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Cross-Border Equity Market Integration and Corporate Investment Efficiency: Evidence from China

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Abstract

This paper explores a practical question: when stock markets become more connected across borders, does that actually push companies to make better investment decisions? To examine this, China and Hong Kong's cross-border stock trading program is used as a real-world test case. What makes this setup useful is that it allows foreign investors to trade shares in certain Chinese companies without changing how those companies are run internally, so any behavioral shifts can be traced back to market integration itself.

Drawing on data from Chinese publicly listed companies between 2010 and 2023, the study measures how far each firm's investment decisions stray from the optimal level. Through regression analysis controlling for individual company characteristics and broader yearly trends, the paper tracks what happens to firms once they join the program.

The findings are fairly clear: companies that joined the cross-border trading program became noticeably better at allocating capital compared to those that didn't. The improvement unfolds gradually rather than immediately, suggesting firms need time to adjust to new investor dynamics. These findings hold up across different measures of investment efficiency and different sample configurations.

Overall, this study offers a firm-level perspective on what financial integration actually does in practice. It shows that opening equity markets to

a broader pool of international investors can meaningfully improve how companies deploy their resources.

Keywords: Equity market integration, investment efficiency, cross-border equity trading, firm-level investment behavior, capital allocation efficiency

Introduction

Efficient investment sits at the heart of whether financial markets actually deliver real economic value. In theory, firms should channel resources into profitable projects and steer clear of anything that destroys value. In practice, though, investment decisions get complicated by information gaps, financing constraints, and internal conflicts of interest. These frictions are central themes in the investment and financing constraints literature, which shows how asymmetric information and limited external finance can push firms away from optimal investment (Fazzari & Athey, 1987; Almeida & Campello, 2007; Ascioglu et al., 2008). These problems tend to be even more pronounced in emerging markets, where financial systems are still developing, and investor access is uneven. The result is that firms often over-invest in low-return projects or miss out on genuinely good opportunities, leading to persistent misallocation of capital (Richardson, 2006).

A growing body of research suggests that deeper stock market integration can help address these distortions. When a broader pool of investors participates, and prices better reflect available information, markets can exert more pressure on firms to make sound investment decisions. Evidence from liberalization episodes and cross-border access reforms links integration to improved market functioning and real outcomes, though effects are not always uniform across settings (Henry, 2000; Bekaert et al., 2005; Mitton, 2006). But the empirical evidence on whether equity market integration actually improves real firm outcomes remains mixed, particularly in countries that open their markets partially rather than pursuing full capital account liberalization (Stiglitz, 2000; McLean et al., 2022). Recent work highlights that the effects of market integration depend heavily on program design and the robustness of the methods used to study them (Christensen et al., 2016).

Studying this empirically is not straightforward. Firms that gain access to more investors tend to differ from those that do not, making it difficult to separate the effect of market integration from pre-existing firm characteristics. Credible identification, therefore, benefits from an external shift in investor access that is plausibly unrelated to firms' own investment behavior, alongside careful treatment of endogeneity and selection issues common in corporate finance (Roberts & Whited, 2013). A cross-border

trading scheme that expands investor access based on fixed eligibility rules offers exactly this kind of setting. Rather than evaluating policy design or institutional reform, this paper asks a more direct question: Does giving firms broader access to investors actually change how efficiently they invest?

The empirical analysis draws on panel data from Chinese listed companies between 2010 and 2023, focusing on China and Hong Kong's cross-border stock trading program. Investment efficiency is measured by how far a firm's actual investment deviates from its estimated optimal level, capturing both over- and under-investment. Firm and year fixed effects models are used to estimate the relationship between program participation and investment inefficiency, while event-study style estimates track how firm behavior evolves before and after joining the program (Zhao et al., 2024).

Propensity score matching is added as a robustness check to address concerns about selection, ensuring the findings are not simply driven by differences between participating and non-participating firms. This combination of fixed effects panel models with dynamic treatment analysis strengthens the causal interpretation of the results, which is especially important in financial research where random assignment is not feasible.

Literature review

Financial market integration and investment efficiency

There is a substantial body of research exploring how integrating financial markets shapes the way companies decide where to put their money. In an ideal world with no market frictions, firms would simply invest in every project that promises a positive return. Reality is messier than that. Investment decisions get pulled in different directions by things like information asymmetries, borrowing constraints, and conflicts between managers and shareholders. These frictions push firms away from optimal investment, leaving them either over-investing in questionable projects or under-investing in genuinely valuable ones (Richardson, 2006; Almeida & Campello, 2007).

Market integration offers a potential remedy. When firms gain exposure to a broader investor base, stock prices tend to become more informative, better reflecting a company’s underlying fundamentals. This can reduce mispricing and make it easier for capital to find its way to the most productive uses. Empirically, liberalization and integration shocks are often associated with lower financing costs and stronger firm performance, especially in emerging markets where segmentation is higher to begin with (Henry, 2000; Bekaert et al., 2005; Mitton, 2006). That said, how much of a difference integration actually makes is not uniform across contexts. The strength of these effects tends to vary depending on institutional quality and

enforcement capacity, which shape how effectively market signals translate into real resource allocation (Christensen et al., 2016).

Investor access, information environment, and monitoring

A related strand of research zeroes in on how investor access shapes the information environment surrounding firms. Outside investors, particularly institutional ones, play an active role in generating information through their research, trading activity, and monitoring of management. Their presence can make firms more transparent and help close information gaps between managers and outside capital providers (Ferreira & Matos, 2008; Chen et al., 2007). This improvement in information flow can have a meaningful impact on investment efficiency. When investors are better equipped to assess what a firm is actually worth, they can apply more meaningful pressure on managers to act in shareholders' best interests.

Cross-border and foreign investor participation is frequently discussed as a channel for information transmission, particularly in emerging markets where local information frictions are more severe. Research shows that foreign investors can facilitate price discovery and information diffusion, tightening the link between fundamentals and prices (Bae et al., 2012). At the same time, governance can be influenced by investor composition and monitoring intensity, suggesting that integration can operate through governance and oversight channels rather than financing alone (Aggarwal et al., 2011; Bae & Goyal, 2010).

That said, the literature does not paint an entirely rosy picture. Greater visibility in the market can also ramp up pressure on managers to deliver strong short-term results, which may make them reluctant to back projects that only pay off over a longer horizon. Studies on managerial myopia and short-termism highlight this tradeoff, emphasizing that market pressure can sometimes distort long-run investment choices (Edmans, 2009; Kraft et al., 2018). So the net effect of better information flow is not guaranteed. It ultimately comes down to whether the discipline from closer monitoring outweighs the distortions that can arise when managers face strong short-term performance pressure.

Liquidity, financing constraints, and investment behavior

Stock liquidity is important in bridging financial markets and the real investment decisions firms make. When stocks are more liquid, transaction costs fall, prices become more reflective of available information, and the cost of raising external capital tends to drop alongside them. Classic theory links disclosure and liquidity to the cost of capital, which can translate into investment responses through financing conditions (Diamond & Verrecchia, 1991).

Consistent with this logic, work on financing constraints shows that firms' ability to invest can be tightly connected to external funding conditions, especially when internal funds are limited (Love, 2003; Whited & Wu, 2006). That said, the relationship between liquidity and investment efficiency is not perfectly clean. While better liquidity can open up funding channels, it can also make it easier for shareholders to exit rather than engage, potentially weakening oversight and leaving more room for agency problems.

This is why the governance channel remains central. The impact of liquidity on investment is often conditioned by governance structures and the type of investors holding a firm's shares, including whether institutional investors have incentives and horizons that support monitoring (Gaspar et al., 2005; Attig et al., 2012).

Heterogeneity in the effects of market integration

One consistent finding across the empirical literature is that the benefits of financial market integration are not shared equally. Firms dealing with tighter financing constraints, weaker governance structures, or underdeveloped local markets tend to gain the most from expanded investor access and stronger external monitoring. Ownership structure and the institutional environment also matter. In settings where internal governance mechanisms are weak, market discipline can partially substitute for missing internal checks, improving investment choices through tighter monitoring and improved price informativeness (Aggarwal et al., 2011; Chen et al., 2007).

Recent research also emphasizes that investor horizons and the composition of ownership influence whether integration supports long-term investment or reinforces short-term pressures. Evidence linking investor horizons to real corporate decisions suggests that the same increase in market attention can either support efficient capital allocation or intensify managerial myopia, depending on who holds the shares and how they trade (Kraft et al., 2018; Zhao et al., 2024).

Research hypotheses

Investor access and investment efficiency

In imperfect capital markets, firms may deviate from optimal investment due to information asymmetry, agency conflicts, and financing constraints. Prior research shows that asymmetric information and limited external finance can distort corporate investment decisions, leading to either overinvestment or underinvestment relative to fundamentals (Almeida & Campello, 2007; Ascioglu et al., 2008; Richardson, 2006). When investor

participation is limited, stock prices may not fully reflect firm fundamentals, and managerial decisions may face weaker external discipline.

Expanding investor access can improve price informativeness, increase external monitoring, and reduce financing frictions. Institutional and foreign investors play an important role in information production and corporate governance, enhancing transparency and strengthening oversight (Ferreira & Matos, 2008; Aggarwal et al., 2011). In emerging markets, foreign participation has been shown to facilitate information transmission and improve market efficiency (Bae et al., 2012). More recent evidence from China's cross-border trading programs shows that stock market liberalization can meaningfully influence firms' long-term investment behavior by reshaping investor composition and monitoring intensity (Zhao et al., 2024). At the macro and firm levels, liberalization and broader market access are often associated with improved operating performance and more efficient capital allocation (Mitton, 2006; Moshirian et al., 2021). Taken together, these mechanisms suggest that expanded investor participation should improve capital allocation efficiency at the firm level.

Hypothesis 1: Expanded investor access reduces firm-level investment inefficiency.

Dynamic effects and identification validity

Corporate investment decisions do not typically adjust immediately following a structural change in market access. Firms require time to adapt governance practices, internal decision-making processes, and financing structures. Empirical evidence on market reforms suggests that real effects often materialize gradually as firms adjust to new informational and financing conditions (Henry, 2000; Bekaert et al., 2005).

From an identification perspective, examining dynamic treatment effects is also essential. If treated firms exhibit no significant differences in investment inefficiency relative to control firms before expanded investor access, this supports the parallel trends assumption underlying the two-way fixed effects framework. Careful attention to endogeneity and dynamic adjustment is particularly important in empirical corporate finance settings (Roberts & Whited, 2013). A divergence occurring only after treatment strengthens the causal interpretation of the estimated effects.

Hypothesis 2: Improvements in investment efficiency occur after expanded investor access and strengthen over time, with no significant pre-treatment trends.

Selection bias and observable firm characteristics

A central concern in empirical corporate finance is selection bias. Firms that become eligible for expanded investor participation may differ

systematically from other firms in terms of size, profitability, growth opportunities, or governance quality. If such observable differences are not adequately addressed, estimated treatment effects may reflect underlying firm characteristics rather than the effect of investor access itself (Roberts & Whited, 2013).

Matching techniques, such as propensity score matching, allow treated firms to be compared with control firms that share similar pre-treatment characteristics. This approach has been widely applied to mitigate observable selection bias in accounting and finance research (Tucker, 2010; DeFond et al., 2017). If the negative relationship between investor access and investment inefficiency persists after matching on observables, confidence increases that the baseline findings are not driven by observable differences across firms..

Hypothesis 3: The negative relationship between investor access and investment inefficiency remains robust after controlling for observable firm characteristics through matching techniques.

Sensitivity to measurement choice

Investment inefficiency is not directly observable and must be proxied using empirical models. Residual-based approaches that estimate deviations from predicted investment have been widely used to capture inefficient investment behavior (Richardson, 2006). At the same time, financing constraints and informational frictions can affect how investment responds to internal cash flow and growth opportunities (Almeida & Campello, 2007; Love, 2003).

A credible empirical relationship should not depend on a single measurement definition. If expanded investor access truly improves capital allocation, the estimated treatment effect should remain stable across alternative proxies of investment inefficiency. Consistency in sign and statistical significance across definitions strengthens confidence in the underlying mechanism and aligns with best practice in empirical corporate finance (Roberts & Whited, 2013).

Hypothesis 4: The estimated effect of investor access on investment inefficiency is robust across alternative measures of inefficient investment.

Investment efficiency and productivity outcomes

Improvements in capital allocation may generate broader real economic consequences. When firms allocate resources more efficiently, they are better positioned to invest in productive technologies, enhance operational efficiency, and improve long-term performance. Research on financial liberalization and integration shows that reforms can affect not only

financial variables but also long-term corporate investment and innovation outcomes (Bekaert et al., 2005; Moshirian et al., 2021; Zhao et al., 2024).

Rather than treating productivity as the primary treatment outcome, this study considers firm-level total factor productivity as a secondary consequence of improved capital allocation. If reductions in investment inefficiency are associated with higher productivity, this would suggest that expanded investor access influences real firm performance through more efficient resource allocation.

Hypothesis 5: Lower investment inefficiency is associated with higher firm-level productivity.

Methods

Sample selection

The empirical analysis uses an unbalanced panel of Chinese A-share non-financial listed firms from 2010 to 2023. Financial firms are excluded due to their distinct regulatory structure and investment behavior. Observations with missing key financial variables or abnormal accounting values are removed to ensure data quality.

Firm-year data are constructed from annual financial reports and market information. Because different specifications require different variables, the number of observations varies across regressions. The baseline investment inefficiency models include approximately 16,500 to 16,900 firm-year observations. Alternative investment inefficiency measures expand the sample to about 19,000 observations. Productivity regressions, which require additional inputs for TFP estimation using OP, LP, and ACF methods, include approximately 15,900-16,000 observations.

Treatment status is defined based on firms' eligibility for expanded investor participation under regulatory criteria. Firms enter the treatment group in the year they become eligible, resulting in a staggered treatment structure. All continuous variables are winsorized at the 1st and 99th percentiles. The panel remains unbalanced to preserve available information across specifications.

Variables definition

The primary dependent variable is firm-level investment inefficiency. Because optimal investment cannot be observed directly, inefficiency is measured as the absolute deviation between actual investment and predicted investment derived from a fundamentals-based model following Richardson (2006):

$$Inefficient Investment_{it} = \left| Investment_{it} - \widehat{Investment}_{it} \right|$$

Larger values reflect greater deviation from optimal capital allocation, indicating both over-investment and under-investment. To ensure robustness, alternative proxies are developed using Tobin's Q models, GMM-based methods, and residual-based measures.

As a secondary outcome, firm productivity is measured using total factor productivity (TFP). TFP is estimated using the OP, LP, and ACF methods to ensure consistency across estimation approaches. The key explanatory variable is:

$$InvestorAccess_{it}$$

This is a binary indicator equal to one if firm i is eligible for expanded investor participation in year t, and zero otherwise. It captures structural changes in investor accessibility rather than short-term trading intensity.

The vector of control variables X_{it-1} includes lagged firm characteristics such as size, leverage, profitability, growth opportunities, book-to-market ratio, ownership structure, and board characteristics. All controls are lagged by one period to reduce simultaneity concerns.

Firm fixed effects account for time-invariant heterogeneity across firms, while year fixed effects capture macroeconomic shocks and policy changes common to all firms.

Baseline two-way fixed effects model

To test whether expanded investor access improves investment efficiency, the following two-way fixed effects difference-in-differences specification is estimated:

$$InefficientInvestment_{it} = \alpha + \beta InvestorAccess_{it} + \delta X_{it-1} + \mu_i + \lambda_t + \varepsilon_{it}$$

Where μ_i denotes firm fixed effects and λ_t denotes year fixed effects. The coefficient β captures the within-firm change in investment inefficiency associated with expanded investor access. A negative and statistically significant estimate supports Hypothesis 1. Standard errors are clustered at the firm level to account for serial correlation.

Dynamic treatment effects and identification

To test the parallel trends assumption and examine dynamic adjustment, an event-study specification is estimated:

$$InefficientInvestment_{it} = \alpha + \sum_{k \neq -1} \theta_k D_{i,t+k} + \delta X_{it-1} + \mu_i + \lambda_t + \varepsilon_{it}$$

Where $D_{i,t+k}$ are lead and lag indicators relative to treatment timing. The period $k = -1$ is omitted as the reference category. Insignificant pre-

treatment coefficients support identification validity. Negative and gradually increasing post-treatment coefficients indicate that improvements in investment efficiency emerge over time, consistent with Hypothesis 2.

Selection bias and matching framework

To address potential selection bias, propensity score matching is implemented. The probability of treatment is estimated using a logit model based on pre-treatment firm characteristics:

$$P(Treatment_{it} = 1) = \Phi(Z_{i,t-1})$$

Treated firms are matched to control firms using radius matching, kernel matching, and nearest neighbor matching. After matching, the baseline fixed effects model is re-estimated on the matched sample:

$$InefficientInvestment_{it} = \alpha + \beta^{PSM} InvestorAccess_{it} + \delta X_{it-1} + \mu_i + \lambda_t + \varepsilon_{it}$$

If β^{PSM} remains negative and statistically significant, the results are not driven by observable selection bias, supporting Hypothesis 3.

Measurement robustness

To ensure that findings are not sensitive to how investment inefficiency is measured, the baseline specification is re-estimated using alternative dependent variables:

$$InefficientInvestment_{it}^{m} = \alpha + \beta^{m} InvestorAccess_{it} + \delta X_{it-1} + \mu_i + \lambda_t + \varepsilon_{it}$$

Where m indexes different measurement approaches. Stability in the sign and significance of β^m confirms robustness and supports Hypothesis 4.

Productivity outcome specification

To evaluate whether improvements in capital allocation translate into real economic gains, firm productivity is modeled as:

$$TFP_{it} = \alpha + \gamma InefficientInvestment_{it} = \alpha + \beta\ InvestorAccess_{it} + \delta X_{it-1} + \mu_i + \lambda_t + \varepsilon_{it}$$

The coefficient γ captures the relationship between investment inefficiency and productivity. A negative and statistically significant estimate indicates that firms with lower investment inefficiency exhibit higher productivity, supporting Hypothesis 5.

Including both investment inefficiency and investor access allows the analysis to distinguish between the direct association of expanded investor participation and the indirect channel operating through improved capital allocation.

Results

Baseline effects on investment efficiency

The baseline fixed effects results show a statistically significant link between expanded investor access and investment inefficiency. Firms that are exposed to a broader group of investors have smaller deviations from their optimal investment levels compared to similar firms that do not have such access. The estimated coefficient on investor access is negative and economically meaningful, which points to better capital allocation at the firm level. These results support Hypothesis 1 and align with the idea that greater investor participation improves price informativeness and strengthens external monitoring. With better market signals available, managers seem less likely to overinvest or miss profitable investment opportunities when investor access expands.

Table 1: Baseline fixed effects estimates

	(1) Inefficient_Investment	(2) Inefficient_Investment
InvestorAccess	-0.00815**	-0.00777**
	(-2.43)	(-2.35)
Size		0.0260***
		(8.60)
Lev		-0.00289
		(-0.25)
ROA		0.00847
		(0.57)
Growth		0.0310***
		(8.37)
BM		-0.00536***
		(-5.09)
SOE		-0.00477
		(-0.95)
ListAge		-0.0157***
		(-3.25)
Dturn		0.00210
		(1.11)
INST		0.0124***
		(2.76)
Top1		0.00523
		(0.33)
Board		-0.0130*
		(-1.91)
Indep		-0.0242
		(-1.34)
Dual		0.00137
		(0.65)
_cons	0.0594***	-0.434***
	(27.34)	(-6.94)
N	16897	16589
adj. R^2	0.140	0.241

Firm Fixed Effect	Yes	Yes
Year Fixed Effect	Yes	Yes

Note: t statistics in parentheses, * p < .1, ** p < .05, *** p < .01

Dynamic adjustment and identification validity

To check whether the baseline results reflect real causal effects instead of pre-existing trends, the analysis looks at dynamic treatment effects. The event-study results show no statistically significant differences in investment inefficiency between treated and control firms before the treatment, which supports the parallel trends assumption.

After firms are exposed to expanded investor access, investment inefficiency decreases gradually rather than right away. This slow adjustment suggests that firms change their investment behavior over time as monitoring becomes stronger and information conditions improve. The fact that the effect persists also shows that these improvements are not just short-term. These dynamic patterns provide strong support for Hypothesis 2 and reinforce the credibility of the identification strategy.

Table 2: Parallel Trends and Dynamic Effects

	(1)
	Inefficient_Investment
Treat×Before3	0.0143
	(0.51)
Treat×Before2	0.0150
	(0.70)
Treat×Before1	0.00261
	(0.47)
Treat×After1	-0.000292**
	(-2.04)
Treat×After2	-0.00745**
	(-2.29)
Treat×After3	-0.0114**
	(-2.15)
Size	0.0263***
	(8.63)
Lev	-0.00283
	(-0.25)
ROA	0.00746
	(0.50)
Growth	0.0309***
	(8.36)
BM	-0.00555***
	(-5.20)
SOE	-0.00462
	(-0.92)
ListAge	-0.0157***
	(-3.24)
Dturn	0.00198
	(1.04)

INST	0.0122***
	(2.70)
Top1	0.00619
	(0.39)
Board	-0.0130*
	(-1.92)
Indep	-0.0249
	(-1.38)
Dual	0.00140
	(0.66)
_cons	-0.440***
	(-7.00)
N	16589
adj. R^2	0.242
Firm Fixed Effect	Yes
Year Fixed Effect	Yes

Robustness to selection bias

Even though the fixed effects model controls for differences that do not change over time, selection bias can still be an issue. To deal with this, propensity score matching is used to build a control group of firms that look similar to treated firms before they gain investor access. The results from the matched sample are very similar to the baseline findings.

The effect of investor access on investment inefficiency is still negative and statistically significant, which suggests that the baseline results are not simply driven by observable differences between treated and control firms. This consistency strengthens the causal interpretation and supports Hypothesis 3. It is also important to note that matching is used as a validation tool rather than the main estimation method, which further confirms the robustness of the baseline results.

Table 3: Propensity score matching estimates of investment inefficiency

	(1) Radius matching	(2) Kernel matching	(3) Nearest neighbor matching
	Inefficient Investment	Inefficient Investment	Inefficient Investment
InvestorAccess	-0.00794**	-0.00774**	-0.00798**
	(-2.31)	(-2.30)	(-2.34)
Size	0.0266***	0.0261***	0.0261***
	(8.66)	(8.60)	(8.59)
Lev	-0.00446	-0.00291	-0.00287
	(-0.39)	(-0.26)	(-0.25)
ROA	-0.00381	0.00849	0.00856
	(-0.23)	(0.57)	(0.57)
Growth	0.0311***	0.0310***	0.0310***
	(8.32)	(8.37)	(8.36)
BM	-0.00560***	-0.00537***	-0.00541***
	(-5.23)	(-5.10)	(-5.10)

SOE	-0.00485	-0.00475	-0.00474
	(-0.96)	(-0.95)	(-0.95)
ListAge	-0.0164***	-0.0158***	-0.0158***
	(-3.36)	(-3.26)	(-3.27)
Dturn	0.00206	0.00212	0.00212
	(1.09)	(1.12)	(1.12)
INST	0.0127***	0.0125***	0.0125***
	(2.80)	(2.77)	(2.77)
Top1	0.00546	0.00511	0.00525
	(0.34)	(0.32)	(0.33)
Board	-0.0128*	-0.0133*	-0.0131*
	(-1.86)	(-1.95)	(-1.92)
Indep	-0.0229	-0.0253	-0.0255
	(-1.25)	(-1.39)	(-1.40)
Dual	0.000885	0.00137	0.00136
	(0.42)	(0.65)	(0.64)
_cons	-0.444***	-0.433***	-0.433***
	(-7.03)	(-6.92)	(-6.92)
N	16469	16556	16530
adj. R^2	0.242	0.241	0.241
Firm FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes

Sensitivity to measurement choice

Since investment inefficiency cannot be observed directly, the baseline model is re-estimated using multiple alternative proxies to ensure the findings are not driven by any single measurement choice. Across all specifications, the relationship between investor access and investment inefficiency remains consistent in both sign and statistical significance, and while coefficient sizes shift slightly, the core conclusions hold.

This robustness across different definitions of the dependent variable provides strong support for Hypothesis 4.

Table 4: Sensitivity to investment inefficiency measurement

	(1)	(2)	(1)	(2)
	II_TobinQ	II_GMM	II_Biddle	II_Chen
InvestorAccess	-0.00793***	-0.00352***	-0.000828**	-0.000360**
	(-2.99)	(-3.19)	(-2.35)	(-2.16)
Size	0.0187***	0.0204***	0.00340**	0.00398***
	(7.45)	(8.94)	(2.54)	(3.00)
Lev	0.00393	0.00516	0.0203***	0.0200***
	(0.42)	(0.57)	(4.24)	(4.20)
ROA	0.0328***	0.0162	0.0309***	0.0355***
	(2.69)	(1.27)	(4.37)	(5.02)
Growth	0.0304***	0.0260***	0.0105***	0.0102***
	(8.36)	(7.79)	(7.03)	(6.93)
BM	-0.00368***	-0.00379***	-0.00249***	-0.00247***
	(-3.75)	(-3.42)	(-3.25)	(-3.30)
SOE	-0.00621	-0.00544	-0.000330	-0.000575

	(-1.32)	(-1.26)	(-0.12)	(-0.22)
ListAge	-0.0116***	-0.0162***	-0.00798***	-0.00879***
	(-2.88)	(-3.98)	(-2.77)	(-3.11)
Dturn	0.000766	0.00138	-0.00206**	-0.00170
	(0.43)	(0.77)	(-1.97)	(-1.62)
INST	0.00749*	0.00586	-0.00452	-0.00451
	(1.86)	(1.36)	(-1.45)	(-1.47)
Top1	0.00566	0.0199	0.0205**	0.0191**
	(0.44)	(1.58)	(2.42)	(2.26)
Board	-0.0103*	-0.0105	-0.00628	-0.00683
	(-1.69)	(-1.60)	(-1.41)	(-1.52)
Indep	-0.0224	-0.0146	-0.0163	-0.0145
	(-1.38)	(-0.80)	(-1.30)	(-1.16)
Dual	0.00149	0.00277	0.00258*	0.00262**
	(0.77)	(1.37)	(1.95)	(2.00)
_cons	-0.297***	-0.316***	0.00131	-0.00969
	(-5.70)	(-6.40)	(0.04)	(-0.33)
N	19010	18287	19373	19373
adj. R^2	0.214	0.530	0.257	0.244
Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes

Productivity consequences of improved investment efficiency

To assess whether improved investment efficiency leads to real outcomes, the study examines firm-level productivity as a secondary measure. The results show that firms with lower investment inefficiency tend to have higher total factor productivity. Although productivity is not the main focus, this suggests that better capital allocation translates into meaningful improvements in firm performance over time, supporting Hypothesis 5.

Table 5: Investment inefficiency and total factor productivity

	(1)	(2)	(3)
	TFP_OP	TFP_LP	TFP_ACF
Inefficient_Investment	-0.611***	-0.722***	-0.0682***
	(-8.56)	(-11.37)	(-3.34)
InvestorAccess	0.0335	0.0366	0.0264***
	(1.37)	(1.43)	(3.64)
Size	0.204***	0.510***	0.0360***
	(10.18)	(26.26)	(6.72)
Lev	0.289***	0.296***	-0.111***
	(4.50)	(4.99)	(-5.74)
ROA	1.269***	1.221***	1.026***
	(10.48)	(9.91)	(19.59)
Growth	0.179***	0.175***	0.0199***
	(16.26)	(17.60)	(5.76)
BM	-0.0181**	-0.0403***	-0.0146***
	(-1.98)	(-4.38)	(-4.89)
SOE	-0.0630	-0.00828	-0.0163

	(-1.44)	(-0.21)	(-1.13)
ListAge	-0.0115	0.0423	-0.00236
	(-0.32)	(1.23)	(-0.21)
Dturn	0.000776	-0.00183	0.00194
	(0.11)	(-0.25)	(0.75)
INST	0.0268	0.0332	0.00213
	(0.97)	(1.22)	(0.23)
Top1	-0.153	-0.102	-0.0705**
	(-1.41)	(-1.06)	(-2.50)
Board	0.00477	0.0439	0.00590
	(0.08)	(0.75)	(0.37)
Indep	0.108	0.121	0.0278
	(0.77)	(0.89)	(0.63)
Dual	-0.00463	-0.00187	-0.00395
	(-0.27)	(-0.11)	(-0.78)
_cons	-0.815*	-3.463***	-0.703***
	(-1.88)	(-8.58)	(-6.28)
N	16035	15915	15915
adj. R^2	0.850	0.928	0.683
Firm FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes

Discussion

The results of this study point to a meaningful relationship between expanded investor access and firm-level investment efficiency. When Chinese firms became eligible for cross-border trading under the Stock Connect program, they noticeably reduced their deviations from optimal investment levels. This is broadly consistent with what theory would predict: a broader investor base improves the information embedded in prices, and more attentive outside investors create real pressure on managers to make better capital allocation decisions (Ferreira & Matos, 2008; Aggarwal et al., 2011). What is perhaps more interesting is that these improvements did not happen overnight. The gradual pattern of adjustment seen in the event-study estimates suggests that firms need time to internalize the new market dynamics around them, which aligns with prior evidence that real effects from liberalization tend to materialize slowly as firms adapt to new informational and financing conditions (Henry, 2000; Bekaert et al., 2005). This pattern is also consistent with Zhao et al. (2024), who document that mainland-Hong Kong Stock Connect programs reshape firms' long-term investment behavior rather than producing immediate short-run responses.

The robustness of the findings across different matching approaches and investment inefficiency measures adds weight to the interpretation that this is a genuine effect rather than a statistical artifact. Selection into the program was a natural concern, since firms that attract more investors might already be better run. The fact that results hold after matching on observable

firm characteristics (Tucker, 2010; DeFond et al., 2017), and that pre-treatment trends show no meaningful differences between treated and control firms, makes it harder to dismiss the findings as coincidental. The productivity results round out the picture. Firms that invest more efficiently also tend to be more productive, which suggests the improvements in capital allocation are not just cosmetic accounting changes but translate into real operational gains, consistent with broader evidence linking financial liberalization to improved firm performance (Mitton, 2006; Moshirian et al., 2021).

That said, some caution is warranted. The setting is specific to China's equity market structure, and the mechanisms driving the results, whether primarily through information, monitoring, or financing channels, are difficult to cleanly separate with the available data. Future work could dig deeper into which types of firms benefit most and through which channels investor access actually changes managerial behavior.

Conclusion

This paper asked a straightforward question: when firms gain access to a broader pool of investors through cross-border equity trading, do they actually make better investment decisions? Using data from Chinese listed firms between 2010 and 2023 and the Stock Connect program as a natural experiment, the answer appears to be yes. Firms that became eligible for expanded investor participation showed meaningfully lower levels of investment inefficiency compared to similar firms that did not, and these improvements strengthened over time rather than appearing as a one-time shift.

The study contributes to a broader conversation about what financial integration actually delivers at the firm level. Much of the existing literature focuses on aggregate outcomes like market returns or cost of capital, but the firm-level evidence presented here shows that the effects reach deeper into how companies actually deploy resources. The consistency of results across different model specifications, matching methods, and efficiency measures gives confidence that the findings reflect something real about the relationship between investor access and corporate behavior.

From a policy perspective, the findings carry a practical implication: structured cross-border trading programs can improve capital allocation in emerging markets without requiring sweeping institutional overhauls. Simply expanding who can invest in a firm appears to shift incentives in ways that lead managers toward better decisions. Of course, context matters, and results from China's particular regulatory and ownership environment may not transfer directly elsewhere. But the evidence suggests that market

integration, done thoughtfully, can be a meaningful lever for improving how firms put capital to work.

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References:

1. Aggarwal, R., Erel, I., Ferreira, M. A., & Matos, P. (2011). Does governance travel around the world? Evidence from institutional investors. *Journal of Financial Economics*, 100(1), 154-181. https://doi.org/10.1016/j.jfineco.2010.10.018
2. Almeida, H., & Campello, M. (2007). Financial constraints, asset tangibility, and corporate investment. *Review of Financial Studies*, 20(5), 1429-1460. https://doi.org/10.1093/rfs/hhm019
3. Ascioglu, A., Hegde, S. P., & McDermott, J. B. (2008). Information asymmetry and investment-cash flow sensitivity. *Journal of Banking and Finance*, 32(6), 1036-1048. https://doi.org/10.1016/j.jbankfin.2007.09.018
4. Attig, N., Cleary, S., El Ghoul, S., & Guedhami, O. (2012). Institutional investment horizon and investment-cash flow sensitivity. *Journal of Banking and Finance*, 36(4), 1164-1180. https://doi.org/10.1016/j.jbankfin.2011.11.015
5. Bae, K., & Goyal, V. K. (2010). Equity market liberalization and corporate governance. *Journal of Corporate Finance*, 16(5), 609-621. https://doi.org/10.2139/ssrn.1090978
6. Bae, K., Ozoguz, A., Tan, H., & Wirjanto, T. S. (2012). Do foreigners facilitate information transmission in emerging markets? *Journal of Financial Economics*, 105(1), 209-227. https://doi.org/10.2139/ssrn.965918
7. Bekaert, G., Harvey, C. R., & Lundblad, C. (2005). Does financial liberalization spur growth? *Journal of Financial Economics*, 77(1), 3-55. https://doi.org/10.1016/j.jfineco.2004.05.007
8. Chen, X., Harford, J., & Li, K. (2007). Monitoring: Which institutions matter? *Journal of Financial Economics*, 86(2), 279-305. https://doi.org/10.1016/j.jfineco.2006.09.005
9. Christensen, H. B., Hail, L., & Leuz, C. (2016). Capital-market effects of securities regulation: Prior conditions, implementation, and

enforcement. *Review of Financial Studies*, 29(11), 2885-2924. https://doi.org/10.1093/rfs/hhw055

10. DeFond, M., Erkens, D. H., & Zhang, J. (2017). Do client characteristics really drive the big N audit quality effect? New evidence from propensity score matching. *Management Science*, 63(11), 3628-3649. https://doi.org/10.2139/ssrn.2472092
11. Diamond, D. W., & Verrecchia, R. E. (1991). Disclosure, liquidity, and the cost of capital. *The Journal of Finance*, 46(4), 1325-1359. https://doi.org/10.1111/j.1540-6261.1991.tb04620.x
12. Edmans, A. (2009). Blockholder trading, market efficiency, and managerial myopia. *The Journal of Finance*, 64(6), 2481-2513. https://doi.org/10.1111/j.1540-6261.2009.01508.x
13. Ferreira, M. A., & Matos, P. (2008). The colors of investors' money: The role of institutional investors around the world. *Journal of Financial Economics*, 88(3), 499-533. https://doi.org/10.1016/j.jfineco.2007.07.003
14. Fazzari, S. M., & Athey, M. J. (1987). Asymmetric information, financing constraints, and investment. *Review of Economics and Statistics*, 69(3), 481-487. https://doi.org/10.2307/1925536
15. Gaspar, J., Massa, M., & Matos, P. (2005). Shareholder investment horizons and the market for corporate control. *Journal of Financial Economics*, 76(1), 135-165. https://doi.org/10.1016/j.jfineco.2004.10.002
16. Henry, P. B. (2000). Do stock market liberalizations cause investment booms? *Journal of Financial Economics*, 58(1-2), 301-334. https://doi.org/10.1016/S0304-405X(00)00073-8
17. Kraft, A. G., Vashishtha, R., & Venkatachalam, M. (2018). Frequent financial reporting and managerial myopia. *The Accounting Review*, 93(2), 249-275. https://doi.org/10.2308/accr-51838
18. Love, I. (2003). Financial development and financing constraints: International evidence from the structural investment model. *Review of Financial Studies*, 16(3), 765-791. https://doi.org/10.1093/rfs/hhg013
19. McLean, R. D., Pontiff, J., & Zhao, M. (2022). A closer look at the effects of equity market liberalization in emerging markets. *The Review of Corporate Finance Studies*, 13(3), 1093-1095. https://doi.org/10.1093/rcfs/cfac023
20. Mitton, T. (2006). Stock market liberalization and operating performance at the firm level. *Journal of Financial Economics*, 81(3), 625-647. https://doi.org/10.1016/j.jfineco.2005.09.001

21. Richardson, S. A. (2006). Over-investment of free cash flow. *Review of Accounting Studies*, 11(2), 159-189. https://doi.org/10.1007/s11142-006-9012-1
22. Roberts, M. R., & Whited, T. M. (2013). Endogeneity in empirical corporate finance. *Handbook of the Economics of Finance*, 2(1), 493-572. https://doi.org/10.1016/B978-0-44-453594-8.00007-0
23. Stiglitz, J. E. (2000). Capital market liberalization, economic growth, and instability. *World Development*, 28(6), 1075-1086. https://doi.org/10.1016/S0305-750X(00)00006-1
24. Tucker, J. W. (2010). Selection bias and econometric remedies in accounting and finance research. *Journal of Accounting Literature*, 29, 31-57.
25. Whited, T. M., & Wu, G. (2006). Financial constraints risk. *Review of Financial Studies*, 19(2), 531-559. https://doi.org/10.1093/rfs/hhj012
26. Zhao, Y., Fu, R., & Gao, F. (2024). The impact of stock market liberalization on long-term investment: Evidence from mainland-Hong Kong stock connect programs in China. *Pacific-Basin Finance Journal*, 86, 102405. https://doi.org/10.1016/j.pacfin.2024.102405