Research Article

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Accounting Comparability and Labor Productivity: Evidence from China's A-Share Listed Firms

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Abstract: This study examines the impact of accounting comparability on firms' labor productivity. Using a panel data of China's A-share listed firms from 2011 to 2022, we find that accounting comparability is positively related to firms' labor productivity, and with every one-unit increase in the level of accounting comparability, the firms' labor productivity is expected to increase by 2.97 units. In the mechanism analysis, we find that promoting human capital accumulation and reducing agency cost are crucial channels through which accounting comparability improves firms' labor productivity. In additional analysis, we find that the positive effect of accounting comparability on labor productivity is more pronounced when firms have higher financing constraints and lower levels of corporate governance, and their peer firms have stronger accounting information quality. Our findings add to the body of knowledge regarding the determinants of labor productivity, and the labor-economic consequences of accounting comparability, and provide firms with evidence-based insights into improving their labor productivity.

Keywords: accounting comparability, labor productivity, human capital accumulation, agency cost

1 Introduction

Since the reform and opening, China has achieved an average annual GDP growth of about 10% under the traditional model of relying on cheap labor inputs and massive accumulation of physical capital, which is known as the "Chinese growth miracle." However, with the accelerating pace of population aging, China's laborer number is declining and labor expenses are rising quickly. As a result, the issues of "labor difficulties" and "labor shortage" are gradually becoming more apparent and are impeding the growth of Chinese firms. Prior research indicates that labor productivity, defined as the new value created by workers in one unit of time, is the primary source of firms' competitive advantage (Laut et al., 2023), and low labor productivity will negatively impact a firm's capacity to compete and perform in the future. Therefore, it has great theoretical value and practical significance to explore the determinants of labor productivity.

Many factors can influence labor productivity (Hintzmann, et al., 2021; Radło & Tomeczek, 2022; Saha, 2023; Yang et al., 2022; Zhu et al., 2024). However, one that should not be overlooked is human capital accumulation (Jibir et al., 2023; Laut et al., 2023), as it can improve employees' labor proficiency and their capacity to learn and utilize new technologies as well as assimilate and apply current ones (Chircop et al., 2020; Yang et al., 2022). Nevertheless, to accumulate human capital, firms must bear the high expenses associated with hiring, onboarding, and training new staff (Nguyen & Canh, 2021). According to Jung et al. (2014), firms are prone to underinvest in human capital when faced with severe financial restrictions, which can reduce labor productivity. In addition, ownership and management are often separated in modern firms. Agency conflicts within firms can result in inadequate incentives or ineffective regulation (Ghaly et al., 2020). This, in turn, can lead to increased employee and manager laziness and slack behavior, thus also reducing firm labor productivity.

Accounting comparability, one of the many quality attributes of accounting information is the capacity of accounting information to be compared and evaluated between different firms and across periods (Chen et al., 2018; Kim et al., 2013). Prior research points out that high accounting comparability is very important for mitigating information asymmetry and reducing agency conflicts among different stakeholders. This, in turn, can promote human

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capital accumulation and reduce agency cost within the firm. Specifically, accounting comparability, on the one hand, plays an informational role that can reduce information asymmetry and the required return rate that investors demand (Kim et al., 2013; Li, 2010), which can alleviate firms' financing constraints and promote their human capital accumulation. On the other hand, accounting comparability plays a monitoring role that can reduce the monitoring cost of internal and external stakeholders (e.g., analysts, institutional investors, and corporate boards) and improve their monitoring effectiveness (Choi & Suh, 2019; Zhang, 2018), which can mitigate the negative impact of agency cost on firms' labor investment efficiency (Rezaei et al., 2022; Zhang et al., 2020).

We therefore argue that accounting comparability may improve firms' labor productivity by promoting human capital accumulation and reducing agency cost. However, while previous studies have examined the effects of accounting comparability on various corporate measures, such as cost of equity capital (Imhof et al., 2017), firm innovation (Chircop et al., 2020; Tseng & Zhong, 2024), compensation relative performance assessment (Lobo et al., 2018), and credit risk (Kim et al., 2013), few studies have focused on the labor-economic effect of accounting comparability. Specifically, Rezaei et al (2022) and Zhang et al (2020) were the first to examine the labor-economic effect of accounting comparability, but they primarily focused on examining the impact of accounting comparability on corporate employment decision-making. These works to date have investigated neither the effect of accounting comparability on firms' labor productivity nor the specific mechanisms through which accounting comparability influences firms' labor productivity.

Meanwhile, several studies have investigated determinants of labor productivity, yet most of them focus on examining the impact of air pollution (He et al., 2019), employment protection (Bjuggren, 2018), information communication technology (Laddha et al., 2022), and other factors on labor productivity from a macro perspective. With the advancement of research, more and more studies have examined the impact of certain firm-specific characteristics on labor productivity and found that work supervision (Sandriani & Harahap, 2023), management practices (Rico & Cabrer-Borrás, 2021), employee happiness (Bellet et al., 2023), debt level (Kale et al., 2019; Yang et al., 2022), and human capital (Jibir et al., 2023; Laut et al., 2023) all have significant effects on firms' labor productivity. However, none of the existing labor productivity studies has tested its potential relationship with accounting comparability, a unique cross-firm attribute. These limitations offer opportunities for unique contributions to both the accounting comparability and firms' labor productivity of the existing literature.

Therefore, we seek to contribute to the extant accounting comparability and labor productivity by investigating the influence of accounting comparability on labor productivity and its underlying mechanisms. We test our predictions using a comprehensive sample of China's A-share listed firms from 2011 to 2022, and the key results support our predictions. This article contributes to the literature in the following aspects. First, we provide insights into what determines labor productivity by showing that accounting comparability is also a determinant of firms' labor productivity. While existing studies have identified various drivers of firm productivity (Laut et al., 2023; Mullins, 2023; Saha, 2023), this is one of the first studies that explain whether and how accounting comparability influences firms' labor productivity. Second, our study contributes to the literature on the labor-economic consequences of accounting comparability by showing that accounting comparability is not only associated with labor employment decision-making (Rezaei et al., 2022; Zhang et al., 2020) but also associated with higher labor productivity. On the one hand, we provide the first evidence that accounting comparability is not only better one-off labor employment decision-making but also associated with improved day-to-day producing decision-making. On the other hand, we further unravel the underlying mechanism of accounting comparability affecting labor productivity by revealing the mediating role of human capital accumulation and agency cost and their boundary conditions.

This study proceeds as follows. Section 2 presents the theoretical analysis and hypothesis. Section 3 describes research methodology, variable measurement, and sample construction. Section 4 reports primary empirical results. Section 5 presents the impact of our findings on theory, practice, and future research, while Section 6 concludes this article.

2 Theoretical Analysis and Hypothesis

Human capital accumulation within firms has a significant impact on labor productivity (Black & Lynch, 1996; Li et al., 2012). However, financial constraints often limit the accumulation process of human capital (Fonseca & Van Doornik, 2022), leading firms prone to underinvestment in human capital (Jung et al., 2014) and struggle to hire skilled labor (Brown & Matsa, 2016). Meanwhile, agency conflicts may drive firms to overinvest or underinvest in labor (Ghaly et al., 2020), making their labor productivity deviate from the optimal level. Prior research shows that accounting comparability can mitigate information asymmetry and reduce the required return rate that investors demand (Kim et al., 2013;

Li, 2010), thus easing the financial constraints on human capital accumulation. Moreover, as a supervisory tool, accounting comparability can mitigate the negative impact of agency cost on labor investment efficiency (Choi & Suh, 2019; Zhang, 2018). Therefore, we posit that improved accounting comparability can enhance firms' labor productivity by promoting human capital accumulation and reducing agency cost.

2.1 Accounting Comparability, Human Capital Accumulation, and Labor Productivity

Human capital plays a vital role in the creation, application, and spread of new technologies, and its accumulation also serves as a major catalyst for increases in labor productivity (Jibir et al., 2023; Laut et al., 2023). Numerous empirical studies have verified that human capital improves labor productivity in a variety of ways. For instance, Backman (2014) noted that increasing human capital accumulation through on-the-job training to develop new skills or enhance current ones in employees is a useful strategy to increase firms' labor productivity. Konings and Vanormelingen (2015) used firm-level panel data of on-the-job training to estimate its impact on productivity and wages and found that the productivity premium of a trained worker is substantially higher compared to the wage premium. Laut et al. (2023) used panel data collected from 28 provinces in Indonesia to analyze the effect of human capital on labor productivity and found that the higher the level of education, the higher the firm labor productivity. Li et al. (2012) showed that the improvement of human capital quality, measured by educational attainment, contributes to individual labor productivity growth ranging from approximately 8% to 9%. Since human capital is a vital input of research and development operations, Cinnirella and Streb (2017) proposed that human capital accumulation can not only directly improve labor productivity but also indirectly improve labor productivity by fostering technological advancement.

Accounting comparability can promote firms' human capital accumulation by lowering financing constraints for human capital. Specifically, due to the information asymmetry between managers and external capital providers, the latter are often at an information disadvantage and can only assess firms' value based on the average market level (Imeni et al., 2021; Kim et al., 2016; Myers & Majluf, 1984; Shemshad, 2023). Accounting comparability, as an important valuable decision-making reference for external investors or creditors, can facilitate external financing by reducing information asymmetry and broadening the channels of information acquisition. This is attributed to the fact that when accounting comparability is high, external investors or creditors can not only rely on the disclosed information of the target firm but also obtain valuable information from peer firms within the same industry (Fang et al., 2016). Furthermore, the financing constraints alleviated by accounting comparability can promote firms' human capital accumulation in the following two ways. On the one hand, the alleviation of financing constraints can increase firms' willingness to invest in on-the-job training for employees, which is crucial for firms' human capital accumulation. For example, Yang et al. (2022) suggested that firms facing high financing constraints often reduce their investments in employee education, training, and other forms of human capital. On the other hand, the financing constraints alleviated by accounting comparability can improve the firms' allocation of human capital since firms frequently require additional working capital for labor recruitment (Fonseca & Van Doornik, 2022; Neumeyer & Perri, 2005). For example, Brown and Matsa (2016) found that firms facing high financing constraints tend to hire lower-quality job seekers, as they are less attractive to highly skilled labor. Caggese et al. (2019) indicated that firms facing high financing constraints are unable to bear the high labor adjustment cost, which may drive them to hire less productive employees and fire more productive ones since more productive employees mean higher labor adjustment costs. We thus posit that accounting comparability improves labor productivity by facilitating human capital accumulation.

2.2 Accounting Comparability, Agency cost, and Labor Productivity

The agency problem is an important factor that impedes firms' labor productivity (Aliahmadi, 2023). According to earlier studies (Anh Thu et al., 2023; Ghaly et al., 2020), agency conflicts between shareholders and managers may cause problems with labor overinvestment or underinvestment, which lowers firms' labor productivity. For example, Bertrand and Mullainathan (2003) discovered that managers who enjoy a quiet life often keep ineffective staff members to avoid being legally responsible for supervising them, which leads to an overinvestment in labor. Ghaly et al. (2020) found that when faced with performance pressure, short-sighted managers may either give up profitable long-term investment opportunities and reduce employment or overdismiss employees to avoid high labor costs and result in underinvestment in labor. These behaviors, in turn, reduce labor productivity. Furthermore, in the absence of supervision and insufficient

incentives, employees may have similar problems as managers, such as laziness and embezzlement, all of which undermine firms' labor productivity (Sandriani & Harahap, 2023). This view also has been substantiated by some scholars. For example, Bloom and Van Reenen (2007) found that the improvement of supervisory management practices can promote labor productivity; Kale et al. (2019) found that debt, as a crucial external corporate governance and monitoring instrument, can reduce agency cost and thus increase labor productivity.

Accounting comparability can effectively alleviate agency conflicts within firms. On the one hand, prior research suggests that high-level accounting comparability enables shareholders to accurately obtain and understand firms' actual operation and financial status, which, in turn, improves their ability to supervise managers and restrict their self-interested behavior. Specifically, increased accounting comparability enables shareholders to infer whether research and development investments, profit status, marginal profit margins of products, and other business-sensitive information (such as production and sales plans for the next period) are accurate through competitors' accounting information in the same industry. This, in turn, facilitates better monitoring of managers' self-indulgent behavior and motivates them to work hard to increase firms' long-term value (Graham et al., 2005). For example, Sohn (2016) found that accounting comparability improves firms' information transparency, which will drive managers to reduce manipulation activities. Zhang (2018) found that accounting comparability can reduce the cost of information acquisition and improve the quality of audit reports, thus enhancing the supervisory of managers. On the other hand, accounting comparability, linked to the relative performance evaluation system based on peer firms' accounting information, plays a critical role in managerial contractual structures and incentive plans. Specifically, enhanced accounting comparability facilitates the establishment and execution of more efficient and rational compensation contracts for shareholders and managers, which improves managers' performance-compensation sensitivity and enhances the incentive effect of compensation contracts on managers (Choi et al., 2019), thus restraining managers' lax behavior and self-interest in labor investment. Therefore, we posit that accounting comparability can improve firms' labor productivity by reducing agency cost.

Based on the aforementioned facts, we propose the following hypotheses:

H1: Accounting comparability can enhance firms' labor productivity.

H2: Accounting comparability improves firms' labor productivity by promoting human capital accumulation and reducing agency cost.

3 Methodology

Following previous relevant studies (Chircop, 2024; Choi & Suh, 2019; Ramalingegowda et al., 2021; Shu et al., 2022), we take the panel data of China's A-share listed firms from 2011 to 2022 and construct a fixed effect model that controls both year and firm effects to examine the relation between accounting comparability and firms' labor productivity. Our design has two advantages. First, panel data enable us to leverage the longitudinal nature of the data and obtain more accurate and efficient estimations. Second, the fixed effect model that controls both year and firm effects can capture the unique characteristics of each firm and the common time trends and mitigate the potential endogeneity issues between accounting comparability and firms' labor productivity, thus making the estimated result more robust and reliable. Therefore, our design combines the strengths of the fixed model and panel data analysis and allows us to investigate the relationship between accounting information comparability and labor productivity in a rigorous and comprehensive manner.

3.1 Model Design

To examine the relationship between accounting comparability and firms' labor productivity, we follow Chircop (2024) and construct the following model:

$$\mathrm{LABPROD}_{it} = \beta_0 + \beta_1 \mathrm{AC}_{it} + \sum \mathrm{Control}_{it} + \mathrm{Year} + \mathrm{Firm} + \varepsilon_{it}, \quad (1)$$

where subscripts i represents the firm; t represents the year, and $\mathrm{LABPROD}_{it}$ represents the labor productivity of firm i in year t. AC_{it} represents the accounting comparability of firm i in year t. $\mathrm{Control}_{it}$ represents control variables. Firm represents individual effects that do not go with firms, Year represents time effects, and ε is the random error term.

3.2 Variable Selection

3.2.1 Dependent Variable: Labor Productivity (LABPROD)

The dependent variable (labor productivity), defined by Karl Marx, is an indicator based on the Marxist theory of labor value and is often used to measure the productivity development level of the firm or the whole economy. In

Marxist economics, labor productivity represents the worker's capacity or production effect and is typically expressed as the new value the worker creates in the given time. Following the prior literature (Bjuggren, 2018; Bender et al., 2018), we use two indicators to measure labor productivity: LABPROD1 = ln (operating revenue/total employees), LABPROD2 = ln [(net profit + income tax expenses + cash payments to and on behalf of employees)/total employees].

3.2.2 Core Explanatory Variable: Accounting Comparability (AC)

Accounting comparability describes how different firms handle a mapping of the same economic activity (De Franco et al., 2011). We define accounting comparability as follows: given the same economic activity, two firms with comparable accounting processes will create identical financial statements. The accounting comparability indicator is constructed as follows.

$$\text{Financial Statements}_i = f_i(\text{Economic Events}_i), \quad (2)$$

where f_i represents the economic operations of the firm i's accounting conversion procedure. Equation (2) states that, under the assumption of the same economic processes, two firms are more comparable if their financial statements are more similar.

Following De Franco et al. (2011), we estimate Model (3) using the data of firm i for the current year (t) and the preceding 12 quarters (q):

$$\text{EARN}_{iqt} = \beta_{0i} + \beta_{1i}\text{RET}_{iqt} + \beta_{2i}\text{NEG}_{iqt} + \beta_{3i}\text{NEG}_{iqt} \times \text{RET}_{iqt} + \varepsilon_{iqt}. \quad (3)$$

In Model (3), EARN_{iqt} represents the ratio of net profit to the market value of equity at the beginning of quarter q for firm i in year t, RET_{iqt} represents the stock return of firm i in quarter q of year t, and NEG_{iqt} is a dummy variable equal to 1 if the stock return is negative and 0 otherwise. Estimating Model (3) yields the estimates of $\hat{\beta}_{0i}$, $\hat{\beta}_{1i}$, $\hat{\beta}_{2i}$, and $\hat{\beta}_{3i}$. Based on these estimates, the expected earnings for firm i and firm j under the assumption of identical economic activities can be obtained through transformation functions.

$$E(\text{EARN}_{ijqt}) = \hat{\beta}_{0i} + \hat{\beta}_{1i}\text{RET}_{iqt} + \hat{\beta}_{2i}\text{NEG}_{iqt} + \hat{\beta}_{3i}\text{NEG}_{iqt} \times \text{RET}_{iqt} + \varepsilon_{iqt}. \quad (4a)$$

$$E(\text{EARN}_{ijqt}) = \hat{\beta}_{0j} + \hat{\beta}_{1j}\text{RET}_{iqt} + \hat{\beta}_{2j}\text{NEG}_{iqt} + \hat{\beta}_{3j}\text{NEG}_{iqt} \times \text{RET}_{iqt} + \varepsilon_{iqt}. \quad (4b)$$

The accounting comparability of firm i in year t is defined as the negative of the average absolute difference in expected earnings between the two firms.

$$\text{AC}_{ijt} = -\frac{1}{12} \times \sum_{q=-11}^{0} |E(\text{EARN}_{iiqt}) - E(\text{EARN}_{ijqt})|. \quad (5)$$

By repeating the aforementioned method, the accounting comparability between firm i and other peer firms can be calculated:

$$\text{AC}_{it} = \frac{1}{N-1} \times \sum_{j=1}^{N(j\neq i)} \text{AC}_{ijt}. \quad (6)$$

3.2.3 Control Variables

Following the prior literature (Saha, 2023; Zhang et al., 2023), we control for a vector of variables that affect firms' labor productivity: (1) SIZE, natural logarithm of total assets. (2) LNAGE, natural logarithm of one plus the number of years a firm has been listed. (3) LEV, total liabilities/total assets. (4) ROA, net profit/total assets. (5) GROWTH, the growth rate of operating revenue. (6) CASH, operating cash flow/total assets. (7) CUR, current assets/total assets. (8) RDD = = $[L_i - (S_i/S) \times L]/L_i$, where L_i represents the total number of employees in firm i, L represents the total number of employees in the industry, S_i represents the total operating revenue of firm i, and S represents the total operating revenue of all firms in the industry. (9) WAGE = ln (cash payments to and on behalf of employees/total employees). (10) CI = total assets/operating revenue. (11) FA = fixed assets/total assets. (12) FIRST, the shareholding ratio of the largest shareholder. (13) INDIR, number of independent directors/number of directors. (14) BOARD, natural logarithm of the number of board directors.

3.3 Sample and Descriptive Statistics

We retrieved the data from the CSMAR and WIND database. Since employee education background data began systematically recorded for listed firms in 2011 in the WIND database, we take China's A-share listed firms from 2011 to 2022 as our initial sample. Then, we use the following ways to obtain our final sample: (1) Exclusion of ST firms. (2) Exclusion of firms in the financial industry. (3) Exclusion of observations with a total employee count less than 100. (4) Removal of observations with industry code changes within the first 12 quarters and those with incomplete stock returns or quarterly reports to ensure reliable estimation of

accounting comparability. (5) Exclusion of observations with missing control variables. The final sample consists of 28,195 firm-year observations. Finally, all continuous variables are winsorized at the 1st and 99th percentiles for mitigating the influence of outliers.

Table 1 reports descriptive statistics of the main variables. It shows that the mean value of LABPROD1 (LABPROD2) is 13.917 (12.277), which is greater than the median value of 13.810 (12.247), indicating that the level of LABPROD is skewed to the right with a sustainable trend in development for most firms. However, the standard deviation of LABPROD is more than 0.8, suggesting that there are some differences in labor productivity among different firms. In addition, the average value of AC is −0.016, which is smaller than the median value of −0.013, which is in line with the descriptive results of the body of current research.

4 Results

4.1 Baseline Results

Table 2 reports the baseline estimation results of the impact of accounting comparability on firms' labor productivity using equation (1). The results in column (1) show that when the dependent variable is LABPROD1, the coefficient of accounting comparability is 2.97, and it is statistically significant at the 1% level. The results in column (2) show that when the dependent variable is LABPROD2, there is also a positive correlation between accounting comparability and firms' labor productivity at the 1% significant level. The results in columns (1) and (2) consistently demonstrate that improving the quality of accounting information has a significant positive effect on firms' labor productivity. Moreover, the economic magnitude of the effect is substantial. Using the results in column (1) as an example, our results indicate that for every one-unit increase in the level of accounting comparability, firms' labor productivity is expected to increase by 2.97 units. Overall, the results in Table 2 support our hypothesis H1.

4.2 Robustness Test

4.2.1 Instrumental Variable Approach

Endogeneity poses a significant challenge in empirical research. While the previous sections have partly addressed omitted variable bias by incorporating firm fixed effects, the potential for reverse causality remains. For instance, higher labor productivity may be attributed to employees' enhanced qualifications (Laut et al., 2023; Yang et al., 2022) and better-qualified employees can enhance the quality of accounting information (Call et al., 2017). Therefore, there might be a reverse causality relationship between labor productivity and accounting comparability. To mitigate the potential reverse causality, following Li and Wang (2018), we selected the average accounting comparability of other firms (excluding the target

Table 1: Descriptive statistics

Variables	Observations	Mean	Std. dev.	Min	Median	Max
LABPROD1	28,195	13.917	0.866	12.141	13.810	16.601
LABPROD2	28,195	12.277	0.811	9.923	12.247	14.615
AC	28,195	−0.016	0.010	−0.058	−0.013	−0.005
SIZE	28,195	22.319	1.307	20.025	22.116	26.381
LNAGE	28,195	2.259	0.714	0.855	2.340	3.372
LEV	28,195	0.420	0.198	0.057	0.413	0.860
ROA	28,195	0.045	0.044	−0.067	0.038	0.198
GROWTH	28,195	0.174	0.366	−0.466	0.111	2.235
CASH	28,195	0.050	0.066	−0.139	0.049	0.242
CUR	28,195	0.570	0.198	0.102	0.586	0.944
RDD	28,195	−0.047	0.983	−5.271	0.243	0.877
WAGE	28,195	11.662	0.512	10.475	11.646	13.042
CI	28,195	2.403	1.803	0.401	1.896	11.290
FA	28,195	0.211	0.156	0.003	0.180	0.689
FIRST	28,195	0.342	0.148	0.085	0.321	0.742
INDIR	28,195	0.377	0.054	0.333	0.364	0.571
BOARD	28,195	2.124	0.199	1.609	2.197	2.708

Table 2: Effect of accounting comparability on labor productivity

	LABPROD1 (1)	LABPROD2 (2)
AC	2.9661***	4.0230***
	(6.23)	(9.10)
SIZE	0.1466***	0.1161***
	(12.13)	(12.19)
LNAGE	−0.0108	−0.0621***
	(−0.62)	(−4.04)
LEV	0.2408***	−0.2089***
	(6.31)	(−6.51)
ROA	1.5909***	10.6291***
	(17.70)	(76.78)
GROWTH	0.1187***	0.0442***
	(14.14)	(6.39)
CASH	−0.3782***	−0.2611***
	(−8.31)	(−6.43)
CUR	0.4646***	−0.0182
	(10.76)	(−0.53)
RDD	−0.3020***	−0.1284***
	(−28.91)	(−16.57)
WAGE	0.4896***	0.7791***
	(26.23)	(52.32)
CI	−0.0628***	0.0309***
	(−12.24)	(6.66)
FA	0.0041	−0.1900***
	(0.09)	(−4.08)
FIRST	0.0106	0.0903*
	(0.17)	(1.78)
INDIR	0.0135	−0.0112
	(0.17)	(−0.14)
BOARD	−0.0396	−0.0620**
	(−1.43)	(−2.43)
Constant	4.7869***	0.4579*
	(13.41)	(1.70)
Year	Yes	Yes
Firm	Yes	Yes
N	28195	28195
R^2–within	0.710	0.777

T-statistics computed with robust standard errors clustered at the firm level are reported in parentheses; *, **, and *** denote significance at the 10, 5, and 1% levels, respectively.

firm itself) in the same industry as the instrumental variable (IV) for the two-stage regression. Theoretically, the accounting comparability of individual firms can be influenced by factors such as accounting policies, choices of accounting estimates, and the complexity of economic activities in the industry. However, the accounting comparability of other peer firms should not directly affect the labor productivity of individual firms. Nonetheless, relying solely on logical reasoning to assess the validity of instrumental variables is insufficient. The estimated results of the models with the two instrumental variables are shown in Table 3.

The results in column (1) show that the coefficient of the IV is significantly positive, and the Cragg-Donald *F* statistic is 1579.243, indicating that the IV satisfies the requirement of correlation with the explanatory variable. The results in columns (3) and (5) show that after controlling the accounting comparability of the target firm, the impact of the IV on the target firm's labor productivity is not significant, indicating that the IV satisfies the requirement that the IV is unrelated to the dependent variable. All these findings indicate that the IV selected in this study is valid. The results in columns (2) and (4) show that accounting comparability can significantly improve firms' labor productivity, supporting the conclusions mentioned previously.

4.2.2 Propensity Score Matching (PSM)

Selection bias serves as another source of endogeneity issues. In this article, selection bias emerges when firms self-select to have high or low accounting comparability. To address this concern, we follow Chircop et al. (2023) and perform propensity score matching (PSM). Specifically, based on the median of annual accounting comparability, we divide the sample into a high accounting comparability group (treat group) and a low accounting comparability group (control group). Then, we implement PSM using the nearest neighbor matching without replacement method with all control variables in equation (1). The covariate balance test results show that the covariate deviations are less than the standardized difference (20%), suggesting an effective matching result. Table 4 reports the results of the sample regression analysis after propensity score matching, showing that accounting comparability can significantly improve firms' labor productivity at the 1% level, that is, after accounting for sample selection bias, the results again verified H1.

4.2.3 High-Dimensional Fixed Effect

We control the firm- and year-fixed effects in equation (1). However, it cannot be denied that there may be some macro-level factors that have different impacts on different provinces and industries in different years. For example, differences in labor resource endowments among different provinces may lead to differences in labor productivity across firms. Therefore, we further control the high-dimensional fixed effect of province*industry*year. The results in Table 5 show that after controlling the province*industry*year, accounting comparability still

Table 3: Results of Instrumental variable approach

	First stage AC (1)	Second stage LABPROD1 (2)	IV exogenous test LABPROD1 (3)	Second stage LABPROD2 (4)	IV exogenous test LABPROD2 (5)
AC		3.3682***	2.7952***	2.8757***	4.5106***
		(3.27)	(5.39)	(3.16)	(9.08)
IV	0.7285***		0.4174		−1.1910
	(39.74)		(0.50)		(−1.59)
SIZE	0.0007***	0.1463***	0.1467***	0.1170***	0.1158***
	(3.38)	(12.08)	(12.14)	(12.26)	(12.17)
LNAGE	0.0038***	−0.0130	−0.0108	−0.0558***	−0.0620***
	(10.30)	(−0.74)	(−0.62)	(−3.50)	(−4.04)
LEV	−0.0052***	0.2432***	0.2402***	−0.2158***	−0.2072***
	(−7.12)	(6.26)	(6.31)	(−6.70)	(−6.45)
ROA	−0.0036*	1.5921***	1.5900***	10.6259***	10.6318***
	(−1.92)	(17.69)	(17.72)	(76.76)	(76.82)
GROWTH	0.0003**	0.1186***	0.1188***	0.0447***	0.0441***
	(2.13)	(14.07)	(14.15)	(6.47)	(6.38)
CASH	−0.0036***	−0.3764***	−0.3785***	−0.2661***	−0.2602***
	(−4.65)	(−8.34)	(−8.31)	(−6.56)	(−6.40)
CUR	−0.0005	0.4643***	0.4640***	−0.0174	−0.0165
	(−0.72)	(10.76)	(10.75)	(−0.50)	(−0.48)
RDD	0.0003**	−0.3022***	−0.3021***	−0.1278***	−0.1283***
	(2.06)	(−29.16)	(−28.97)	(−16.41)	(−16.54)
WAGE	−0.0009***	0.4899***	0.4893***	0.7784***	0.7799***
	(−3.26)	(26.23)	(26.24)	(52.37)	(52.29)
CI	−0.0000	−0.0627***	−0.0627***	0.0306***	0.0307***
	(−0.28)	(−12.25)	(−12.23)	(6.63)	(6.61)
FA	−0.0011	0.0047	0.0041	−0.1917***	−0.1900***
	(−1.18)	(0.10)	(0.09)	(−4.12)	(−4.08)
FIRST	0.0019	0.0104	0.0115	0.0909*	0.0877*
	(1.48)	(0.16)	(0.18)	(1.79)	(1.73)
INDIR	0.0012	0.0133	0.0140	−0.0107	−0.0127
	(0.67)	(0.17)	(0.18)	(−0.13)	(−0.16)
BOARD	0.0012*	−0.0400	−0.0393	−0.0611**	−0.0630**
	(1.69)	(−1.44)	(−1.41)	(−2.40)	(−2.48)
Constant	−0.0154**		4.7897***		0.4500*
	(−2.48)		(13.41)		(1.67)
Year	Yes	Yes	Yes	Yes	Yes
Firm	Yes	Yes	Yes	Yes	Yes
N	28195	28195	28195	28195	28195
R^2–within	0.540	0.663	0.710	0.741	0.777

T-statistics computed with robust standard errors clustered at the firm level are reported in parentheses; *, **, and *** denote significance at the 10, 5, and 1% levels, respectively. Running the xtivreg2 command in Stata, single-point cluster samples were excluded, resulting in a reduced sample size. In addition, the command does not report the intercept term.

significantly improves firms' labor productivity, indicating our findings are robust.

4.2.4 Adding Control Variables

In line with earlier studies (Zhang, 2023), we primarily control firm-level control variables in the baseline regression. To alleviate the interference of other potential factors with our findings, we follow prior literature (Breit et al., 2019; Kale et al., 2019; Motta, 2020) and further control some variables that influence firms' labor productivity. These variables include the Herfindahl-Hirschman Index (HHI), firms' labor intensity (LABINT), and some other variables at the province level: the natural logarithm of GDP (LNGDP), the GDP growth rate (GDPG), the natural logarithm of the population (LNPOP), and the natural logarithm of total foreign investment (LNFDI). The results in

Table 4: The results of propensity score matching

	LABPROD1 (1)	LABPROD2 (2)
AC	2.9104***	3.6570***
	(5.45)	(7.41)
SIZE	0.1422***	0.1161***
	(11.32)	(11.46)
LNAGE	−0.0255	−0.0699***
	(−1.39)	(−4.20)
LEV	0.2469***	−0.1931***
	(6.58)	(−5.75)
ROA	1.5448***	10.4039***
	(16.10)	(72.94)
GROWTH	0.1240***	0.0462***
	(13.94)	(6.09)
CASH	−0.3472***	−0.2881***
	(−6.96)	(−6.51)
CUR	0.4285***	−0.0466
	(10.09)	(−1.22)
RDD	−0.3119***	−0.1330***
	(−27.54)	(−14.74)
WAGE	0.4938***	0.7807***
	(24.88)	(48.41)
CI	−0.0623***	0.0276***
	(−11.39)	(5.67)
FA	−0.0248	−0.2380***
	(−0.51)	(−4.97)
FIRST	0.0233	0.0885
	(0.33)	(1.55)
INDIR	−0.0275	−0.0633
	(−0.33)	(−0.70)
BOARD	−0.0420	−0.0598**
	(−1.37)	(−2.17)
Constant	4.8856***	0.5003*
	(12.82)	(1.72)
Year	Yes	Yes
Firm	Yes	Yes
N	23400	23400
R^2–within	0.713	0.780

T-statistics computed with robust standard errors clustered at the firm level are reported in parentheses; *, **, and *** denote significance at the 10, 5, and 1% levels, respectively.

Table 5: Results of high-dimensional fixed effect

	LABPROD1 (1)	LABPROD2 (2)
AC	2.3357***	4.7943***
	(4.69)	(8.33)
SIZE	0.1237***	0.1131***
	(12.23)	(10.89)
LNAGE	−0.0426***	−0.0922***
	(−2.73)	(−5.45)
LEV	0.2078***	−0.2328***
	(6.11)	(−6.95)
ROA	1.3222***	10.3958***
	(14.07)	(69.28)
GROWTH	0.1045***	0.0368***
	(13.08)	(4.64)
CASH	−0.4177***	−0.2830***
	(−8.28)	(−6.06)
CUR	0.3156***	−0.0579
	(8.32)	(−1.56)
RDD	−0.3478***	−0.1464***
	(−29.68)	(−16.20)
WAGE	0.4256***	0.7493***
	(21.76)	(45.82)
CI	−0.0522***	0.0321***
	(−9.93)	(6.44)
FA	0.0036	−0.1988***
	(0.08)	(−3.86)
FIRST	−0.0518	−0.0117
	(−0.87)	(−0.21)
INDIR	−0.0209	−0.0723
	(−0.27)	(−0.76)
BOARD	−0.0449*	−0.0669**
	(−1.69)	(−2.32)
Constant	6.2328***	1.0993***
	(18.13)	(3.48)
Province*industry*year	Yes	Yes
Firm	Yes	Yes
N	24444	24444
R^2–within	0.950	0.917

The values in parentheses represent clustered *t*-statistics at the firm level; *, **, and *** denote significance at the 10, 5, and 1% levels, respectively; after controlling for province*industry*year fixed effect, single-cluster samples were excluded from the regression process, resulting in a reduction in the sample size.

Table 6 show that after controlling for these variables, accounting comparability is still positively related to firms' labor productivity, indicating that our findings are robust.

4.2.5 Changing the Measure of Accounting Comparability

To avoid the measurement error interfering with our findings, we use other three ways to remeasure accounting comparability. First, investors often select a few firms with the highest comparability in the same industry to assess the accounting comparability of the target firm. We thus follow De Franco et al. (2011) and use AC_TOP4 as a new proxy variable for accounting comparability. Specifically, the firm i's accounting comparability with its peer firms is ranked from highest to lowest, and the arithmetic average of the top four AC values is calculated as AC_TOP4. Second, we calculate accounting comparability using 12 quarters in model (3) in the benchmark regression.

Table 6: Adding control variables

	LABPROD1 (1)	LABPROD2 (2)
AC	1.7563***	3.6357***
	(6.26)	(8.68)
SIZE	0.0210***	0.0702***
	(3.51)	(8.16)
LNAGE	0.0133*	−0.0593***
	(1.67)	(−4.20)
LEV	0.1859***	−0.2291***
	(8.05)	(−7.76)
ROA	0.6369***	10.2815***
	(10.06)	(75.65)
GROWTH	0.0487***	0.0189***
	(8.02)	(2.96)
CASH	−0.4689***	−0.2921***
	(−13.17)	(−7.47)
CUR	0.2297***	−0.0990***
	(7.74)	(−3.19)
RDD	−0.0213**	−0.0254***
	(−2.36)	(−2.70)
WAGE	0.9582***	0.9510***
	(70.55)	(65.44)
CI	0.0213***	0.0616***
	(5.70)	(13.13)
FA	0.0889***	−0.1579***
	(4.00)	(−3.70)
FIRST	0.0434	0.0983**
	(1.39)	(2.15)
INDIR	−0.0307	−0.0334
	(−0.72)	(−0.43)
BOARD	−0.0142	−0.0548**
	(−0.96)	(−2.25)
HHI	−0.0943**	−0.1919***
	(−2.47)	(−3.17)
LABINT	−0.8693***	−0.3169***
	(−45.93)	(−16.93)
LNGDP	−0.0018	−0.0214
	(−0.09)	(−0.77)
GDPG	−0.0003	0.0015
	(−0.28)	(0.72)
LNPOP	−0.0724**	0.0289
	(−2.24)	(0.53)
LNFDI	−0.0004	−0.0044
	(−0.10)	(−0.60)
Year	0.7631*	−1.2215**
Firm	(1.81)	(−1.99)
N	28,136	28,136
R^2–within	0.876	0.791

T-statistics computed with robust standard errors clustered at the firm level are reported in parentheses; *, **, and *** denote significance at the 10, 5, and 1% levels, respectively.

To avoid quarters changes that affect the validity of accounting comparability, we recalculate it using 16 quarters, and mark it as AC_16*tq*. Third, following Francis et al. (2014), we use the differences in accruals as another proxy variable for accounting comparability. Specifically, the difference in accruals between the firm *i* and *j* in year *t* can be calculated with the equation: $\mathrm{DIFTAC}_{ijt} = |\mathrm{TAC}_{it} - \mathrm{TAC}_{jt}|$, where TAC = (net profit-net cash flow from operating activities)/the beginning of year total assets. The accounting comparability for firm *i* in year *t*, marked as AC_DIFTAC (The larger the value of AC_DIFTAC, the higher the accounting comparability for firm *i*), can be calculated as follows:

$$\mathrm{AC\_DIFTAC}_{it} = -\frac{1}{N-1} \times \sum_{j=1}^{N(j\neq i)} (\mathrm{DIFTAC}_{ijt}). \tag{7}$$

The results in Table 7 show that after remeasuring accounting comparability, accounting comparability positively influences firms' labor productivity, and our findings are robust.

4.2.6 Changing the Measure of Labor Productivity

To alleviate the interference of measurement error to our findings, we use other two ways to remeasure firms' labor productivity. First, we recalculate labor productivity after subtracting nonoperating income, LABPROD_ADJ1 = ln [(operating revenue-non-operating income)/total employees] and LABPROD_ADJ2 = ln [(net profit + income tax expenses + cash payments to and on behalf of employees-nonoperating income)/total employees]. Second, following Schoar (2002), we use total factor productivity with LP (marked as TFP_LP) and OP (marked as TFP_OP) methods to remeasure firms' labor productivity. The results in Table 8 show that after recalculating firms' labor productivity, our findings are still robust.

4.3 Mechanism Test

As mentioned in the theoretical analysis, accounting comparability has the potential to promote human capital accumulation and reduce agency cost, which, in turn, improve firms' labor productivity. In this section, we aim to examine the above two mechanisms using stepwise regression (Zhang et al., 2023) and provide empirical evidence for our hypothesis H2.

4.3.1 Human Capital Accumulation

As mentioned in the theoretical analysis, accounting comparability can alleviate firms' financing constraints on human capital accumulation and motivate them to

Table 7: Results of changing the measure of accounting comparability

	LABPROD1 (1)	LABPROD2 (2)	LABPROD1 (3)	LABPROD2 (4)	LABPROD1 (5)	LABPROD2 (6)
AC_TOP4	4.7406***	8.6334***				
	(5.09)	(8.60)				
AC_16tq			2.8538***	3.9331***		
			(5.54)	(8.03)		
AC_DIFTAC					0.0093**	0.0162***
					(2.13)	(3.89)
SIZE	0.1479***	0.1174***	0.1458***	0.1149***	0.1488***	0.1191***
	(12.25)	(12.29)	(12.03)	(12.07)	(12.35)	(12.47)
LNAGE	0.0047	−0.0415***	−0.0088	−0.0597***	0.0049	−0.0412***
	(0.27)	(−2.73)	(−0.51)	(−3.86)	(0.28)	(−2.70)
LEV	0.2345***	−0.2120***	0.2384***	−0.2118***	0.2226***	−0.2337***
	(6.19)	(−6.58)	(6.25)	(−6.57)	(5.86)	(−7.28)
ROA	1.5845***	10.6213***	1.5859***	10.6223***	1.5807***	10.6145***
	(17.55)	(76.88)	(17.61)	(76.67)	(17.48)	(76.44)
GROWTH	0.1184***	0.0431***	0.1190***	0.0446***	0.1195***	0.0451***
	(14.06)	(6.18)	(14.17)	(6.42)	(14.19)	(6.48)
CASH	−0.3843***	−0.2660***	−0.3809***	−0.2645***	−0.3891***	−0.2749***
	(−8.40)	(−6.54)	(−8.36)	(−6.48)	(−8.48)	(−6.69)
CUR	0.4690***	−0.0112	0.4651***	−0.0176	0.4657***	−0.0170
	(10.85)	(−0.32)	(10.76)	(−0.51)	(10.82)	(−0.49)
RDD	−0.3015***	−0.1282***	−0.3018***	−0.1282***	−0.3003***	−0.1261***
	(−28.74)	(−16.50)	(−28.84)	(−16.53)	(−28.35)	(−16.10)
WAGE	0.4888***	0.7783***	0.4895***	0.7790***	0.4878***	0.7767***
	(26.17)	(52.06)	(26.20)	(52.23)	(26.12)	(52.22)
CI	−0.0633***	0.0303***	−0.0630***	0.0307***	−0.0637***	0.0297***
	(−12.37)	(6.48)	(−12.28)	(6.59)	(−12.40)	(6.44)
FA	0.0062	−0.1840***	0.0044	−0.1895***	−0.0006	−0.1964***
	(0.14)	(−3.94)	(0.09)	(−4.06)	(−0.01)	(−4.22)
FIRST	0.0157	0.0989*	0.0097	0.0890*	0.0113	0.0911*
	(0.25)	(1.93)	(0.15)	(1.75)	(0.18)	(1.80)
INDIR	0.0166	−0.0061	0.0156	−0.0084	0.0135	−0.0116
	(0.21)	(−0.08)	(0.20)	(−0.10)	(0.17)	(−0.15)
BOARD	−0.0384	−0.0609**	−0.0390	−0.0611**	−0.0372	−0.0586**
	(−1.38)	(−2.41)	(−1.40)	(−2.40)	(−1.33)	(−2.32)
Constant	4.7197***	0.3752	4.8024***	0.4810*	4.7035***	0.3455
	(13.25)	(1.39)	(13.43)	(1.78)	(13.20)	(1.28)
Year	Yes	Yes	Yes	Yes	Yes	Yes
Firm	Yes	Yes	Yes	Yes	Yes	Yes
N	28,195	28,195	28,195	28,195	28,195	28,195
R^2–within	0.709	0.777	0.709	0.777	0.708	0.775

The values in parentheses represent clustered *t*-statistics at the firm level; *, **, and *** denote significance levels of 10, 5, and 1%, respectively.

improve their human capital quality through internal training and recruitment of highly skilled labor, which, in turn, enhances firms' labor productivity. We test the mediating effect of human capital accumulation from two dimensions: internal human capital accumulation and external human capital accumulation. Following the prior literature, internal human capital accumulation (IHCA) is measured as the ratio of union funds and training expenses to the total number of employees, and external human capital accumulation (EHCA) is measured as the ratio of the number of technical, financial, and sales employees to the total number of employees (Autor et al., 2003).

Table 9 reports the test results of the transmission mechanism of human capital accumulation on firms' labor productivity. We first analyze the mediating role of human capital accumulation based on the regression results of LABPROD1 as the dependent variable. The coefficient of accounting comparability in column (1) of Table 2 is

Table 8: Results of changing the measure of labor productivity

	LABPROD_ADJ 1 (1)	LABPROD_ADJ 2 (2)	TFP_LP (3)	TFP_OP (4)
AC	3.1810***	5.1439***	0.7274**	1.3188***
	(6.52)	(9.70)	(2.03)	(3.56)
SIZE	0.1492***	0.1233***	0.6069***	0.3682***
	(12.12)	(12.02)	(74.18)	(41.18)
LNAGE	−0.0122	−0.0840***	0.0736***	0.0397***
	(−0.69)	(−5.05)	(5.64)	(2.98)
LEV	0.2296***	−0.2687***	0.1626***	0.1570***
	(5.87)	(−7.62)	(6.11)	(5.86)
ROA	1.5433***	10.6518***	0.9608***	1.0971***
	(16.84)	(70.53)	(16.22)	(17.87)
GROWTH	0.1238***	0.0585***	0.0381***	0.0583***
	(14.49)	(7.66)	(7.86)	(11.11)
CASH	−0.3961***	−0.2720***	0.1241***	0.0916***
	(−8.45)	(−5.73)	(4.71)	(3.53)
CUR	0.4608***	0.0225	0.2581***	0.2516***
	(10.48)	(0.60)	(9.35)	(8.61)
RDD	−0.3017***	−0.1305***	−0.1075***	−0.1794***
	(−28.67)	(−16.12)	(−16.68)	(−22.50)
WAGE	0.4873***	0.7794***	0.0522***	0.2442***
	(25.84)	(48.13)	(4.60)	(18.54)
CI	−0.0666***	0.0227***	−0.2131***	−0.1598***
	(−12.57)	(4.44)	(−47.55)	(−38.04)
FA	−0.0027	−0.2023***	−0.8078***	−0.7037***
	(−0.06)	(−3.97)	(−23.69)	(−21.04)
FIRST	0.0065	0.0963*	−0.0173	−0.0163
	(0.10)	(1.72)	(−0.41)	(−0.37)
INDIR	−0.0042	−0.0002	−0.0137	0.0014
	(−0.05)	(−0.00)	(−0.25)	(0.03)
BOARD	−0.0442	−0.0816***	−0.0102	−0.0210
	(−1.53)	(−2.89)	(−0.55)	(−1.09)
Constant	4.7784***	0.3184	2.2568***	3.5001***
	(13.13)	(1.11)	(10.25)	(14.38)
Year	Yes	Yes	Yes	Yes
Firm	Yes	Yes	Yes	Yes
N	28,006	27,843	25,500	25,500
R^2–within	0.707	0.747	0.886	0.850

T-statistics computed with robust standard errors clustered at the firm level are reported in parentheses; *, **, and *** denote significance at the 10, 5, and 1% levels, respectively.

positive and significant at 1% level (β = 2.9661, t = 6.23), indicating that accounting comparability improves firms' labor productivity. Model 1 of Table 9 shows that the coefficient of accounting comparability is positive and significant, suggesting that accounting comparability enhances IHCA. Column (2) of Table 9 introduces IHCA into the model, and the coefficient of accounting comparability variable is still positive and significant (β = 2.8741, t = 6.06), indicating that IHCA has a partial mediation effect on the focal relationship. In terms of the magnitude of the mediation effect, our calculations (Wang, et al., 2022) based on column (1) of Table 2 and column (2) of Table 9 show that about 3.11% of the total effect is mediated through IHCA. Then, we analyze the mediation effect with 500 bootstrapping samples, and this effect is significant (p < 0.01) and the 95% confidence interval does not contain 0. These results indicate that IHCA mediates the relationship between accounting comparability and firms' labor productivity. Similarly, we further analyze the mediating role of EHCA, and the result shows that EHCA also has a partial mediation effect on the relationship between accounting comparability and labor productivity and its

mediation effect is about 1.45% to the total effect. Furthermore, when we analyze the mediating role of human capital accumulation based on the regression results of LABPROD2 as the dependent variable, we get similar results as earlier. These results indicate that human capital accumulation mediates the relationship between accounting comparability and firms' labor productivity.

4.3.2 Agency Cost

Following the existing literature (Mullins, 2023), we measure agency cost (MFEE) as the ratio of management expenses to operating income. Table 8 reports the test results of the transmission mechanism of agency cost on labor productivity. We first analyze the mediating role of

Table 9: Accounting comparability, human capital accumulation, and labor productivity

	IHCA (1)	LABPROD1 (2)	LABPROD2 (3)	EHCA (4)	LABPROD1 (5)	LABPROD2 (6)
AC	0.3925***	2.8741***	3.9679***	0.3777**	2.9230***	4.0070***
	(3.55)	(6.06)	(8.98)	(2.16)	(6.13)	(9.08)
IHCA		0.2344***	0.1404***			
		(6.16)	(3.90)			
EHCA					0.1141***	0.0423*
					(3.57)	(1.67)
SIZE	−0.0007	0.1468***	0.1162***	−0.0028	0.1469***	0.1162***
	(−0.28)	(12.14)	(12.20)	(−0.65)	(12.20)	(12.21)
LNAGE	−0.0396***	−0.0015	−0.0566***	−0.0190***	−0.0086	−0.0613***
	(−8.31)	(−0.08)	(−3.67)	(−2.79)	(−0.50)	(−3.99)
LEV	−0.0091	0.2429***	−0.2076***	−0.0318**	0.2444***	−0.2075***
	(−1.04)	(6.40)	(−6.48)	(−2.46)	(6.43)	(−6.47)
ROA	0.1241***	1.5618***	10.6117***	−0.0567*	1.5974***	10.6315***
	(5.78)	(17.56)	(76.67)	(−1.96)	(17.77)	(76.73)
GROWTH	0.0052***	0.1175***	0.0435***	0.0038	0.1183***	0.0440***
	(2.95)	(14.05)	(6.30)	(1.50)	(14.14)	(6.37)
CASH	0.0028	−0.3789***	−0.2615***	−0.0311**	−0.3747***	−0.2598***
	(0.27)	(−8.34)	(−6.43)	(−2.11)	(−8.23)	(−6.40)
CUR	0.0220**	0.4594***	−0.0213	−0.0186	0.4667***	−0.0174
	(2.16)	(10.78)	(−0.62)	(−1.23)	(10.83)	(−0.50)
RDD	−0.0082***	−0.3001***	−0.1273***	−0.0082**	−0.3011***	−0.1281***
	(−4.57)	(−28.68)	(−16.40)	(−2.53)	(−28.78)	(−16.54)
WAGE	0.0921***	0.4680***	0.7662***	0.0730***	0.4813***	0.7760***
	(20.53)	(25.36)	(51.01)	(10.43)	(25.71)	(51.77)
CI	0.0035***	−0.0636***	0.0304***	0.0018	−0.0630***	0.0309***
	(3.70)	(−12.49)	(6.58)	(1.25)	(−12.36)	(6.64)
FA	0.0274**	−0.0023	−0.1938***	−0.0979***	0.0153	−0.1859***
	(2.32)	(−0.05)	(−4.17)	(−5.61)	(0.33)	(−3.98)
FIRST	0.0421***	0.0007	0.0844*	−0.0146	0.0122	0.0909*
	(2.68)	(0.01)	(1.66)	(−0.65)	(0.19)	(1.79)
INDIR	−0.0055	0.0148	−0.0104	−0.0569*	0.0200	−0.0088
	(−0.24)	(0.19)	(−0.13)	(−1.83)	(0.26)	(−0.11)
BOARD	−0.0040	−0.0387	−0.0615**	−0.0085	−0.0387	−0.0617**
	(−0.52)	(−1.40)	(−2.41)	(−0.80)	(−1.39)	(−2.42)
Constant	−0.8836***	4.9940***	0.5820**	−0.3402***	4.8257***	0.4722*
	(−11.08)	(14.09)	(2.17)	(−2.72)	(13.57)	(1.76)
Year	Yes	Yes	Yes	Yes	Yes	Yes
Firm	Yes	Yes	Yes	Yes	Yes	Yes
N	28195	28195	28195	28195	28195	28195
R^2–within	0.287	0.711	0.777	0.087	0.710	0.777

The results of the first stage of the mediation variable equation are consistent with Table 2 and are not reported here; the values in parentheses represent clustered *t*-statistics at the firm level; *, **, and *** denote significance levels of 10, 5, and 1%, respectively.

agency cost based on the regression results of LABPROD1 as the dependent variable. The coefficient of accounting comparability in column (1) of Table 2 is positive and significant at 1% level (β = 2.9661, t = 6.23), indicating that accounting comparability improves firms' labor productivity. Column (1) of Table 10 shows that the coefficient of accounting comparability is negative and significant (β = −0.4876, t = −9.96), suggesting that accounting comparability reduces the agency cost. Column (2) of Table 10 introduces MFEE into the model, and the coefficient of the accounting comparability variable is still positive and significant (β = 1.9905, t = 4.41), indicating that MFEE has a partial mediation effect on the relationship between accounting comparability and firms' labor productivity. In terms of the magnitude of the mediation effect, our calculations based on column (1) of Table 2 and column (2) of Table 10 show that about 32.89% of the total effect is mediated through MFEE. Then, we analyzed the mediation effect with 500 bootstrapping samples, and this effect is significant (p < 0.01) and the 95% confidence interval does not contain 0. Furthermore, when we analyze the mediating role of agency cost based on the regression results of LABPROD2 as the dependent variable, we obtain similar results as earlier. These results indicate that agency cost mediates the relationship between accounting comparability and firms' labor productivity. Overall, our Hypothesis 2 is substantiated.

Table 10: Accounting comparability, agency cost, and labor productivity

	MFEE (1)	LABPROD1 (2)	LABPROD2 (3)
AC	−0.4876***	1.9905***	3.5697***
	(−9.96)	(4.41)	(8.15)
MFEE		−2.0007***	−0.9296***
		(−17.46)	(−9.44)
SIZE	−0.0194***	0.1078***	0.0981***
	(−15.42)	(9.31)	(10.40)
LNAGE	−0.0121***	−0.0350**	−0.0734***
	(−6.21)	(−2.10)	(−4.88)
LEV	−0.0086**	0.2236***	−0.2169***
	(−2.06)	(6.19)	(−6.90)
ROA	−0.0743***	1.4423***	10.5600***
	(−6.29)	(16.90)	(76.95)
GROWTH	−0.0033***	0.1121***	0.0411***
	(−4.21)	(13.86)	(6.04)
CASH	0.0041	−0.3700***	−0.2573***
	(0.91)	(−8.39)	(−6.36)
CUR	−0.0260***	0.4126***	−0.0424
	(−5.58)	(10.14)	(−1.26)
RDD	0.0092***	−0.2835***	−0.1199***
	(11.53)	(−28.48)	(−15.91)
WAGE	0.0226***	0.5349***	0.8002***
	(13.24)	(29.55)	(55.40)
CI	0.0173***	−0.0283***	0.0470***
	(26.93)	(−5.50)	(9.41)
FA	0.0138***	0.0317	−0.1772***
	(2.73)	(0.72)	(−3.85)
FIRST	−0.0032	0.0041	0.0873*
	(−0.54)	(0.07)	(1.75)
INDIR	0.0136	0.0407	0.0014
	(1.44)	(0.53)	(0.02)
BOARD	0.0058	−0.0281	−0.0567**
	(1.61)	(−1.06)	(−2.25)
Constant	0.2368***	5.2607***	0.6780**
	(6.81)	(15.89)	(2.57)
Year	Yes	Yes	Yes
Firm	Yes	Yes	Yes
N	28195	28195	28195
R^2–within	0.468	0.728	0.780

The results of the first stage of the mediation variable equation are consistent with Table 2 and are not reported here; the values in parentheses represent clustered t-statistics at the firm level; *, **, and *** denote significance levels of 10, 5, and 1%, respectively.

4.4 Additional Analysis

4.4.1 The Moderating Role of Financing Constraints

As mentioned in the theoretical analysis, we posit that accounting comparability can promote firms' human capital accumulation by reducing their financing constraints on labor investment. Therefore, the relationship between accounting comparability and labor productivity may vary with the degree of financing constraints. When firms face lower financing constraints, even if there is high accounting comparability among peer firms, the impact of financing constraints on their human capital accumulation may be relatively low. Conversely, when firms face higher financing constraints, the effect of accounting comparability in alleviating financing constraints can help firms better raise funds and thus increase their investment in human capital. Therefore, we expected that the positive relationship between accounting comparability and firms' labor productivity would be more significant in firms facing higher financing constraints.

To test the aforementioned reasoning, we follow Hadlock and Pierce (2010) and use the SA index to measure firms' financing constraint levels. The results in columns (1) and (2) of Table 11 show that the coefficients of AC*SA are both statistically significant and positive, indicating that when firms face higher financing constraints, the positive impact of accounting comparability on firms' labor productivity is more significant, which is consistent with our theoretical reasoning.

4.4.2 The Moderating Role of Corporate Governance Level

If the alleviation of agency cost is an important channel through which accounting comparability improves firms' labor productivity, it can be expected that the effect of accounting comparability on agency cost may be more pronounced when firms have lower corporate governance levels. That is, the positive relationship between accounting comparability and firms' labor productivity should be more significant in firms with lower corporate governance levels.

To test the aforementioned reasoning, we follow the prior research (Chen et al., 2012) and use the ownership type, the proportion of sole directors, and the executive shareholding to categorize firms into those with low and high corporate governance levels. Specifically, if state-owned firms have executive shareholdings that are lower than the industry median for the same year and have a percentage of independent directors that is lower than the industry median will be identified as having a lower level of corporate governance, and the value of GOV is 1; otherwise, the firm is considered to have lower corporate governance level, and the value of GOV is 0. The results in Table 12 show that the coefficients of AC*GOV are both statistically significant and negative, indicating that the positive effect of accounting comparability on labor productivity is more significant when firms have lower levels of corporate governance, which is consistent with our theoretical reasoning.

4.4.3 The Moderating Role of Peer Firms' Accounting Information Quality

The improvement of accounting comparability helps financial statement users compare accounting information across different firms, thereby identifying and understanding the similarities and differences in financial statement items (Neel & Safdar, 2024). However, it is noted that if the accounting information quality of peer firms is poor, even if their accounting comparability is high, financial statement users also struggle to derive valuable new information from the comparison of low-quality information, thus limiting the role of accounting comparability in easing financing constraints. Thus, we expect that there is a complementary relationship between accounting comparability and the quality of accounting information in peer firms in terms of impact on labor productivity, and when the accounting information quality of peer firms is high, the positive relationship between accounting comparability and labor productivity is more significant.

Table 11: The moderating role of financing constraints

	LABPROD1 (1)	LABPROD2 (2)
AC*SA	0.4525*	0.6792***
	(1.67)	(2.79)
AC	0.4521	0.2265
	(0.30)	(0.17)
SA	−0.0192	0.0194
	(−0.64)	(0.78)
SIZE	0.1779***	0.1095***
	(5.05)	(3.69)
LNAGE	−0.0162	−0.0699***
	(−0.94)	(−4.54)
LEV	0.2346***	−0.2174***
	(6.12)	(−6.77)
ROA	1.5915***	10.6309***
	(17.68)	(76.64)
GROWTH	0.1185***	0.0441***
	(14.11)	(6.37)
CASH	−0.3761***	−0.2570***
	(−8.32)	(−6.37)
CUR	0.4664***	−0.0186
	(10.77)	(−0.54)
RDD	−0.3024***	−0.1294***
	(−29.18)	(−16.76)
WAGE	0.4890***	0.7777***
	(26.29)	(52.14)
CI	−0.0628***	0.0310***
	(−12.21)	(6.68)
FA	0.0092	−0.1849***
	(0.20)	(−3.98)
FIRST	0.0187	0.1000*
	(0.30)	(1.95)
INDIR	0.0129	−0.0100
	(0.16)	(−0.13)
BOARD	−0.0399	−0.0621**
	(−1.44)	(−2.44)
Constant	4.1962***	0.5362
	(6.20)	(0.95)
Year	Yes	Yes
Firm	Yes	Yes
N	28195	28195
R^2–within	0.710	0.777

The values in parentheses represent clustered *t*-statistics at the firm level; *, **, and *** denote significance levels of 10, 5, and 1%, respectively.

To test the aforementioned reasoning, we follow Chircop et al. (2020) and estimate accounting information quality (AQ) as the standard deviation of the residuals, obtained from running the following model:

$$\Delta WC_t = b_0 + b_1 CFO_{t-1} + b_2 CFO_t + b_3 CFO_{t+1} + b_4 \Delta Sales_t + b_5 PPE_t + \varepsilon_t,$$

Table 12: The moderating role of corporate governance level

	LABPROD1 (1)	LABPROD2 (2)
AC*GOV	1.5089**	1.9428***
	(1.97)	(2.67)
AC	2.5633***	3.5072***
	(5.06)	(7.49)
GOV	0.0283**	0.0392***
	(2.47)	(3.54)
SIZE	0.1463***	0.1157***
	(12.11)	(12.12)
LNAGE	−0.0089	−0.0596***
	(−0.52)	(−3.88)
LEV	0.2414***	−0.2082***
	(6.33)	(−6.50)
ROA	1.5889***	10.6265***
	(17.68)	(76.83)
GROWTH	0.1183***	0.0436***
	(14.06)	(6.34)
CASH	−0.3777***	−0.2604***
	(-8.31)	(−6.43)
CUR	0.4649***	−0.0174
	(10.80)	(−0.50)
RDD	−0.3020***	−0.1284***
	(−28.93)	(−16.63)
WAGE	0.4898***	0.7792***
	(26.24)	(52.41)
CI	−0.0629***	0.0308***
	(−12.26)	(6.61)
FA	0.0043	−0.1897***
	(0.09)	(−4.07)
FIRST	0.0076	0.0870*
	(0.12)	(1.71)
INDIR	0.0053	−0.0262
	(0.07)	(−0.32)
BOARD	−0.0397	−0.0619**
	(−1.43)	(−2.43)
Constant	4.7849***	0.4568*
	(13.40)	(1.70)
Year	Yes	Yes
Firm	Yes	Yes
N	28,195	28,195
R^2–within	0.710	0.777

The values in parentheses represent clustered *t*-statistics at the firm level; *, **, and *** denote significance levels of 10, 5, and 1%, respectively.

where ΔWC represents changes in the working capital, CFO is cash from operations, ΔSales represents changes in sales, and PPE is gross property, plant, and equipment. In light of this, the variable INDAQ is measured as the average accounting information quality (AQ) of other firms in the same industry. The results in columns (1) and (2) of Table 13 show that the coefficients of AC*INDAQ are both statistically significant and positive, indicating that when the accounting information quality of peer firms is high, the positive impact of accounting comparability on firms' labor productivity is more significant, which is consistent with our theoretical reasoning.

5 Discussion

5.1 Contributions to theory

This study makes several important theoretical contributions to the existing literature.

First, this study broadens the research framework on the labor-economic consequences of accounting comparability. Prior research about accounting comparability mainly focuses on its informational and supervisory value and examines its impact on the cost of equity capital (Imhof et al., 2017), and firms' innovation efficiency (Lobo et al., 2018), yet few studies have focused on the labor-economic consequences of accounting comparability except Rezaei et al. (2022) and Zhang et al. (2020). Both studies investigate the monitoring role of accounting comparability in firms' employment decision-making, which not only neglects the role of the informational value of accounting comparability but also ignores its effect on labor productivity. Focused on the firms' labor productivity perspective, this study finds that accounting comparability not only can improve firms' labor productivity by reducing agency cost through its supervisory role but also can improve firms' labor productivity by alleviating the human capital financing constraint through its informational role. These findings suggest that accounting comparability not only influences firms' employment decision-making but also is associated with their labor productivity, which expands the existing research on the labor-economic consequences of accounting comparability in terms of research perspectives and mechanisms.

Second, this study contributes to the literature on labor productivity. In addition to macro factors (Bjuggren, 2018; He et al., 2019; Kazekami, 2020), prior research found that firm-specific attributes, such as management practices (Rico & Cabrer-Borrás, 2021), human capital (Jibir et al., 2023; Laut et al., 2023), debt levels (Kale et al., 2019; Yang et al., 2022), health plans (Gubler et al., 2018), and welfare policies (Darrough et al., 2019) also can influence labor productivity. However, it is worth noting that these studies have primarily focused on firm-specific characteristics within firms. We depart from this line of research and, instead, seek to explain how accounting comparability, a cross-firm attribute, influences firms' labor productivity. Our results show that accounting comparability improves firms' labor

Table 13: The moderating role of peer firms' accounting information quality

	LABPROD1 (1)	LABPROD2 (2)
AC*INDAQ	1.8014***	1.7764**
	(2.77)	(2.48)
AC	2.9567***	4.0074***
	(6.20)	(9.06)
INDAQ	0.0489***	0.0567***
	(2.67)	(2.70)
SIZE	0.1467***	0.1163***
	(12.14)	(12.21)
LNAGE	−0.0106	−0.0620***
	(−0.61)	(−4.03)
LEV	0.2402***	−0.2097***
	(6.30)	(−6.54)
ROA	1.5896***	10.6273***
	(17.70)	(76.79)
GROWTH	0.1187***	0.0442***
	(14.14)	(6.39)
CASH	−0.3769***	−0.2595***
	(−8.28)	(−6.40)
CUR	0.4649***	−0.0178
	(10.77)	(−0.52)
RDD	−0.3021***	−0.1285***
	(−28.92)	(−16.59)
WAGE	0.4894***	0.7789***
	(26.23)	(52.30)
CI	−0.0628***	0.0310***
	(−12.23)	(6.68)
FA	0.0045	−0.1896***
	(0.10)	(−4.07)
FIRST	0.0103	0.0901*
	(0.16)	(1.77)
INDIR	0.0129	−0.0117
	(0.16)	(−0.15)
BOARD	−0.0398	−0.0622**
	(−1.43)	(−2.44)
Constant	4.7852***	0.4557*
	(13.41)	(1.69)
Year	Yes	Yes
Firm	Yes	Yes
N	28,195	28,195
R^2–within	0.710	0.777

The values in parentheses represent clustered *t*-statistics at the firm level; *, **, and *** denote significance levels of 10, 5, and 1%, respectively.

productivity, which provides insights into the relationship between accounting comparability and firms' labor productivity and enriches the determinants of firms' labor productivity from a new perspective.

Third, this study provides new empirical evidence for understanding the relationship between accounting comparability and firms' productivity. To our knowledge, this study is one of the first studies that documents how accounting comparability influences labor productivity. Specifically, this study complements Chircop (2024) who suggests that accounting comparability increases total factor productivity from an inventory management perspective. On the one hand, unlike Chircop's total factor productivity, we focus on labor productivity which is the productivity based on the analysis of labor factors. On the other hand, unlike Chircop's inventory management mechanism, we seek to open the mechanism through which accounting comparability affects firms' labor productivity from human capital allocation and governance perspective. Therefore, our study provides new empirical evidence for understanding the relationship between accounting comparability and firms' productivity.

5.2 Implications for Practice

Given the growing severity of the structural labor supply shortfall and the rising cost of labor, the results of this study have some practical significance.

First, as this study finds that accounting comparability can improve firms' labor productivity, it reveals that firms need to pay more attention to the improvement of their accounting comparability. Hence, Chinese firms should commit themselves to improving the quality and transparency of accounting information, including compliance with accounting standards and codes, and ensuring the accuracy, clarity, and comparability of financial reporting. In particular, firms with poor corporate governance levels should pay more attention to the positive effect of accounting comparability to improve their labor productivity.

Second, our findings show that accounting comparability can promote firms' labor productivity through human capital accumulation, implying that Chinese firms should use the advantage of better accounting comparability to optimize their human capital management. Therefore, practitioners need to advance their knowledge of the role of accounting comparability. When it comes to issues related to accounting comparability, managers should not limit their understanding to accounting information disclosures. They need to consider embedding accounting information into management processes from a strategic view. In particular, firms with severe financial constraints should use the advantages of better accounting information quality to maximize their human capital level and, ultimately, increase labor productivity.

Finally, our findings show that accounting comparability can improve firms' labor productivity by mitigating internal agency cost, implying that effective corporate

governance and internal control systems are essential for ensuring that accounting comparability plays a positive role. Hence, firms should establish a comprehensive internal control system to ensure the accuracy and reliability of accounting information. According to our findings, stakeholders can use the advantage of better accounting comparability to safeguard their interests. Specifically, stakeholders can monitor and curb managers' self-serving behaviors to protect their interests by contrasting and evaluating the firm's accounting data with that of its peer firms.

5.3 Limitations and Further Research

The current study has several limitations. First, we are unable to include all variables that may affect firms' labor productivity. The missing variables might still exist even if we have mitigated potential bias by using the two-way fixed effects model, the high-dimensional fixed effects model, PSM, and the IV technique. Future studies can search for better research designs (e.g., external policy shocks that influence accounting comparability but not labor productivity) to address this issue, thus strengthening our relevant findings. Second, we primarily examined the parts that are most relevant to our research framework in our mechanism tests and additional analysis. Future research should incorporate other possible mediators (e.g., productive capacity) and moderators (e.g., regulatory policies and digitization level) within China's institutional context to further extend the understanding of the relationship between accounting comparability and firms' labor productivity. Finally, information disclosure regulations in Chinese capital markets undergo continuous enhancements, which may have a significant influence on firms' information disclosure. However, capturing the aforementioned comprehensive effects remains challenging. Future research can examine how these regulatory changes affect labor productivity to complement our relevant findings.

6 Conclusion

While prior literature has shown that accounting comparability improves the market conditions for the firm (e.g., De Franco et al., 2011) and improves corporate decision-making, (e.g., Chen et al., 2018), this is the first study that to our knowledge provides an initial understanding of how to leverage accounting comparability to enhance firms' labor productivity. Taking China's A-share listed firms as research samples, we show that accounting comparability can improve firms' labor productivity, indicating that enhancing the quality of accounting information can maximize operational effectiveness and lead to "intensive growth." The mechanism test indicates that accounting comparability increases firms' labor productivity through the promotion of human capital accumulation and the reduction of agency cost. Additional analysis shows that the positive impact of accounting comparability on firms' labor productivity is more pronounced when firms face higher levels of financing constraints, lower levels of corporate governance, and their peer firms have higher accounting information quality.

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