations. Guiso et al. [2009] demonstrate that cultural biases affect economic exchange, finding that lower levels of bilateral trust lead to less trade between countries, less portfolio investment, and less direct investment. In this section, I test whether improvements in financial reporting help break through cultural barriers and facilitate cross-border communication. I use two measures constructed by Spolaore and Wacziarg [2016] to proxy for cultural distance. The first measure is based on one of the most widely used ancestry distance measures and calculates the weighted ancestry distance between two countries. The second measure captures religious distance between countries.

[Insert Table 9]

I revise the specification of Equation 24 and add the interaction between financial reporting quality and the cultural distance between origin and destination countries. The results are given in Table 9. The first two columns of Table 9 use ancestry distance to proxy for cultural distance between two countries. The results indicate that higher culture distances between trade partners result in financial reporting improvements affecting imports more. The pattern persists for exports, but the coefficient is not statistically significant. In the third and fourth columns, I use religious distance to proxy for the cultural distance. The coefficient of $\text{Culture}_{D}istanceXFin\_Quality_{ori}$ indicates that increased cultural divergence also increases the effects of financial reporting improvement on both exports and imports. The results shown in this section imply that improvements in financial reporting facilitate international trade by breaking through cultural barriers that hinder cross-border trade. This economic mechanism is unique in the international market. People who live in the same country often have homogeneous cultures and thus domestic trade is not substantially affected by cultural barriers.

7.2 Information Asymmetry among Trade Partners

The second economic mechanism is that improvements in financial reporting provide useful information that allows trade partners to reduce risk and cost. As discussed in Section 2, information transparency is more important for exporters and importers involved in long-term trading relationships. They have a greater need to assess risks associated with relationship-specific investments. Moreover, better financial reporting facilitates their contracting. Contract design and enforcement are more important for firms that require more relationship-specific investments, since customized goods are harder to sell to new trading partners [Nunn, 2007]. In this section, I use two measures to proxy for the level of a firm's relationship-specific investments. The first is the proportion of a firm's intermediate inputs that are differentiated products. Compared to homogeneous goods, differentiated products require more relationship-specific investments. The second is the level of a firm's R&D investments. I expect that improvements in financial reporting matter more in cases where a firm has a larger proportion of intermediate inputs that are differentiated products and in cases where a firm has higher R&D investments.

The measure of differentiated intermediate inputs is constructed by Nunn [2007] and commonly used in the literature (e.g., Costello [2013]). First, Nunn [2007] identifies "which intermediate inputs are used, and in what proportions, in the production of each final good." Next, following Rauch [1999], the author identifies which intermediate inputs require relationship-specific investments.

Based on the classification in Rauch [1999], an input is divided into three groups: sold on an exchange, reference priced in trade publications, neither bought and sold on an organized exchange nor reference priced.[30] If an intermediate input is neither sold on an organized exchange nor reference priced, it is defined as an input that is differentiated and thus requires relationship-specific investments. To test the robustness of the results, the authors construct the second measure, which regards an input that is not sold on an organized exchange as differentiated. Both final measures are constructed by taking the weighted average of inputs that require relationship-specific investments at the industry level. I standardize the industry-level measures to have zero mean and one standard deviation.

The level of a firm's R&D investments reflects efforts to develop specialized assets [Houston and Johnson, 2000]. Therefore a firm's R&D intensity, measured as the R&D expense scaled by total sales, is commonly used in the literature to measure relationship-specific investments (e.g., Fee et al. [2006] and Costello [2013]). It proxies for how difficult it is for a firm's customers to replace the product. For example, if a firm develops a specialized component, its customers rely on financial reports to assess the firm's ability to continue supplying that component. As a result, a firm's R&D intensity should affect the magnitude of the impact of financial reporting improvements on value of exports but not on imports. In this section, I use the median of U.S. firms' R&D intensity in a certain industry to generate an industry-level index for relationship-specific investments. I standardize the measure to have zero mean and one standard deviation.

[Insert Table 10]

I adjust the specification in Equation 24 and add the interaction between the sector-level, relationship-specific investments and financial reporting quality. Columns (1) and (2) in Table 10 show the results for exports and imports respectively, by using the first differentiated intermediate inputs measure. I add country×sector, year×sector and country×year fixed effects in the regression. Since financial reporting quality varies at the country-year level, Fin_Quality_{ori} is omitted due to collinearity. The positive coefficients on $\text{Sector\_measure}\times\text{Fin\_Quality}_{ori}$ imply that improvements in financial reporting have stronger effects in industries in which firms require more relationship-specific investments. Untabulated results show that the effects are still significant when using the second differentiated intermediate inputs measure.

[30] Sold on an organized exchange implies that the market for the input is thick, and there are many substitutable buyers and sellers. Therefore this input is not regarded as a relationship-specific input. In some other cases, an input is reference priced in trade publications. Since trade publications are only produced if there is a sufficient amount of trade volume, this type of input is regarded as having intermediate relationship-specificity.

In the last two columns of Table 10, I present the results for R&D intensity. In Column (3), the coefficient on Sector_measure×Fin_Quality$_{ori}$ is positive, which indicates that improvements in financial reporting facilitate international trade to a larger extent in industries with higher R&D investments. As shown in Column (4), I do not find significant results for imports after adding fixed effects. This is reasonable since a firm's investments in specialized products matter for its customers but not for its suppliers. Overall, the results are consistent with the predictions.

7.3 Comparative Advantage in the Global Trade Market

In this section, I provide evidence to support the third mechanism through which improvements to financial reporting facilitate international trade. I focus on country-sector-level analyses in this section for the same reasons listed above. As discussed in Section 2, higher financial reporting quality helps firms raise external capital, and this, in turn, offers a comparative advantage in international markets to firms in sectors with high levels of financial vulnerability. Based on the literature (e.g., Rajan and Zingales [1998], Braun [2003], Manova [2013]), I use asset tangibility to measure the level of financial vulnerability in each sector.[31] Asset tangibility is defined as the share of net property, plant, and equipment in total book assets. It is constructed using data relating to all publicly listed US-based companies, obtained from Compustat's annual industrial files for the period of 1995 to 2017. Although the measure of asset tangibility is based on US data, it is a good proxy for other countries. Rajan and Zingales [1998] and Braun [2003] argue that the measure captures the technological component innate to the manufacturing process in a specific sector. Moreover, this measure is less subject to financial frictions in the United States. To facilitate comparison between different measures, I standardize the asset tangibility measure to have zero mean and one standard deviation.

[Insert Table 11]

To test the different effects across different sectors, I adjust regression Equation 24 by adding interaction terms between measures of financial vulnerability and financial reporting quality. Table 11 shows the impact of financial vulnerability on the magnitude of accounting quality improvement effects. I add country×sector, year×sector and country×year fixed effects in the regression. The

[31] Another potential measure of financial vulnerability is external financial dependence, which is defined as the share of capital expenditure that is not financed by operating cash flows. However, external financial dependence is not suitable to use for analyses in this section because operating cash flows is directly affected by total exports and total imports.

coefficient of $Tangi_s \times \text{Fin\_Quality}_{ori}$ in the first column of Table 11 is negative and statistically significant, implying that the higher the level of asset tangibility in an industry, the less the industry benefits from financial reporting improvements. Column (2) presents the effects on imports. The coefficient of interest is also significant. The results demonstrate that, in countries with better financial reporting, manufacturing industries with less asset tangibility have a comparative advantage in international trade.

In addition to supporting the three potential mechanisms, the patterns captured in Section 7.2 and Section 7.3 further confirm the findings from Section 5. After controlling for country-year fixed effects, the results remain consistent with the prediction that improvements in financial reporting facilitate international trade and do so more in sectors in which reporting quality matters more.

8 Additional Analyses

I provide additional results in this section. First, I show that transparency plays a more important role than comparability does in facilitating international trade. Second, I use alternative measures of financial reporting quality to test the robustness of the results.

8.1 Transparency and Comparability

In addition to transparency, a natural question is how important a role the comparability plays in international trade. The new China accounting standard introduced in 2007 converges CAS with IFRS and thus makes financial reports in China are more comparable to those in countries that use IFRS. To differentiate the effects of transparency and comparability, I examine the impact of the introduction of new CAS on trading value with countries that adopted IFRS and those that did not separately. Using the specification shown in Equation 25, Column (1) in Table 12 shows that introducing the new CAS has no significant effects on treated firms' exports to countries that adopted IFRS before 2007. In contrast, results in Column (2) imply that the total exports of treated firms to non-IFRS adopted countries significantly increased, compared to that of control firms after the new CAS implementation. Since transparency of financial reports plays the dominant role between China and non-IFRS adopters and reports' comparability plays a more important role between China and countries that did adopt IFRS, the results presented in Table 12 imply that the effects on international trade documented in this paper is mainly driven by financial reports' transparency.

[Insert Table 12]

I use the country-sector-level data and exploit the time-variation of the adoption of IFRS to provide additional evidence.[32] In general, the adoption of IFRS in a country does not necessarily improve financial reporting, but it improves the comparability of financial reports in this country with reports in countries that also adopted IFRS. For some countries, such as the United Kingdom, comparability plays a more important role. Given the financial reporting quality was high beforehand in the United Kingdom, IFRS adoption may not improve reporting quality significantly but may still increase the comparability of financial reports in this country with reports in countries that also adopted IFRS. Documenting the effects of IFRS adoption on trade provides more insights on the importance of comparability.

I use the following regression specification to conduct the analyses.

$$Trade_{ijst} = \beta IFRS\_Adopt_{jt} + \gamma X_{jt} + \delta Y_{it} + \phi_j + \zeta_i + \eta_s + \lambda_t + \epsilon_{ijst}. \tag{26}$$

$IFRS\_Adopt_{jt}$ is a dummy variable and equals one if country j adopted IFRS before year t. Control variables are the same as those in regression 24.

[Insert Table 13]

Table 13, Panel A, shows the results for exports. In Column (1), I control for origin-country, destination-country, product, and year fixed effects. The results demonstrate that, after a country adopts IFRS, manufacturing exports increase by $e^{0.034} - 1 \approx 3.5$ percent. However, after adding additional control variables, such as currency value in the origin and destination countries, the rule of law and corruption levels in the origin country, and origin country×sector fixed effects and year×sector fixed effects in Column (2), the effects of IFRS adoption on exports disappear, implying that the results are not robust. Based on the results shown in the first two columns, the positive association between IFRS adoption and trade in goods documented by Márquez-Ramos [2011] is likely due to not controlling for important control variables and fixed effects. Imports results presented in Columns (3) and (4) indicate that IFRS adoption does not increase imports in manufacturing industries. Next, I restrict the sample to countries in which IFRS adoption improves transparency, which is proxied by positive change in GCR scores. Untabulated results demonstrate

[32]The literature (e.g., Daske et al. [2008], Daske et al. [2013], Christensen et al. [2013]) examines the economic consequences, such as market liquidity, cost of capital, and Tobin's Q, of IFRS reporting around the world.

that manufacturing imports increase after a country adopts IFRS that improves transparency. All in all, the results shown in this section do not support the idea that comparability helps facilitate trade.

In summary, although the evidence shown in this section cannot fully rule out the possibility that improvements in comparability may facilitate international trade, the analyses do support the inference that the results documented in this paper are mainly driven by financial reporting improvement and not comparability.

8.2 Alternative Measures

In this section, I use three measures of alternative financial reporting quality to test the robustness of the main results. The first is absolute accruals, defined as earnings before extraordinary items minus net operating cash flows, scaled by lagged total assets. The second and third are two discretionary smoothing proxies based on Lang et al. [2012]. I first construct all three measures at the firm level and then use their country-year medians to proxy for the country-year level financial reporting quality. I standardize all three measures to have zero mean and one s.d. in each year. Table 14 presents the results using the alternative measures. The export results are significant when using absolute accruals and the first discretionary smoothing proxy measure. The import results are significant when using the first discretionary smoothing proxy measure. As shown in Table 14, the effects of financial reporting quality on exports and imports are robust to some of the alternative measures, which implies that the main results are not driven by the GCR measures.

[Insert Table 14]

9 Conclusion

Globalization and international trade have accelerated in recent decades. This paper addresses the important and unexplored issue of whether and to what extent improvements in financial reporting help address frictions in international trade. The paper also provides evidence that supports potential mechanisms.

I first model how accounting quality can affect international trade. Intuitively, an importer can better differentiate good-type exporters from bad-type exporters with improved accounting quality. Consequently, it is more likely that the importer will be willing to trade with an exporter following high quality good reports. As a result, export revenue increases in the source country. Next, I

conduct a country-sector-level analysis and find that, in countries with above-median rule of law, a one s.d. increase in financial reporting quality enhances that country's manufacturing exports and imports by approximately 3.6 percent and 4.5 percent, respectively. To alleviate endogeneity concerns, I exploit a change to financial reporting regulations in China and conduct firm-level analyses. China launched its new accounting standards in 2007, and public firms were required to comply. I find that Chinese public firms increased their exports significantly after the change. Public firms also exported to more countries and exported more product types. Moreover, public firms that issued B-shares, which had to comply with IFRS before 2007, were less affected by the regulation change, compared to public firms that only issued A-shares. In addition, I use nearest-neighbor matching to identify 10 closest private firms for each public firm based on firms' characteristics in 2006. The results from the matched sample are consistent with those from the full sample.

This paper provides evidence for three potential mechanisms through which financial reporting quality can affect international trade. The first is that improved financial reporting facilitates information communication among people with different cultural backgrounds. I find that the effects of financial reporting quality improvements on international trade are larger when there are wider cultural distance between origin and destination countries. This mechanism is unique in the international market. The second mechanism is that financial reporting quality improvements increase information transparency and therefore trading partners face fewer risks and costs associated with relationship specific investments. To support this mechanism, I use two sector-level measures, the proportion of differentiated intermediate inputs and R&D intensity, and find a positive association between the level of relationship-specific investments and the size of the accounting quality improvements' effects on international trade. The last mechanism is that improved financial reporting facilitates the raising of external capital, and this, in turn, boosts international trade. Countries with higher quality reporting have a comparative advantage in global trade in sectors that have a higher level of financial vulnerability.

Finally, I conduct additional analyses. First, I show that the effects of financial reporting quality improvements documents in this paper are mainly driven by transparency rather than comparability. The introduction of new CAS in 2007 significantly increases exports of treated firms in China to countries that did not adopt IFRS but has no effects on exports to countries that did. Moreover, I find that IFRS adoption does not increase exports and imports, which is likely because IFRS adoption does not significantly increase transparency in many countries, though

it may improve comparability. Second, I find that results are robust to two of three alternative measures of financial reporting quality examined.

International trade is crucial for the global economy. The evidence provided here extends the understanding of the real economic effects of high quality financial disclosure and provides a potential link between financial reporting quality, information transparency, and the growth of the world economy. Moreover, it supports the argument that providing more transparent information can alleviate frictions that inhibit international trade flows.

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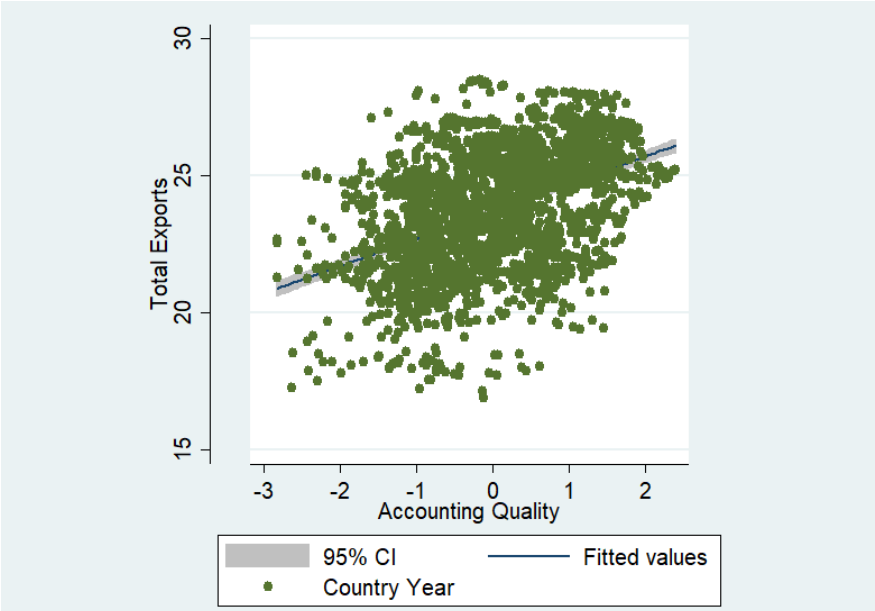
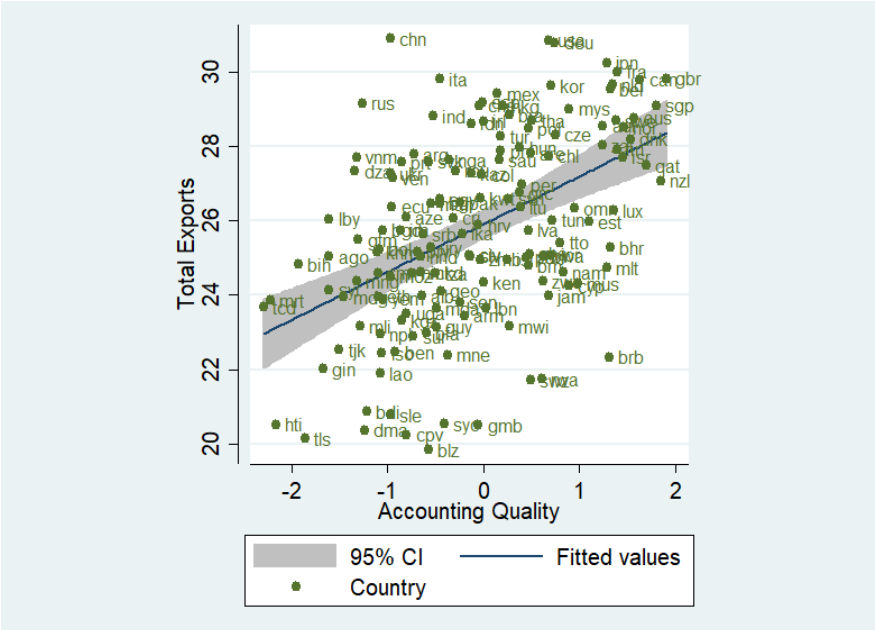
Figure 1: Exports and Accounting Quality



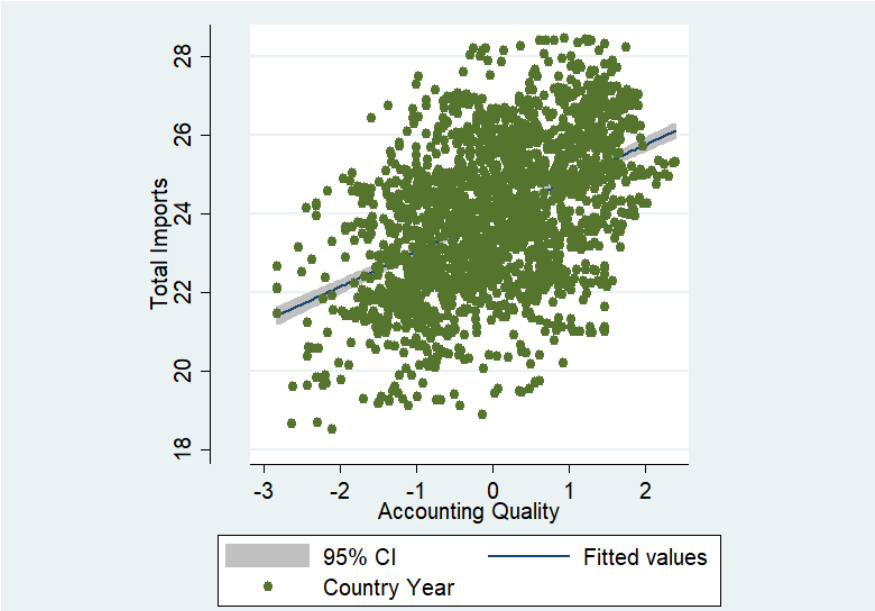
(a)



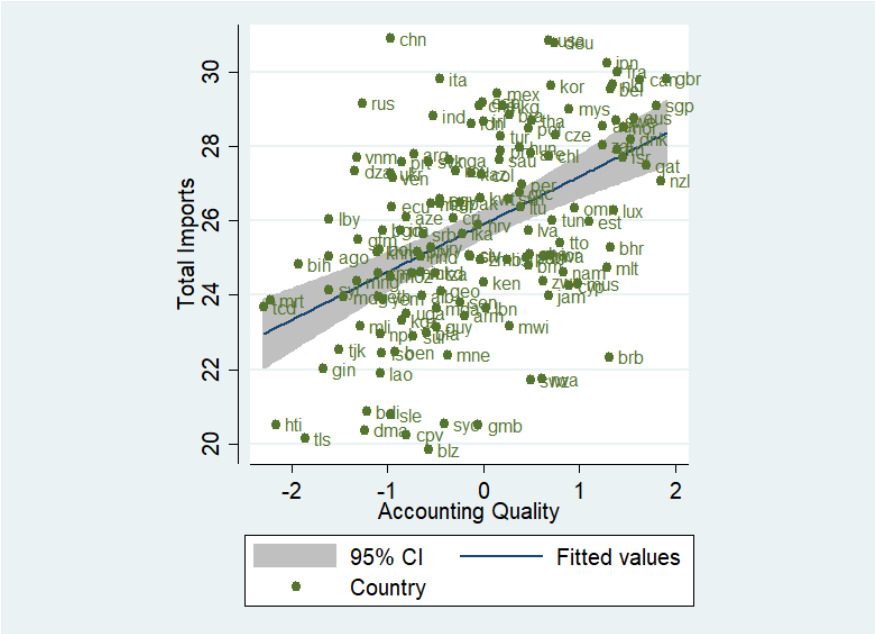
(b)

This figure uses the value of exports/imports from World Trade Flows bilateral data and the measure of financial reporting quality from GCR. Figure 1a presents the correlation between financial reporting quality and the logarithm of total exports for all sectors in each year for each country. Figure 1b averages the total exports across the whole period for each country and plots the correlation between financial reporting quality and logarithm of total exports.

Figure 2: Imports and Accounting Quality



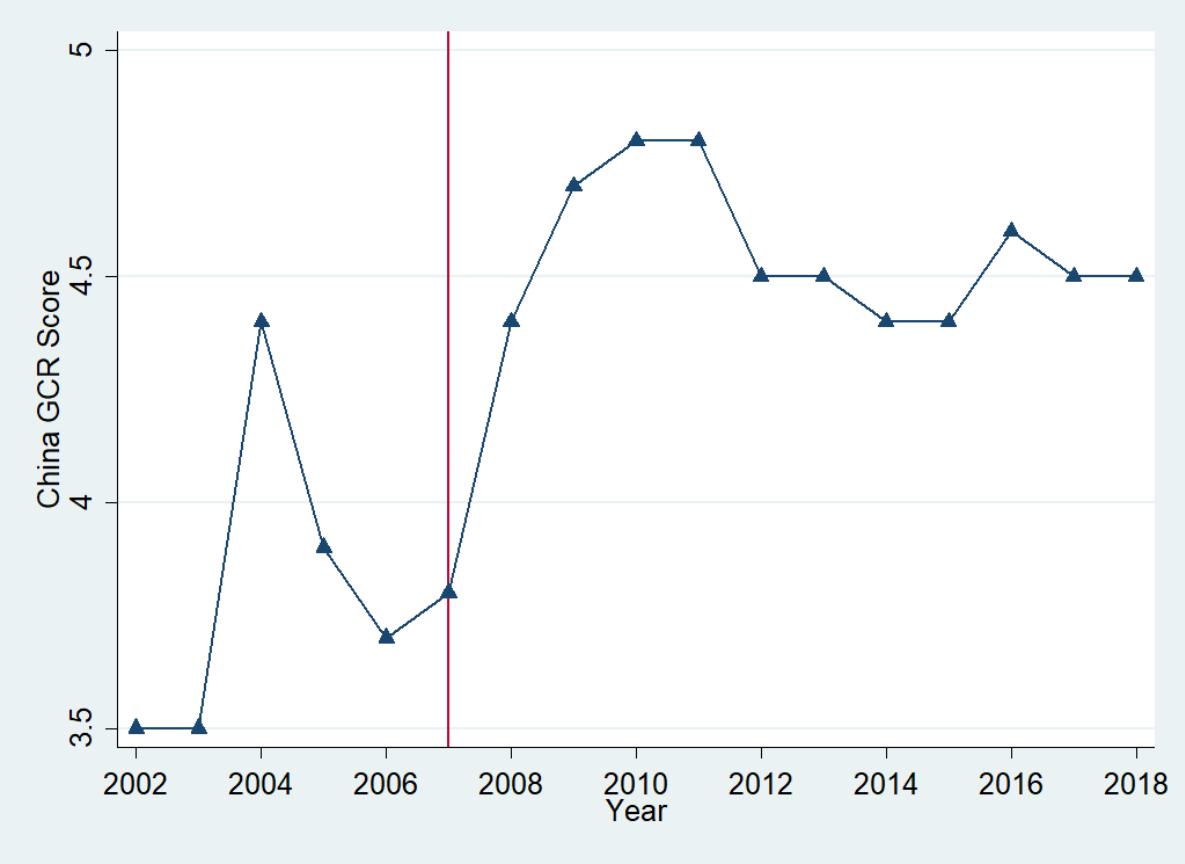
(a)



(b)

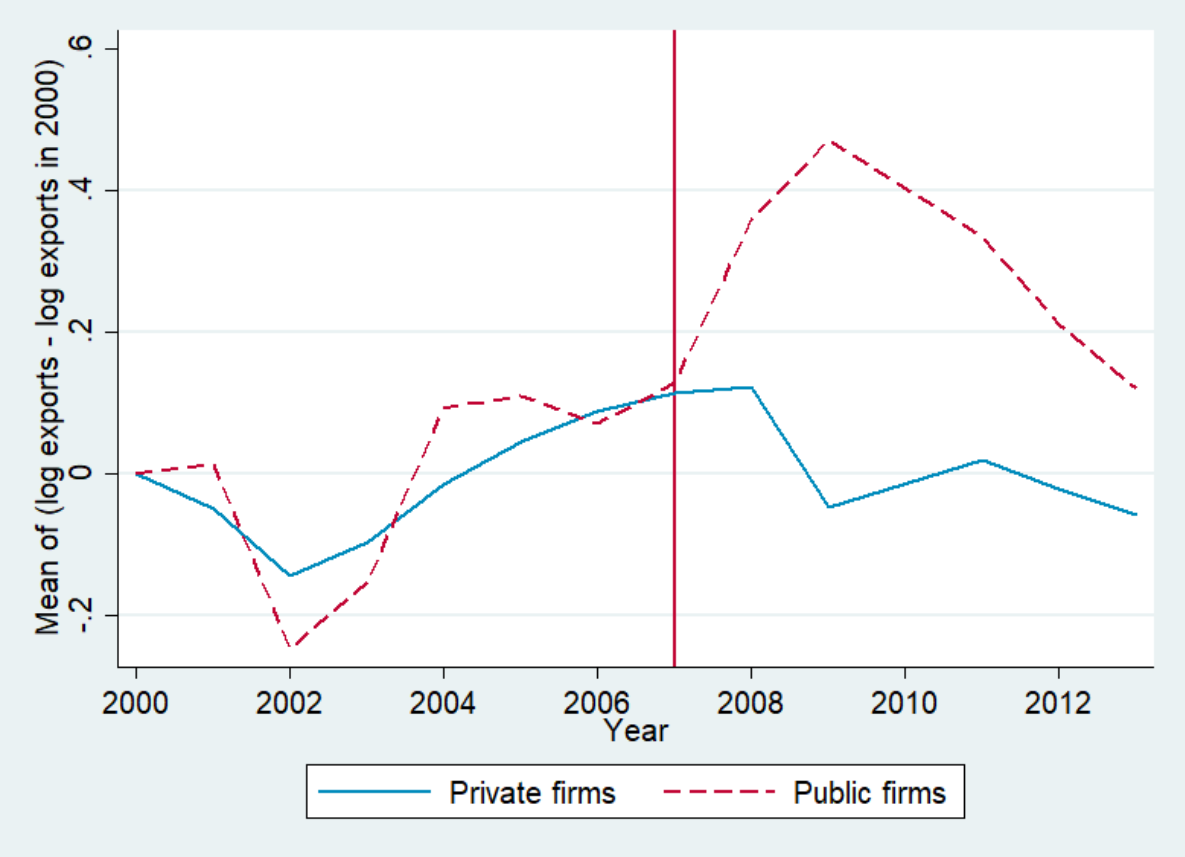
This figure uses the value of exports/imports from World Trade Flows bilateral data and the measure of financial reporting quality from GCR. Figure 2a presents the correlation between financial reporting quality and the logarithm of total imports for all sectors in each year for each country. Figure 2b averages the total imports across the whole period for each country and plots the correlation between financial reporting quality and logarithm of total imports.

Figure 3: China GCR Score



This figure shows the raw China GCR score from 2002 to 2018.

Figure 4: Mean of Log Total Exports for Private and Public Firms



This figure uses CCTS data and shows the mean logarithm of total exports in each year for private firms and public firms, using the logarithm of total exports in 2000 as the benchmark. For each public firm that has valid data in 2006, I use nearest neighbor matching to find ten private firms that have the same industry code, closest total output, total sales, the total number of employees, total assets, total liabilities, and total profit. Figure 4 uses the matched sample to plot the mean of the difference between the log of total exports in each year and the log of total exports in 2000 for the two types of firms respectively.

Table 1: World Trade Flows Bilateral Data Summary Statistics

This table presents the summary statistics and observations of value of exports, imports, financial reporting quality, GDP per capita and distance for the final sample. The trade value information comes from World Trade Flows bilateral data. The unit of observation is the importer-exporter-year-sector level. The trade values are reported in nominal US $1,000 and are normalized based on dollars in 01/01/2017. Data sets containing other variables are merged to the trade flow data before getting the summary statistics. Financial reporting quality measures comes from GCR. GDP per capita for each country and year comes from the World Bank. The distance between two countries comes from comes from CEPII.

	Export ($1,000)	Import ($1,000)	Disc. Quality Origin	Disc. Quality Dest.	GDP per capita Origin ($)	GDP per capita Dest. ($)	Distance (km)
5th pctl	293	237	-0.51	-1.3	3,709	839	521
Median	69,437	64,815	0.95	0.28	37,789	13,790	5,049
Mean	2,355,302	2,515,956	0.78	0.26	36,070	23,480	5,823
95th pctl	11,800,000	13,100,000	1.8	1.68	70,184	64,615	14,732
Obs.	19,992,296	17,415,663	19,992,296	19,992,296	19,992,296	19,992,299	19,771,526

Table 2: Effects of Financial Reporting Quality on International Trade

This table presents regression outputs using the following specification.

$$Trade_{ijst} = \beta Fin\_Quality_{jt} + \gamma X_{jt} + \delta Y_{it} + \phi_j + \zeta_i + \eta_s + \lambda_t + \epsilon_{ijst} \quad (27)$$

where $Trade_{ijst}$ is the logarithm of trade volume from country j to country i in a 4-digit SITC Rev.2 industry level s and year t. $Fin\_Quality_{jt}$ is the measure of financial reporting quality in country j and year t. X_{jt} and Y_{it} are exporters' and importers' country level characteristics respectively, such as the logarithm of distance between the origin and destination countries and the logarithm of real GDP in these countries, in year t. I also add importers' and exporters' country fixed effects, ϕ_j and ζ_i, sector fixed effects, η_s and year fixed effects, λ_t. ϵ_{ijst} is the error term. Please refer to Appendix for the construction of each variable. In Column (2), I cluster standard errors at the origin country-destination country pair level. In Column (3), I add heterogeneous slopes of sectors depending on the destination country's CPI. In Column (4), I add origin countryXsector fixed effects. In Column (5) I control for the currency value in both origin and destination countries, the CPI in both origin and destination countries, the logarithm of GDP per capita, the rule of law and corruption levels in the origin country. In this last column, I keep adding both origin countryXsector fixed effects and yearXsector fixed effects. Panel A and B presents the results for exports and imports respectively.

Panel A: Export						
	(1)	(2)	(3)	(4)	(5)	(6)
			Log (Export Value)			
Fin_Quality$_{ori}$	0.044***	0.044***	0.044***	0.050***	0.037***	0.035***
	[0.002]	[0.009]	[0.010]	[0.009]	[0.010]	[0.011]
Log(GDP)$_{ori}$	0.393***	0.393***	0.397***	0.395***	0.053	-0.223**
	[0.004]	[0.028]	[0.029]	[0.029]	[0.100]	[0.104]
Log(GDP)$_{dest}$	0.541***	0.541***	0.528***	0.536***	0.523***	0.552***
	[0.003]	[0.018]	[0.020]	[0.019]	[0.020]	[0.021]
Log(distance)	-1.176***	-1.176***	-1.178***	-1.181***	-1.170***	-1.312***
	[0.001]	[0.030]	[0.031]	[0.030]	[0.032]	[0.035]
Log(currency)$_{ori}$					-0.043***	-0.046***
					[0.007]	[0.007]
Log(currency)$_{dest}$					-0.054***	-0.053***
					[0.008]	[0.008]
CPI$_{dest}$					0.001***	0.000
					[0.000]	[0.000]
CPI$_{ori}$					0.004***	0.006***
					[0.001]	[0.001]
Log(GDPpc)$_{ori}$					0.191*	0.493***
					[0.105]	[0.108]
Rule of law$_{ori}$					0.130***	0.118***
					[0.037]	[0.039]
Corruption$_{ori}$					0.023	0.015
					[0.025]	[0.026]
Origin	Yes	Yes	Yes	Yes	Yes	No
Destination	Yes	Yes	Yes	Yes	Yes	Yes
Sector	Yes	Yes	Yes	No	Yes	No
Year	Yes	Yes	Yes	No	Yes	No
Cluster (origin-dest)	No	Yes	Yes	Yes	Yes	Yes
c.Origin CPI X i.Sector FE	No	No	Yes	No	No	No
i.Year X i.Sector FE	No	No	No	Yes	No	Yes
i.Origin X i.Sector FE	No	No	No	No	No	Yes
Observations	19,731,930	19,731,930	19,178,589	19,731,916	17,021,375	17,020,792
R-squared	0.390	0.390	0.393	0.395	0.384	0.514

Panel B: Import						
	(1)	(2)	(3)	(4)	(5)	(6)
			Log (Import Value)			
Fin Quality$_{ori}$	0.040***	0.040***	0.042***	0.040***	0.043***	0.044***
	[0.002]	[0.009]	[0.009]	[0.009]	[0.010]	[0.010]
Log(GDP)$_{ori}$	0.492***	0.492***	0.489***	0.498***	0.482***	0.470***
	[0.004]	[0.024]	[0.026]	[0.024]	[0.059]	[0.059]
Log(GDP)$_{dest}$	0.154***	0.154***	0.151***	0.154***	0.165***	0.172***
	[0.003]	[0.021]	[0.022]	[0.022]	[0.023]	[0.024]
Log(distance)	-1.018***	-1.018***	-1.019***	-1.021***	-1.014***	-1.055***
	[0.001]	[0.035]	[0.035]	[0.035]	[0.038]	[0.039]
Log(currency)$_{ori}$					-0.034***	-0.033***
					[0.006]	[0.006]
Log(currency)$_{dest}$					-0.061***	-0.059***
					[0.008]	[0.008]
CPI$_{dest}$					0.000	0.000
					[0.000]	[0.000]
CPI$_{ori}$					0.000	0.001
					[0.000]	[0.000]
Log(GDPpc)$_{ori}$					0.065	0.112*
					[0.063]	[0.062]
Rule of law$_{ori}$					0.018	-0.019
					[0.031]	[0.031]
Corruption$_{ori}$					0.025	0.029
					[0.023]	[0.023]
Origin	Yes	Yes	Yes	Yes	Yes	No
Destination	Yes	Yes	Yes	Yes	Yes	Yes
Sector	Yes	Yes	Yes	No	Yes	No
Year	Yes	Yes	Yes	No	Yes	No
Cluster (origin-dest)	No	Yes	Yes	Yes	Yes	Yes
c.Origin CPI X i.Sector FE	No	No	Yes	No	No	No
i.Year X i.Sector FE	No	No	No	Yes	No	Yes
i.Origin X i.Sector FE	No	No	No	No	No	Yes
Observations	17,184,675	17,184,675	17,108,913	17,184,670	15,090,199	15,090,080
R-squared	0.399	0.399	0.402	0.404	0.394	0.442

Table 3: China Trade and Production Data Summary Statistics

This table presents the summary statistics and observations of the value of exports, imports, firm output, sales, number of employees, total assets, total liabilities and total profit. The exports and imports come from CCTS data. The unit of observation in the original data is the firm-product-year level and variables are reported in thousands of dollars. I aggregate the data into firm-year level when generating the summary statistics. Firm production and performance variables come from ASIF. The unit of observation is at the firm-year level and variables are reported in thousands of RMB. Panel A and B presents the summary statistics for public firms and private firms separately.

	Panel A: Public firms							
	Export ($1000)	Import ($1000)	Output (RMB1000)	Total sales (RMB1000)	# of employees	Total assets (RMB1000)	Total liabilities (RMB1000)	Total profit (RMB1000)
5th pctl	14	5	89,276	89,249	124	135,694	60,031	-16,655
Median	5,558	2,257	1,193,383	1,156,179	1,560	2,096,772	904,136	81,530
Mean	40,973	20,318	1,209,764	1,179,973	3,114	1,559,858	800,858	82,940
95th pctl	187,768	79,462	2,061,230	2,017,091	10,417	2,100,538	1,250,979	157,632
Obs.	1,437	1,486	1,570	1,570	1,733	1,737	1,737	1,737

	Panel B: Private firms							
	Export ($1000)	Import ($1000)	Output (RMB1000)	Total sales (RMB1000)	# of employees	Total assets (RMB1000)	Total liabilities (RMB1000)	Total profit (RMB1000)
5th pctl	13	1	10,631	10,404	37	6,713	1,861	-4,237
Median	1,458	297	68,507	66,886	221	48,742	24,085	1,492
Mean	7,485	6,187	205,278	200,398	477	170,969	95,242	10,843
95th pctl	24,404	97,060	948,285	925,345	1,470	788,321	450,712	63,301
Obs.	442,720	299,721	453,941	453,932	501,573	503,905	503,867	503,813

Table 4: Effects of Financial Reporting Quality on International Trade: China's Reform

This table presents the effects of China's financial reporting regulation change on exports. It presents regression outputs using the following specification.

$$Trade_{ijst} = \beta PubFirm_{it} + \gamma PubFirm * Reform_{it} + \delta X_{it} + \theta Y_{jt} + \phi_i + \zeta_j + \eta_s + \lambda_t + \epsilon_{ijst} \quad (28)$$

where $Trade_{ijst}$ is the logarithm of trade volume firm i exports/imports to country j in sector s and year t. $PubFirm_{it}$ is an indicator variable equals to one if firm i is a public firm in year t, and zero otherwise. $PubFirm * Reform_{it}$ is a dummy variable equal to one if firm i is a public firm in year t after the reform implemented in 2007. X_{it} are firm level characteristics such as firm size, logarithm of output, logarithm of sales, logarithm of number of employees, logarithm of total assets, logarithm of total liabilities, and total profit in year t. Y_{jt} are destination country characteristics, such as the currency value in country j in year t. I also add firm fixed effect ϕ_i, destination country fixed effect ζ_j, sector fixed effects, η_s and year fixed effects, λ_t. ϵ_{ijst} is the error term. γ is the coefficient of interest. Please refer to Appendix for the construction of each variable. In Column (2) I add public firm specific time trend. In Column (3) I control for firm-year level characteristics. In Column (4) I allow for public firm specific time trend. I cluster standard errors at the firm level in the first four columns. In the last column, I cluster standard errors at the year level.

	(1)	(2)	(3)	(4)	(5)
	Log (Export Value)				
PubFirm$_{it}$	0.084		0.122		
	[0.120]		[0.124]		
PubFirmXtReform$_{it}$	0.116*	0.115*	0.142**	0.142**	0.142*
	[0.060]	[0.061]	[0.058]	[0.058]	[0.068]
Log(output)			0.049***	0.049***	0.049***
			[0.014]	[0.014]	[0.010]
Log(sale)			0.051***	0.051***	0.051***
			[0.017]	[0.017]	[0.013]
Log(# of employee)			-0.001	-0.001	-0.001
			[0.006]	[0.006]	[0.003]
Log(total asset)			0.011	0.011	0.011
			[0.009]	[0.009]	[0.006]
Log(total liability)			0.004	0.004	0.004
			[0.004]	[0.004]	[0.003]
Total profit			0.000	0.000	0.000*
			[0.000]	[0.000]	[0.000]
Log(currency)			-0.028***	-0.028***	-0.028***
			[0.005]	[0.005]	[0.004]
Firm	Yes	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes	Yes
Destination	Yes	Yes	Yes	Yes	Yes
Product	Yes	Yes	Yes	Yes	Yes
Firm size	No	No	Yes	Yes	Yes
Pub firm X c.Year	No	Yes	No	Yes	Yes
Cluster	Firm	Firm	Firm	Firm	Year
Observations	9,210,574	9,210,574	8,159,529	8,159,529	8,159,529
R-squared	0.327	0.327	0.332	0.332	0.332

Table 5: Effects of Financial Reporting Quality on The Number of Trading Countries: China's Reform

This table presents the effects of China's financial reporting regulation change on the number of trading countries. It presents regression outputs using the following specification.

$$CountryNum_{ist} = \beta PubFirm_{it} + \gamma PubFirm * Reform_{it} + \delta X_{it} + \phi_i + \eta_s + \lambda_t + \epsilon_{ist} \tag{29}$$

where $CountryNum_{ist}$ indicates the number of countries firm i trade with in sector s and year t. Other variables are defined the same with those in Table 4. Please refer to Appendix for the construction of each variable. I cluster standard errors at the firm level in the first four columns. In the last column, I cluster standard errors at the year level.

	(1)	(2)	(3)	(4)	(5)
			Export		
PubFirm$_{it}$	-0.878		-0.949		
	[2.265]		[2.555]		
PubFirmXReform$_{it}$	3.173***	3.171***	3.399***	3.396***	3.396*
	[1.085]	[1.086]	[1.094]	[1.094]	[1.634]
Log(output)			0.438***	0.438***	0.438***
			[0.080]	[0.080]	[0.127]
Log(sale)			0.644***	0.644***	0.644***
			[0.078]	[0.078]	[0.119]
Log(# of employee)			0.809***	0.809***	0.809***
			[0.036]	[0.036]	[0.103]
Log(total asset)			0.613***	0.613***	0.613***
			[0.045]	[0.045]	[0.134]
Log(total liability)			0.149***	0.149***	0.149***
			[0.023]	[0.023]	[0.013]
Total profit			0.000	0.000	0.000
			[0.000]	[0.000]	[0.000]
Firm	Yes	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes	Yes
Product	Yes	Yes	Yes	Yes	Yes
Firm size	No	No	Yes	Yes	Yes
Pub firm X c.Year	No	Yes	No	Yes	Yes
Cluster	Firm	Firm	Firm	Firm	Year
Observations	424,514	424,514	378,332	378,332	378,332
R-squared	0.846	0.846	0.860	0.860	0.860

Table 6: Effects of Financial Reporting Quality on The Number of Trading Products: China's Reform

This table presents the effects of China's financial reporting regulation change on the number of trading products. It presents regression outputs using the following specification.

$$ProductNum_{ijt} = \beta PubFirm_{it} + \gamma PubFirm * Reform_{it} + \delta X_{it} + \theta Y_{jt} + \phi_i + \eta_s + \zeta_j + \epsilon_{ist} \quad (30)$$

where $ProductNum_{ijt}$ indicates the number of products firm i trade with with country j in year t. Other variables are defined the same with those in Table 4. Please refer to Appendix for the construction of each variable. I cluster standard errors at the firm level in the first four columns. In the last column, I cluster standard errors at the year level.

	(1)	(2)	(3)	(4)	(5)
			Export		
PubFirm$_{it}$	-6.530		-6.034		
	[3.998]		[4.245]		
PubFirmXReform$_{it}$	6.214**	6.220**	4.789**	4.793**	4.793*
	[2.647]	[2.649]	[2.442]	[2.443]	[2.357]
Log(output)			0.286***	0.287***	0.287*
			[0.092]	[0.092]	[0.125]
Log(sale)			0.357***	0.357***	0.357**
			[0.094]	[0.094]	[0.132]
Log(# of employee)			0.596***	0.596***	0.596***
			[0.056]	[0.056]	[0.103]
Log(total asset)			0.143***	0.143***	0.143**
			[0.052]	[0.052]	[0.056]
Log(total liability)			0.104***	0.104***	0.104***
			[0.028]	[0.028]	[0.022]
Total profit			0.000	0.000	0.000
			[0.000]	[0.000]	[0.000]
Log(currency)			0.026***	0.026***	0.026***
			[0.006]	[0.006]	[0.008]
Firm	Yes	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes	Yes
Destination	Yes	Yes	Yes	Yes	Yes
Firm size	No	No	Yes	Yes	Yes
Pub firm X c.Year	No	Yes	No	Yes	Yes
Cluster	Firm	Firm	Firm	Firm	Year
Observations	424,514	424,514	360,126	360,126	360,126
R-squared	0.836	0.836	0.843	0.843	0.843

Table 7: Effects of Financial Reporting Quality on International Trade:
China's Reform, A-B Shares

This table presents the different effects of China's financial reporting regulation change on exports of public firms only issued A shares and public firms issued both A and B shares. It presents regression outputs using the following specification.

$$Trade_{ijst} = \beta_1 PubFirm_{it} + \beta_2 IssueB_{it} + \gamma_1 PubFirm * Reform_{it} +$$
$$\gamma_2 PubFirm * Reform * IssueB_{it} + \delta X_{it} + \theta Y_{jt} + \phi_i + \zeta_j + \eta_s + \lambda_t + \epsilon_{ijst}$$

whether $IssueB_{it}$ is a dummy variables equals one if a public firm has issued B-shares before or in year t and zero otherwise. $PubFirm * Reform * IssueB_{it}$ is the interaction between $PubFirm * Reform_{it}$ and $IssueB_{it}$. Other variables are defined the same with those in Table 4. Please refer to Appendix for the construction of each variable. I cluster standard errors at the firm level in the first four columns. In the last column, I cluster standard errors at the year level.

	(1)	(2)	(3)	(4)	(5)
	Log (Export Value)				
PubFirm$_{it}$	-0.001		0.105		
	[0.180]		[0.172]		
Issue B$_{it}$	0.093	0.095	0.026	0.024	0.024
	[0.150]	[0.149]	[0.130]	[0.129]	[0.202]
PubFirmXReform$_{it}$	0.349***	0.349***	0.412***	0.411***	0.411***
	[0.123]	[0.123]	[0.114]	[0.114]	[0.120]
PubFirmXReform$_{it}$XIssue B$_{it}$	-0.247*	-0.248*	-0.286**	-0.285**	-0.285*
	[0.138]	[0.138]	[0.129]	[0.129]	[0.137]
Log(output)			0.049***	0.049***	0.049***
			[0.014]	[0.014]	[0.010]
Log(sale)			0.051***	0.051***	0.051***
			[0.017]	[0.017]	[0.013]
Log(# of employee)			-0.001	-0.001	-0.001
			[0.006]	[0.006]	[0.003]
Log(total asset)			0.011	0.011	0.011
			[0.009]	[0.009]	[0.006]
Log(total liability)			0.004	0.004	0.004
			[0.004]	[0.004]	[0.003]
Total profit			0.000	0.000	0.000*
			[0.000]	[0.000]	[0.000]
Log(currency)			-0.028***	-0.028***	-0.028***
			[0.005]	[0.005]	[0.004]
Firm	Yes	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes	Yes
Destination	Yes	Yes	Yes	Yes	Yes
Product	Yes	Yes	Yes	Yes	Yes
Firm size	No	No	Yes	Yes	Yes
Pub firm X c.Year	No	Yes	No	Yes	Yes
Cluster	Firm	Firm	Firm	Firm	Year
Observations	9,210,574	9,210,574	8,159,529	8,159,529	8,159,529
R-squared	0.327	0.327	0.332	0.332	0.332

Table 8: Effects of Financial Reporting Quality on International Trade: China's Reform, Matching Sample

This table presents the effects of China's financial reporting regulation change on exports by using matching sample. It presents regression outputs using the following specification.

$$Trade_{ijst} = \beta PubFirm_{it} + \gamma PubFirm * Reform_{it} + \delta X_{it} + \theta Y_{jt} + \phi_i + \zeta_j + \eta_s + \lambda_t + \epsilon_{ijst} \quad (31)$$

Variables are defined the same with those in Table 4. Please refer to Appendix for the construction of each variable. In Column (2) I add public firm specific time trend. In Column (3) I control for firm-year level characteristics. In Column (4) I allow for public firm specific time trend. I cluster standard errors at the firm level in the first four columns. In the last column, I cluster standard errors at the year level.

	(1)	(2)	(3)	(4)	(5)
	Log (Export Value)				
PubFirm$_{it}$	-0.042		-0.029		
	[0.114]		[0.123]		
PubFirmXtReform$_{it}$	0.192**	0.192**	0.189**	0.189**	0.189**
	[0.085]	[0.085]	[0.085]	[0.085]	[0.066]
Log(output)			-0.237*	-0.237*	-0.237***
			[0.137]	[0.137]	[0.051]
Log(sale)			0.357***	0.357***	0.357***
			[0.132]	[0.132]	[0.064]
Log(# of employee)			0.009	0.009	0.009
			[0.020]	[0.020]	[0.017]
Log(total asset)			-0.081	-0.081	-0.081*
			[0.072]	[0.072]	[0.040]
Log(total liability)			0.034	0.034	0.034*
			[0.034]	[0.034]	[0.015]
Total profit			0.000**	0.000**	0.000*
			[0.000]	[0.000]	[0.000]
Log(currency)			-0.017	-0.017	-0.017
			[0.027]	[0.027]	[0.014]
Firm	Yes	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes	Yes
Destination	Yes	Yes	Yes	Yes	Yes
Product	Yes	Yes	Yes	Yes	Yes
Firm size	No	No	Yes	Yes	Yes
Pub firm X c.Year	No	Yes	No	Yes	Yes
Cluster	Firm	Firm	Firm	Firm	Year
Observations	422,870	422,870	377,652	377,652	377,652
R-squared	0.469	0.469	0.473	0.473	0.473

Table 9: Effects of Financial Reporting Quality on International Trade:
Cultural Distance between Trading Partners

This table presents regression outputs using the following specification.

$$Trade_{ijst} = \beta_1 Fin\_Quality_{jt} + \beta_2 Cultural_{ij} * Fin\_Quality_{jt} + \gamma X_{jt} + \delta Y_{it} + \phi_j + \zeta_i + \eta_s + \lambda_t + \epsilon_{ijst} \quad (32)$$

where $Cultural_{ij}$ measures the cultural distance between origin and destination countries. In Column (2) and (4) I add origin countryXyear fixed effects in addition to the fixed effects added in Table 2. Other variables are defined the same with those in Table 2. Please refer to Appendix for the construction of each variable. I cluster standard errors at the origin-destination country pair level in all columns.

	(1)	(2)	(3)	(4)
	Ancestry Distance		Religious Distance	
	Export	Import	Export	Import
Fin_Quality$_{ori}$				
Culture_DistanceXFin_Quality$_{ori}$	0.558	1.117**	0.483***	0.244*
	[0.386]	[0.495]	[0.145]	[0.139]
Culture Distance	-1.989**	-0.837	-0.940***	-0.952***
	[0.852]	[1.308]	[0.249]	[0.232]
Log(GDP)$_{ori}$				
Log(GDP)$_{dest}$	0.521***	0.121***	0.528***	0.112***
	[0.026]	[0.031]	[0.026]	[0.032]
Log(distance)	-1.344***	-1.218***	-1.376***	-1.193***
	[0.034]	[0.032]	[0.035]	[0.037]
CPI$_{dest}$	0.000	0.001***	0.000	0.001***
	[0.000]	[0.000]	[0.000]	[0.000]
Log(currency)$_{dest}$	-0.041***	-0.070***	-0.040***	-0.068***
	[0.008]	[0.009]	[0.008]	[0.009]
Destination	Yes	Yes	Yes	Yes
Cluster (origin-dest)	Yes	Yes	Yes	Yes
i.Origin X i.Sector FE	Yes	Yes	Yes	Yes
i.Year X i.Sector FE	Yes	Yes	Yes	Yes
i.Origin X i.Year FE	Yes	Yes	Yes	Yes
Observations	7,762,104	7,393,189	7,416,016	7,127,986
R-squared	0.531	0.468	0.534	0.471

Table 10: Effects of Financial Reporting Quality on International Trade: Reducing Information Asymmetry

This table presents regression outputs using the following specification.

$$Trade_{ijst} = \beta_1 Fin\_Quality_{jt} + \beta_2 Sector\_measure_{ij} * Fin\_Quality_{jt} + \gamma X_{jt} + \delta Y_{it} + \phi_j + \zeta_i + \eta_s + \lambda_t + \epsilon_{ijst} \quad (33)$$

There are two $Sector\_measure_{ij}$. One is $Differ\_inputs_{ij}$ that measures the proportion of intermediate inputs for final goods in a certain industry that requires relationship-specific investments. The other is RD_intenl_{ij} that measures the ratio of firms' research and development expense to total sales in a certain industry. In Column (2) and (4) I add origin country×year fixed effects in addition to the fixed effects added in Table 2. Other variables are defined the same with those in Table 2. Please refer to Appendix for the construction of each variable. I cluster standard errors at the origin-destination country pair level in all columns.

	(1)	(2)	(3)	(4)
	Differentiated Intermediate Inputs		R&D Intensity	
	Export	Import	Export	Import
Fin_Quality$_{ori}$	—	—	—	—
	—	—	—	—
Sector_measureXFin_Quality$_{ori}$	0.009**	0.022***	0.113***	-0.014
	[0.004]	[0.004]	[0.016]	[0.014]
Log(GDP)$_{ori}$	—	—	—	—
	—	—	—	—
Log(GDP)$_{dest}$	0.548***	0.170***	0.562***	0.167***
	[0.019]	[0.023]	[0.020]	[0.023]
Log(distance)	-1.311***	-1.053***	-1.309***	-1.051***
	[0.035]	[0.039]	[0.035]	[0.039]
CPI$_{dest}$	0.000	0.000	0.000	0.000
	[0.000]	[0.000]	[0.000]	[0.000]
Log(currency)$_{dest}$	-0.050***	-0.059***	-0.050***	-0.058***
	[0.007]	[0.008]	[0.007]	[0.008]
Destination	Yes	Yes	Yes	Yes
Cluster (origin-dest)	Yes	Yes	Yes	Yes
i.Origin X i.Sector FE	Yes	Yes	Yes	Yes
i.Year X i.Sector FE	Yes	Yes	Yes	Yes
i.Origin X i.Year FE	Yes	Yes	Yes	Yes
Observations	17,020,792	15,090,080	15,958,487	14,183,926
R-squared	0.516	0.444	0.517	0.446

Table 11: Comparative Advantage of Financial Reporting Quality on International Trade

This table presents regression outputs using the following specification.

$$Trade_{ijst} = \beta_1 Fin\_Quality_{jt} + \beta_2 Tangi_s * Fin\_Quality_{jt} + \gamma X_{jt} + \delta Y_{it} + \phi_j + \zeta_i + \eta_s + \lambda_t + \epsilon_{ijst} \quad (34)$$

$Tangi_s$ measures the sector level asset tangibility. Other variables are defined the same with those in Table 2. Please refer to Appendix for the construction of each variable. I cluster standard errors at the origin-destination country pair level in all columns.

	(1)	(2)
	Asset Tangibility	
	Export	Import
Fin_Quality$_{ori}$		
Sector_measureXFin_Quality_ori	-0.015*	-0.027***
	[0.008]	[0.007]
Log(GDP)$_{ori}$		
Log(GDP)$_{dest}$	0.551***	0.172***
	[0.019]	[0.023]
Log(distance)	-1.314***	-1.055***
	[0.035]	[0.039]
CPI_dest	0.000	0.000
	[0.000]	[0.000]
Log(currency)_dest	-0.050***	-0.059***
	[0.007]	[0.008]
Destination	Yes	Yes
Cluster (origin-dest)	Yes	Yes
i.Origin X i.Sector FE	Yes	Yes
i.Year X i.Sector FE	Yes	Yes
i.Origin X i.Year FE	Yes	Yes
Observations	16,951,506	15,020,598
R-squared	0.517	0.446

Table 12: Effects of Financial Reporting Quality on International Trade: China's Reform, Transparency and Comparability

This table presents the effects of China's financial reporting regulation change on exports to IFRS adopted countries and to non-IFRS adopted countries separately. It presents regression outputs using the following specification.

$$Trade_{ijst} = \beta PubFirm_{it} + \gamma PubFirm * Reform_{it} + \delta X_{it} + \phi_i + \zeta_j + \eta_s + \lambda_t + \epsilon_{ijst} \quad (35)$$

Variables are defined the same with those in Table 4. Please refer to Appendix for the construction of each variable. I add firm fixed effects, year fixed effects, destination country fixed effects, product fixed effects, and public firm specific time trend. I cluster standard errors at the firm level in the first four columns.

VARIABLES	(1) IFRS	(2) non-IFRS
PubFirmXtReform_it	0.069	0.183***
	[0.074]	[0.065]
Log(output)	0.075***	0.037**
	[0.019]	[0.015]
Log(sale)	0.046**	0.056***
	[0.021]	[0.017]
Log(# of employee)	0.004	-0.002
	[0.007]	[0.008]
Log(total asset)	0.006	0.016
	[0.010]	[0.010]
Log(total liability)	0.005	0.002
	[0.005]	[0.004]
Total profit	0.000	0.000
	[0.000]	[0.000]
Log(currency)	-0.039***	-0.017**
	[0.006]	[0.007]
Firm	Yes	Yes
Year	Yes	Yes
Destination	Yes	Yes
Product	Yes	Yes
Firm size	Yes	Yes
Pub firm X c.Year	Yes	Yes
Cluster	Firm	Firm
Observations	3,438,548	4,627,643
R-squared	0.344	0.357

Table 13: Effects of Accounting Quality on International Trade Volume: IFRS Adoption

This table presents regression outputs using the following specification.

$$Trade_{ijst} = \beta IFRS\_Adopt_{jt} + \gamma X_{jt} + \delta Y_{it} + \phi_j + \zeta_i + \eta_s + \lambda_t + \epsilon_{ijst} \tag{36}$$

whether $IFRS\_Adopt_{jt}$ equals one if country j adopted IFRS. Other variables are defined the same with those in Table 2. Please refer to Appendix for the construction of each variable. I restrict the sample to countries in which IFRS adoption improves GCR scores. I cluster standard errors at the origin-destination country pair level in all columns. Panel A and B presents the results for export and import respectively.

	(1)	(2)	(3)	(4)
	Export		Import	
IFRS$_{ori}$	0.034**	-0.005	-0.006	0.011
	[0.015]	[0.000]	[0.010]	[0.000]
Log(GDP)$_{ori}$	0.610***	-0.966	0.601***	-0.004
	[0.048]	[0.000]	[0.035]	[0.000]
Log(GDP)$_{dest}$	0.532***	0.569	0.354***	0.368
	[0.023]	[0.000]	[0.029]	[0.000]
Log(distance)	-1.128***	-1.097	-0.964***	-0.964
	[0.054]	[0.000]	[0.048]	[0.000]
Additional Controls	No	Yes	No	Yes
Origin	Yes	No	Yes	No
Destination	Yes	Yes	Yes	Yes
Product	Yes	No	Yes	No
Year	Yes	No	Yes	No
Cluster (origin-year)	Yes	Yes	Yes	Yes
i.Year X i.Sector FE	No	Yes	No	Yes
i.Origin X i.Sector FE	No	Yes	No	Yes
Observations	8,299,017	6,994,121	6,397,715	5,503,129
R-squared	0.401	0.390	0.408	0.399

Table 14: Effects of Accounting Quality on International Trade Volume: Alternative Measures

This table presents regression outputs using the following specification.

$$Trade_{ijst} = \beta Fin\_Quality_{jt} + \gamma X_{jt} + \delta Y_{it} + \phi_j + \zeta_i + \eta_s + \lambda_t + \epsilon_{ijst} \tag{37}$$

whether $Fin\_Quality_{jt}$ are three alternative measure of financial reporting quality in country j and year t. They are absolute accruals and two discretionary smoothing proxies constructed in Lang et al. [2012]. Other variables are defined the same with those in Table 2. Please refer to Appendix for the construction of each variable. I cluster standard errors at the origin-destination country pair level in all columns. Panel A and B presents the results for export and import respectively.

	Panel A: Export			Panel B: Import		
	(1)	(2)	(3)	(4)	(5)	(6)
	Log (Export Value)			Log (Import Value)		
Abs_accruals$_{ori}$	-0.024***			0.001		
	[0.004]			[0.003]		
SMTH1$_{ori}$		-0.009***			-0.012***	
		[0.003]			[0.002]	
SMTH2$_{ori}$			0.006			-0.003
			[0.005]			[0.003]
Control	Yes	Yes	Yes	Yes	Yes	Yes
Destination	Yes	Yes	Yes	Yes	Yes	Yes
Cluster (origin-dest)	Yes	Yes	Yes	Yes	Yes	Yes
i.Year X i.Secter FE	Yes	Yes	Yes	Yes	Yes	Yes
i.Origin X i.Secter FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	14,985,657	14,727,803	14,606,202	12,742,073	12,419,045	12,301,489
R-squared	0.513	0.514	0.515	0.440	0.442	0.442

Appendix A Variable Definitions

Dependent variables:

Log(Value of Exports) is the logarithm of total exports at the year-product level for each country pair in the country-sector level analyses. It is the logarithm of total exports at the year-product-destination level for each firm in the analyses that exploit China's regulation change.

Log(Value of Imports) the definition is similar with that of ***Log(Exports)***.

CountryNum is the number of countries a certain *country* trades with when conducting the country-sector level analyses. It is the number of countries a certain *firm* trades with when conductng the China setting analyses.

ProductNum is the number of products a certain *country* exports/imports when conducting the country-sector level analyses. It is the number of products a certain *firm* exports/imports when conducting the China setting analyses.

Independent variables:

Fin_Quality measures the country-year level financial reporting quality. It comes from the Global competitiveness report from 1999 to 2017. I standardize the measures to have zero mean and one s.d.

Log(GDP) is the logarithm of real GDP at the country-year level based on the data from the World Bank.

Log(distance) is the population weighted distance between two countries in kilometers. It comes from CEPII.

CPI is the level of CPI at the country-year level based on the data from the World Bank.

Log(GDPpc) is the logarithm of GDP per capita at the country-year level from the World Bank.

Rule of law is the rule of law measure at the country-year level based on the data from the World Bank.

Corruption is the level of corruption measure at the country-year level based on data from the World Bank.

Differ_inputs is a sector level measure. It is the weighted average of intermediate inputs for final goods in a certain industry that require relationship-specific investments.

RD_inten is a sector level measure, which is the median of the ratio of firms' research and development expense to total sales in a certain industry.

Culture_distance is proxied by the ancestry distance or religious distance between two countries. They are constructed in Spolaore and Wacziarg [2016].

NumWords is a sector level rank from one to ten. It measures the average number of unique words in the 10-K files for firms in each sector.

Tangi is a sector level measure, which captures the share of net property, plant, and equipment in total book-value assets.

PubFirm is a dummy variable equals one from the year in which a firm becomes public and equals zero otherwise.

Reform is a dummy variables equals one in 2007 and afterwards and equals zero before 2007.

Log(output) is the logarithm of total output at the firm-year level in thousand of RMB. It comes from China ASIF data.

Log(sale) is the logarithm of total sales at the firm-year level in thousand of RMB. It comes from China ASIF data.

Log(# of employee) is the logarithm of the total number of employees at the firm-year level in thousand of RMB. It comes from China ASIF data.

Log(total assets) is the logarithm of total assets at the firm-year level in thousand of RMB. It comes from China ASIF data.

Log(total liabilities) is the logarithm of total liabilities at the firm-year level in thousand of RMB. It comes from China ASIF data.

Log(total profit) is the logarithm of total profit at the firm-year level in thousand of RMB. It comes from China ASIF data.

Firm size indicates a firm's size. It has three categories: big, middle, or small. It comes from China ASIF data.

Issue B is a dummy variable that equals one if a public firm has issued B-shares before or in year t and zero otherwise.

Pri Credit is defined as the amount of credit by banks and other financial intermediaries to the private sector as a share of GDP. It is used in Manova [2013]

Absolute Accruals is defined as earnings before extraordinary items minus net operating cash flows, scaled by lagged total assets.

SMTH1 is the first discretionary smoothing proxy based on Lang et al. [2012].

SMTH12 is the second discretionary smoothing proxy based on Lang et al. [2012].