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# The Regulatory Intermediation Gap: Evidence from Singapore's Equity Market Reform

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## Abstract

When governments channel equity market interventions through private intermediaries, the institutional architecture of intermediation systematically redirects those interventions away from their intended beneficiaries. Using a cross-sectional event study of firms listed on the Singapore Exchange (SGX), we examine Singapore's 2025 equity market reform (a S\$5 billion capital deployment via professional fund managers, targeted at small- and mid-cap firms, bundled with deregulation of SGX's post-listing oversight regime) and document two dimensions of this regulatory intermediation gap. First, the market priced capital deployment as a large-cap event: the smallest quartile lost 2.1 percent while the largest gained 0.6 percent, consistent with fund managers' investability constraints that effectively exclude small firms. When mandate terms requiring small- and mid-cap allocation were later disclosed, the size gradient reversed, indicating that precise mandate design can narrow the gap. Second, the market penalised firms with accumulated regulatory friction (prior queries, halts, and suspensions), interpreting the proposed shift from public to private oversight as information loss — though for financially distressed firms trapped by the watch-list, deregulation was priced as stigma relief. Both findings are instances of a single phenomenon: policy transmitted through institutional channels is shaped by those channels' constraints. The results inform the design of government-intermediated equity programmes in Singapore and comparable initiatives in Japan, Korea, and the European Union.

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# 1 Introduction

In February 2025, Singapore’s Monetary Authority (MAS) announced one of the most ambitious equity market reform packages in the city-state’s history. The package deployed two instruments toward a single objective: revitalising an equity market where small- and mid-cap firms had long suffered from thin trading and poor valuations. The first was capital: S\$5 billion channelled through professional fund managers under the Equity Market Development Programme (EQDP), intended to bring new institutional money into Singapore-listed equities beyond the index constituents. The second was deregulation: a decisive shift towards a disclosure-based listing regime on the Singapore Exchange (SGX), including the proposed removal of SGX’s financial watch-list for poorly performing companies, consolidation of listing review under a single regulator, and streamlined prospectus requirements, collectively designed to reduce the cost of being listed.

The market’s response revealed a striking paradox. Rather than rewarding the small- and mid-cap firms the EQDP was designed to benefit, the announcement generated a size-dependent cross-sectional pattern in which the smallest quartile of equities experienced cumulative abnormal returns of  $-2.1$  percent while the largest quartile gained  $+0.6$  percent, a statistically significant spread of  $+2.7$  percentage points. The government’s equity market intervention was priced as a large-cap event.

Simultaneously, the reform’s deregulatory component was penalised along a different cross-sectional dimension. Firms with accumulated regulatory friction (prior queries, trading halts, and suspensions) experienced more negative abnormal returns, each additional friction event predicting roughly one-third of a percentage point decline even after controlling for size. The market interpreted the proposed dismantling of SGX’s oversight apparatus not as lifting regulatory burden from constrained firms, but as removing informative monitoring from firms that warranted it.<sup>1</sup> Both instruments were thus expected to miss their intended beneficiaries, but for structurally distinct reasons: the capital through *intermediation*, the deregulation through *information loss*.

Five months later, when the first three EQDP asset managers were named (Avanda Investment Management, Fullerton Fund Management, and JP Morgan Asset Management) with mandates requiring “significant allocation to small- and mid-cap stocks,” the cross-sectional pattern reversed. The average equity gained  $+3.4$  percent, with three-quarters of firms posting positive abnormal returns, and the size gradient flipped sign: smaller firms gained more than larger ones. The intermediation gap appeared to narrow once the market received credible information about mandate design.

We define the *regulatory intermediation gap* as the distance between regulatory intent and market outcome when government channels equity market interventions through private intermediaries. Fund managers operating under the EQDP face standard institutional constraints, including fiduciary duties, fee structures linked to assets under management (AUM), liquidity requirements for position sizing, and benchmark-relative performance evaluation, that rationally favour large, liquid, index-proximate stocks regardless of stated policy objectives. The announcement-return

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<sup>1</sup>The removal of public oversight effectively revitalises the market for lemons (Akerlof, 1970).

evidence is consistent with the market pricing this gap as structural: arising from the incentive architecture of intermediated capital deployment, rather than from a failure of implementation.

Neither instrument's failure was uniform. The capital evidence shows that the intermediation gap is design-sensitive: once credible mandate terms were disclosed, the size gradient reversed. The deregulation channel presents an analogous nuance. For most high-friction firms, the proposed removal of oversight was penalised because the market would lose a disciplinary signal. But for financially distressed firms trapped in a self-reinforcing cycle of watch-list inclusion, financing impairment, and low valuation, the regulatory machinery itself was part of the problem. The friction count measures accumulated scrutiny, which the market reads as informative monitoring. The watch-list, by contrast, is a specific institutional mechanism that imposes concrete costs on affected firms, some of which resorted to dilutive share issuances solely to satisfy the S\$40 million market capitalisation threshold. Conditional on overall friction counts, watch-list status predicts a statistically significant +5.0 percent abnormal return at E1; the market priced watch-list removal as a discrete benefit for the firms most directly affected by the stigma mechanism. When the watch-list was formally abolished on October 29, 2025, the five previously watch-listed firms in our sample gained +8.1 percent on average, compared to -1.2 percent for non-watch-listed firms. Though the small treated sample limits statistical precision, the direction is consistent with deregulation creating value when it removes an identified trap rather than dismantling oversight wholesale.

The intermediation gap and the friction penalty are thus two instances of a single phenomenon: the distance between regulatory intent and market outcome, mediated by the institutional structure through which policy is transmitted. Capital channelled through professional intermediaries flows where intermediary incentives direct it, not where policy directs it. Deregulation channelled as a blanket reduction in oversight removes valuable information alongside genuine burden. Both failures are predictable from institutional architecture, and both can be partially mitigated through more precise design.

The paper makes three contributions. First, we document the regulatory intermediation gap empirically and show that it operates in public equity markets, extending the directed lending and government procurement literatures to a new institutional context. The gap is not permanent: when credible mandate terms are disclosed, the market revises, providing evidence that the design of intermediated capital deployment matters as much as its quantum.

Second, we demonstrate that a single bundled reform announcement is simultaneously priced on two independent dimensions (anticipated fund flows, captured by size, and regulatory information value, captured by friction), providing a within-event methodology applicable to the bundled policy interventions common in securities regulation. Both dimensions reflect the same underlying problem: policy transmitted through institutional channels is shaped by those channels' own constraints.

Third, we show that regulatory friction is a dual-edged signal whose market interpretation depends on the firm's financial condition, offering a more nuanced view of deregulation than the standard

“regulation as cost” framework:<sup>2</sup> investors penalise the removal of oversight when it eliminates informative monitoring, but reward it when it removes a self-reinforcing stigma mechanism.

The remainder of the paper is organised as follows. [Section 2](#) situates the paper in the relevant literatures. [Section 3](#) describes the institutional background of Singapore’s equity market and the reform timeline. [Section 4](#) describes the data and methodology. [Section 5](#) develops the empirical specifications and presents the results. [Section 6](#) discusses limitations, and [Section 7](#) concludes.

## 2 Literature Review

This paper sits at the intersection of three literatures: the efficacy of government-directed financial interventions, the informational value of securities regulation, and the institutional dynamics of Singapore’s equity market.

### 2.1 Intermediated Government Interventions and the Small-Cap Capital Deficit

A body of work documents how private intermediaries systematically redirect government-directed capital away from its intended beneficiaries. [Banerjee and Duflo \(2014\)](#) show that expanding eligibility for directed lending relaxed binding credit constraints for newly eligible firms, confirming that intermediated capital is rationed in ways that exclude targeted recipients. [Marion \(2009\)](#) documents the same dynamic in government procurement, where affirmative action provisions are diluted by intermediary contractor behaviour. In monetary policy, [Krishnamurthy and Vissing-Jorgensen \(2011\)](#) show that quantitative easing disproportionately affects the largest, most liquid asset classes, because central banks transact through intermediaries whose portfolio rebalancing favours close substitutes; subsequent work confirms that the scale and composition of purchases matter for transmission ([Gagnon et al., 2011](#); [D’Amico and King, 2013](#)). At the policy level, the UK’s [Kay \(2012\)](#) identified how the explosion of intermediation in equity investment had led to misaligned incentives and a tendency to evaluate market effectiveness through the lens of intermediaries rather than companies or end investors, a diagnosis foreshadowed by the [Myners \(2001\)](#) on misaligned incentives in the institutional investment chain and by the [Walker \(2009\)](#) on governance failures in financial institutions. What [Braun and Christophers \(2024\)](#) term “asset manager capitalism” (the growing dominance of intermediary constraints over end-investor interests) is precisely the mechanism our paper measures empirically, consistent with theoretical models in which narrow mandates and agency frictions in delegated management limit deviations from benchmarks ([He and Xiong, 2008](#); [Buffa et al., 2014](#)).

These intermediation frictions operate against a backdrop of structural decline in small-cap public equity markets. The number of publicly listed firms has fallen sharply across developed markets ([Doidge et al., 2017](#); [Kahle and Stulz, 2017](#)), driven in part by the collapse of small-company IPO

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<sup>2</sup>[Lawrence \(2000\)](#) frames this as the tension between the costs of market confidence and the costs of regulation.

activity (Gao et al., 2013). Grullon et al. (2019) document a related trend: increasing industry concentration fuelled partly by the ease with which large firms attract institutional capital. The growth of index-linked investing has reshaped price formation and liquidity allocation, with adverse consequences for non-index securities (Wurgler, 2010; Israeli et al., 2017), while institutional investors systematically tilt toward large-cap, benchmark-proximate holdings (Bennett et al., 2003; Cremers and Petajisto, 2009). Fund managers tilting toward large caps are responding rationally to a market structure in which capital concentration and return concentration reinforce each other.

Government programmes designed to counteract these trends span distinct categories: some route capital through institutional investors (Japan's Government Pension Investment Fund (GPIF) allocation shifts), others are broader market-structure or listing reforms (Korea's Corporate Value-Up Programme, the European Union's Listing Act of December 2024 (European Parliament and Council of the European Union, 2024)), and still others operate through bank-capital rules (the EU's SME Supporting Factor under Article 501 of the Capital Requirements Regulation, which the European Banking Authority (2016) found had limited effect on SME credit supply). Despite this proliferation, the intermediation problem in equity markets has received almost no empirical attention: the fund managers through which public market capital must flow are themselves optimised for large, liquid, benchmark-proximate securities. Our contribution is to show that the market priced a likely intermediation gap in a public equity setting, allowing the expected gap to be observed in announcement returns rather than inferred from ex post credit allocation data.

## 2.2 The Informational Value of Securities Regulation

Our friction channel connects to a longstanding debate about whether securities regulation creates or destroys value. A foundational literature establishes that legal institutions and investor protection shape financial development (La Porta et al., 1997, 1998; Shleifer and Wolfenzon, 2002), and that the design of securities laws matters for market outcomes (La Porta et al., 2006). One strand views regulation primarily as a cost, predicting that deregulation should be welcomed. Stigler (1971) and Peltzman (1976) provide the theoretical foundations; applied to securities regulation, event studies of the Sarbanes–Oxley Act document significant compliance costs (Zhang, 2007; Iliev, 2010), and Dharmapala and Khanna (2014) find that the JOBS Act generated positive returns for firms exempted from disclosure requirements. Yet commitment to stricter oversight can itself lower the cost of capital by reducing adverse selection (Carpentier et al., 2010).

Our finding that the market penalised high-friction firms at a deregulation announcement supports an alternative view: that securities regulation serves an informative monitoring function whose removal increases information asymmetry (Healy and Palepu, 2001; Leuz and Verrecchia, 2000; Christensen et al., 2016). Disclosure mandates generate positive abnormal returns and liquidity improvements (Bushee and Leuz, 2004; Greenstone et al., 2005; Ferrell, 2007), while deregulation episodes produce significant negative market reactions (Fernandes et al., 2008; Jenkinson and Ramadorai, 2008; Hoffman et al., 2018; Hitz and Moritz, 2019; Behrmann et al., 2024). The quality of enforcement matters as much as the formal standards: higher enforcement intensity is associated with lower cost of capital (Coffee, 2007; Christensen et al., 2013). These competing regulatory

philosophies have deep roots. When Singapore shifted towards disclosure-based regulation, the approach was characterised as “caveat emptor”;<sup>3</sup> by contrast, the original US disclosure regime was framed as ensuring that “the seller also beware.”<sup>4</sup> Our friction results suggest the market’s assessment lies closer to the latter view: removing oversight shifts risk to buyers. In a related vein, [Nielsson \(2013\)](#) finds that London’s AIM, which imposes lighter listing requirements, allows small firms to raise more capital without attracting observably lower-quality issuers; the sorting operates through firm size and sensitivity to regulatory costs, a parallel relevant to the Singapore context.

The adverse selection dimension of our result connects to the market-for-lemons logic ([Akerlof, 1970](#)): mandatory disclosure prevents market breakdown by enabling investors to distinguish between clean and problematic firms ([Coffee, 1984](#)). Our dual-edged friction finding resonates with work on regulatory stigma, where the regulatory mechanism itself compounds the problem it was designed to address. [Correia \(2014\)](#) documents how political connections shape enforcement outcomes, suggesting that regulatory actions carry heterogeneous information content depending on firm characteristics. Reputational damage from regulatory sanctions can dwarf direct financial penalties ([Armour et al., 2010, 2019](#)), and enforcement actions generate positive valuation spillovers for non-target firms through the legal bonding channel ([Silvers, 2016](#)). In banking, stigma from institutional labelling creates analogous feedback loops: banks avoided the Federal Reserve’s discount window during the 2007–2008 crisis because borrowing signalled distress ([Armantier et al., 2015; Anbil, 2018](#)). The watch-list mechanism we study operates through a similar channel. Financial distress compounds these effects: highly leveraged firms lose market share during downturns ([Opler and Titman, 1994](#)) and face transactions costs that trap them in suboptimal capital structures ([Gilson, 1997](#)), suggesting that the watch-list’s impact extended well beyond the informational signal to investors.

Regulatory announcements produce observable price reactions, making event studies a natural framework for adjudicating this debate ([Khoo et al., 2025](#)). Our event study design follows [MacKinlay \(1997\)](#). The use of security prices to assess regulatory announcements is well established ([Schwert, 1981](#)); broader work on securities-law design and enforcement includes [Mahoney \(1997\)](#) and [Jackson and Roe \(2009\)](#). Because our design studies common announcement dates rather than staggered treatment adoption, it draws on the classic cross-sectional financial event study rather than the panel event-study framework of [Schmidheiny and Sieglöcher \(2019\)](#), though that work informs our approach to multi-event analysis.

## 2.3 Singapore’s Equity Market and Corporate Governance

Singapore’s equity market provides a distinctive institutional setting that has attracted growing empirical attention. As [Ooi and Tan \(2019\)](#) document, the development of the city-state’s corporate law has historically been highly responsive to economic events, creating a uniquely reciprocal

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<sup>3</sup>Lee Hsien Loong, Minister for Trade and Industry, speech at the 1st Anniversary Dinner of the Securities Investors Association (Singapore), 7 July 2000.

<sup>4</sup>Franklin D. Roosevelt, Message to Congress on Federal Supervision of Investment Securities, 29 March 1933.

relationship between regulatory architecture and market outcomes. [Lee \(2013\)](#) provides a detailed microstructure analysis of SGX trading processes, while [Claessens et al. \(2006\)](#) situate small-exchange development within the broader dynamics of stock market internationalisation.

Research on corporate governance in Singapore centres on concentrated ownership, family control, and government-linked companies ([Tan et al., 2014](#)). The distinctive dynamics of this environment, particularly how state ownership and concentrated blockholders interact to shape governance outcomes and minority protections, are central to understanding the market’s institutional constraints ([Lim, 2021](#)). [Mak and Li \(2001\)](#) document the determinants of corporate ownership and board structure, highlighting the influence of concentrated shareholdings on governance outcomes (see also [Lim, 2019](#); [Puchniak and Lan, 2017](#)).

The regulatory architecture we study (specifically SGX’s public query regime, the financial watch-list, and the post-listing oversight framework) has features particular to this institutional context. The watch-list mechanism has no direct analogue in major comparator markets and represents an unusually visible form of regulatory labelling ([Tjio et al., 2017](#)).<sup>5</sup>

The closest antecedent to our work is [Gurrea-Martínez \(2025\)](#), who provides a comprehensive qualitative assessment of the reform’s potential effects, situating Singapore’s package within a comparative framework of international market competitiveness initiatives. Our paper complements that analysis by testing empirically whether the market priced the reform’s components as the policy intended.

We contribute to this Singapore-specific literature by providing the first event study of SGX’s 2025 reform package, documenting how the market’s concentrated size distribution and steep investability threshold interact with intermediated capital deployment in ways that may not arise in deeper, more diversified equity markets. The dual-listing bridge raises a related selection question: [Iliev et al. \(2013\)](#) find that loosening US regulations attracted involuntary cross-listings with mixed valuation consequences, cautioning that regulatory bridges may have unintended selection effects.

## 3 Institutional Background

### 3.1 Singapore’s Equity Market and Its Challenges

SGX occupies an awkward position in the global exchange ecosystem: a well-regulated, highly credible venue that nevertheless struggles to attract new listings and sustain trading interest in existing ones. Over the past decade, market participants and policymakers have raised persistent concerns about declining IPO activity, thinning trading volumes, and stagnating market capitalisation relative to regional competitors in Hong Kong, Tokyo, and Sydney. These challenges

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<sup>5</sup>[Wan et al. \(2017\)](#) compare public and private enforcement in Hong Kong and Singapore, documenting the dominance of public enforcement, and [Yi \(2024\)](#) analyse SGX’s alternative board design in comparative perspective with Hong Kong and Malaysia.

are particularly acute for small- and mid-cap equities, which can become trapped in a vicious cycle: thin analyst coverage reduces investor awareness, low institutional participation depresses valuations, wide bid-ask spreads discourage trading, and the resulting poor market quality deters new companies from listing.

The exchange operates two listing boards. SGX's Mainboard hosts larger, more established companies and imposes quantitative admission criteria including a minimum pre-tax profit threshold (S\$30 million, subsequently reduced to S\$10 million in October 2025) and market capitalisation requirements. Catalist, established in 2007, provides a more flexible sponsor-supervised regime for smaller growth companies. In practice, Catalist has attracted relatively few high-quality listings, and many of its constituent firms trade infrequently at deep valuation discounts.

A distinctive feature of SGX's regulatory architecture is the financial watch-list, introduced in 2008 as a publicly maintained register of Mainboard firms that had recorded pre-tax losses for three or more consecutive financial years and whose average daily market capitalisation fell below S\$40 million over the preceding six months.<sup>6</sup> Inclusion carried substantial stigma: market participants, lenders, and business counterparties commonly treated watch-list status as a signal of impending delisting risk, further impairing the affected firm's ability to secure financing, attract investors, or restructure. Within two years of the watch-list's introduction, five of its six inaugural constituents had been delisted.<sup>7</sup>

The watch-list's composition changed markedly over the following decade. At its peak in 2016, approximately 75 companies appeared on the list. Following the formation of SGX RegCo in 2017, the count declined through delistings, suspensions, and exits meeting the financial criteria. Issuers listed solely because of the minimum trading price criterion gained an additional exit route when that requirement was removed for Catalist transfers in June 2020. By mid-2025, roughly 30 companies remained.<sup>8</sup> The watch-list was formally abolished in October 2025 as part of SGX's shift to a disclosure-based regime. SGX RegCo justified the removal by citing the watch-list's unintended negative effects on business confidence and access to financing. The firms remaining on the list by 2025 were also survivors of a protracted filtering process, which may have reduced the expected cost of abolition relative to an earlier removal.

Beyond the watch-list, SGX RegCo maintains a broader apparatus of post-listing regulatory interventions: public queries (issued when unusual trading activity is detected), trade-with-caution alerts, and trading suspensions for firms with going-concern issues. These interventions are individually disclosed and, together with watch-list status, form a cumulative record of regulatory attention that underpins the friction measure used in the empirical analysis.

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<sup>6</sup>There was no equivalent watch-list for SESDAQ (later Catalist) companies, which were expected to be monitored by their sponsors.

<sup>7</sup><https://sbr.com.sg/financial-services/news/singapore-exchange-delist-5-companies-under-watch-list>

<sup>8</sup>Our equity-only regression sample contains five firms with active watch-list status at the October 2025 removal event. The difference from the full watch-list reflects firms that were suspended from trading, delisted prior to the event window, or excluded from our sample as non-equity instruments.

## 3.2 The Equities Market Review Group

On August 2, 2024, the Monetary Authority of Singapore (MAS) announced the formation of the Equities Market Review Group. Chaired by Mr Chee Hong Tat, Minister for Transport, Second Minister for Finance, and Deputy Chairman of MAS, the panel brought together senior private and public sector representatives. The Review Group's mandate was to recommend measures to strengthen the competitiveness of Singapore's equities market, with a twelve-month target for completion.

Two workstreams supported the Review Group. The Enterprise and Markets workstream focused on fostering listings, increasing investor participation, improving trading liquidity, and facilitating fair valuation. The Regulatory workstream focused on streamlining the regulatory framework, improving the listing process, enhancing the disclosure-based regime, and strengthening corporate governance standards and investor recourse.

## 3.3 Timeline of Reform Events

The reform process unfolded through a series of discrete announcements over eighteen months. This sequence is central to the empirical design. The first substantive announcement (E1) bundles all reform channels in a single event, while subsequent events activate narrower, though partially overlapping, subsets of these channels, creating variation in policy content that informs the cross-event analysis.

The sequence began on August 2, 2024, when MAS announced the Review Group's formation (E0), a signal event that established the policy direction but contained no specific measures. The first substantive announcement came on February 21, 2025 (E1), when the Review Group published its first set of measures across six pillars: supply (tax incentives, Catalist review, financing support), demand (S\$5 billion EQDP, fund manager tax exemptions, GIP Option C adjustment, GEMS research grant expansion), cross-border partnerships (depository receipt collaborations), a decisive shift towards a disclosure-based regime (consolidation of listing review under SGX RegCo, streamlined qualitative admission criteria, streamlined prospectus requirements), strengthened investor confidence (investor recourse avenues, shareholder engagement), and improved trading and settlement efficiency.

Subsequent events progressively unbundled the February package. On the regulatory side, SGX RegCo published its consultation paper on a more disclosure-based regime at E2 (May 15, 2025), proposing the removal of the financial watch-list, a reduction of the Mainboard profit threshold, streamlined qualitative admission criteria, a shift from public queries to private engagement, time-limited trade-with-caution alerts, and narrowed trading suspension criteria. On October 29, 2025, SGX RegCo implemented these changes with immediate effect, removing the financial watch-list and ceasing public trading queries.

The capital-deployment channel unfolded on a parallel track. On July 21, 2025 (E4),<sup>9</sup> MAS appointed the first three EQDP asset managers, deployed S\$1.1 billion in initial capital, committed S\$50 million to equity research and the listed product ecosystem, and outlined proposals to strengthen investor recourse. On November 19, 2025, the Review Group published its final report alongside the SGX-Nasdaq dual listing bridge, a second batch of six EQDP managers with S\$2.85 billion, and market structure enhancements including a board lot reduction and designated market maker incentives. These liquidity measures are consistent with the scale economies documented by [Kervel et al. \(2025\)](#) in the context of Chile’s tax reform. The sequential unfolding of these events, each activating a different subset of reform channels, provides the cross-event variation that structures the following empirical analysis.

Table 1: Timeline of Reform Events

Label	Date	Key Content	Primary Channels
E0	2 Aug 2024	Formation of Equities Market Review Group	Signal (no measures)
E1	21 Feb 2025	First measures: S\$5B EQDP, disclosure-based regime shift, watch-list removal proposal, Catalist review, prospectus streamlining	Capital + Deregulation
E2	15 May 2025	SGX RegCo consultation paper: detailed disclosure-based proposals	Deregulation
E4	21 Jul 2025	First 3 EQDP managers named (Avanda, Fullerton, JPMAM); S\$1.1B deployed; small/mid-cap mandate terms disclosed	Capital
Oct29	29 Oct 2025	Watch-list abolished; public trading queries ceased	Deregulation (implementation)
Nov19	19 Nov 2025	Final report; SGX–Nasdaq dual listing bridge; 6 additional EQDP managers (S\$2.85B); board lot reduction, market maker incentives	Capital + Market structure

*Notes:* E3 (13 June 2025, SGX technology infrastructure) is omitted as it did not meet the inclusion criteria for substantive regulatory or market-structure content. “Primary Channels” indicates which of the paper’s two main channels, namely capital deployment (intermediation) and deregulation (friction/information), each event primarily activates. E1 bundles both; subsequent events progressively unbundle them.

<sup>9</sup>We label the July 2025 event as E4, skipping E3 in our numbering. E3 was reserved for an SGX technology infrastructure announcement on June 13, 2025 that did not meet our inclusion criteria for substantive regulatory or market-structure content.

## 4 Data and Methodology

### 4.1 Data Sources

To test H1–H4, the analysis combines SGX price data with firm-level characteristics in an equity-only event-study design. Daily end-of-day prices for all SGX-listed securities are sourced from SGX’s data services division, covering August 1, 2022 to August 29, 2025 (1,048,575 firm-day observations across 3,112 stock codes). For events occurring after August 2025, prices are extended through December 31, 2025 using Yahoo Finance daily close and volume data (60,865 observations for 716 stock codes), validated against the original SGX data over a 20-day overlap window (median price correlation: 1.000).<sup>10</sup>

Factor model inputs consist of Fama–French three-factor daily returns (Fama and French, 1993) for baseline CAR specifications and five-factor daily returns (Fama and French, 2015) for robustness checks, both for the Asia Pacific ex Japan region and obtained from the Dartmouth Data Library. Regional rather than global factors follow Fama and French (2012), who show that a regional model captures size, value, and momentum premia in international stock returns more effectively than a global specification. The SGX equal-weighted market return, computed daily from all listed equities with valid price observations, serves as the market benchmark for market-model CARs.

Firm characteristics are assembled from multiple sources. Market capitalisation is drawn from SGX monthly listings snapshots (705 stock codes, 37 months). Annual financial statement data are sourced primarily from Worldscope via WRDS, supplemented by firm-level financial statements extracted from approximately 17,000 SGX filing PDFs using a three-pass extraction pipeline.<sup>11</sup> Regulatory friction measures are constructed from 31 months of SGX corporate announcement CSVs ( $\approx 100,540$  announcements), parsed into eight friction categories. Board composition data are derived from SGX’s XML issuer feeds and the Company with Active Directors registry ( $\approx 3,926$  director-company links). Sector classifications use SSIC codes matched from the XML feeds.

### 4.2 Sample Construction

The analysis sample consists of 335 equity-only stock codes: 291 ordinary equities, 32 REITs, and 12 business trusts. Warrants, structured products, daily leverage certificates, exchange-traded funds, and other non-equity instruments are excluded using classification flags in SGX’s XML security feed.<sup>12</sup> The firm-event panel yields approximately 280 firms per event with valid CARs

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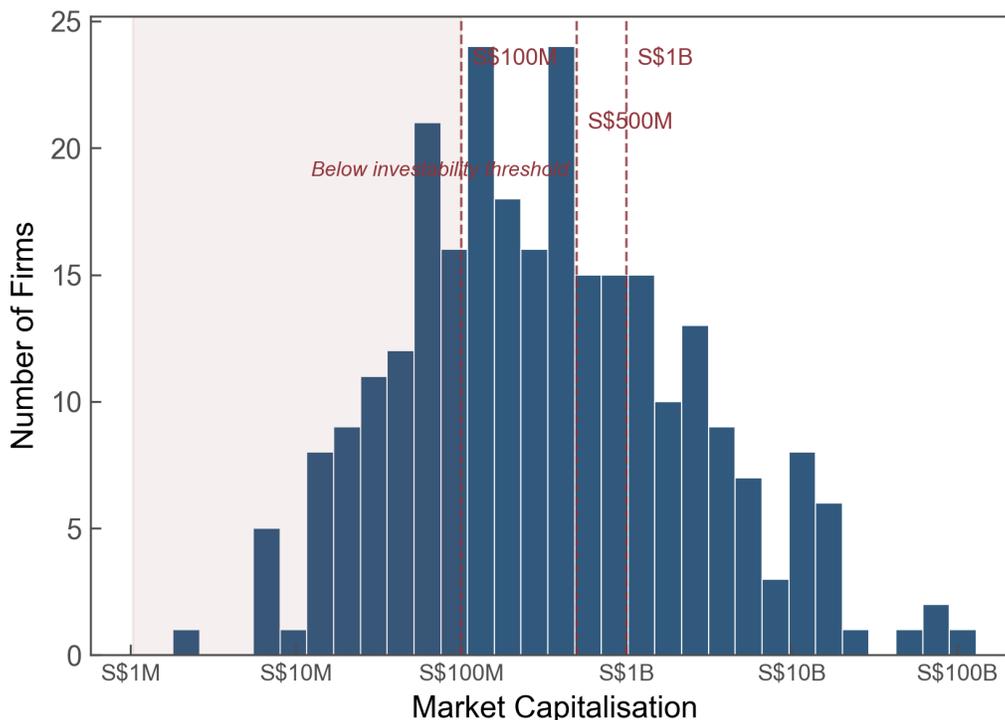
<sup>10</sup>Yahoo Finance data do not include bid-ask quotes, so quoted spread and exact traded value are unavailable for the extended period. This is immaterial for CAR estimation but precludes post-event market quality analysis for the October 29 and November 19 events.

<sup>11</sup>The pipeline classified 204,727 files across the 97.5 GB SGX filing corpus: pdfplumber for structured tables ( $\approx 70\%$  success rate), Qwen2.5-VL vision model via local Ollama inference for unstructured layouts, and manual review flags for  $\approx 70$  rows with known scale or currency ambiguities.

<sup>12</sup>Excluding 260 non-equity stock codes materially affects certain results. The Catalyst board-tier effect reported in preliminary analyses ( $-3.0$  percentage points,  $p < 0.001$ ) was substantially inflated by structured products, exclusively

and cross-sectional data.

Figure 1: Distribution of market capitalisation across the 335 SGX equity-only sample, shown on a log-scaled x-axis. Dashed vertical lines mark illustrative investability thresholds at S\$100 million, S\$500 million, and S\$1 billion; the shaded region highlights firms below the S\$100 million threshold.



Note: The shaded region highlights firms below the S\$100 million threshold. Market capitalisation is from the last available SGX monthly snapshot before E1.

The pronounced right skew in Figure 1 motivates the median split used in Table 5 and the quartile analysis in Table 4: a substantial share of SGX-listed equities falls below the investability thresholds that professional fund managers typically impose.

Table 2 reports summary statistics for the E1 cross-section. Of the 285 firms with valid CARs, broker ownership data are available for 212 and accounting variables (ROA, leverage) for 257–258. Directly treated groups are rare (watch-list firms comprise 1.8% of the sample ( $N = 5$ ) and distressed firms 8.8%), constraining precision in the corresponding cross-sectional tests.

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Mainboard-listed, whose large positive CARs depressed the Mainboard reference group mean. After equity-only filtering, the Catalist effect attenuates to  $-1.8$  percentage points ( $p = 0.136$ ) and is absorbed by the size control.

Table 2: Descriptive Statistics (E1 Sample)

	<i>N</i>	Mean	Median	SD	Min	Max
Market cap (S\$ mil.)	283	2357.3	294.6	7417.8	7.5	57499.0
Log(Market cap)	283	19.64	19.50	1.96	15.83	24.77
Friction count	285	2.53	1	3.59	0	26
Illiquidity (bps)	283	1.069	0.009	4.110	0.001	24.989
ROA (%)	257	1.85	3.85	14.24	-78.14	19.46
Leverage (%)	258	23.87	22.87	18.02	0.00	67.87
Broker ownership (%)	212	13.42	6.16	16.25	0.44	68.66
Catalist-listed	285	0.147	0	0.355	0	1
Watch-list	285	0.018	0	0.132	0	1
Distress	285	0.088	0	0.283	0	1

*Notes:* Sample comprises 285 SGX-listed equities with sufficient price history for CAR estimation at the E1 event date (2025-02-21). Market cap is from the last available trading day before the event window. Illiquidity is the Amihud (2002) measure (mean daily  $|r|/\text{volume}$ ) over the 60 trading days before the event, reported in basis points ( $\times 10,000$ ). Friction count is the cumulative number of SGX queries, trading halts, and trading suspensions accumulated by the firm as of the event date; watch-list and distress are reported separately as indicator variables. Broker ownership is the share of top-20 holdings registered through retail securities brokers; available for 212 firms with shareholder register data. Accounting variables (ROA, Leverage) are available for firms with Worldscope coverage ( $N = 257-258$ ). Catalist, watch-list, and distress are indicator variables.

### 4.3 CAR Estimation

A key design choice is that all post-E1 events share a fixed pre-E1 estimation window, ensuring that factor loadings are not contaminated by the reform itself. Cumulative abnormal returns are estimated event by event. The market model regresses firm  $i$ 's daily return on the SGX equal-weighted market return:

$$R_{i,t} = \hat{\alpha}_i + \hat{\beta}_i R_{m,t}^{\text{EW}} + \hat{\varepsilon}_{i,t} \quad (1)$$

and cumulates the residuals  $\hat{\varepsilon}_{i,t}$  over the event window. The three-factor model replaces the single market factor with the Asia Pacific ex Japan MKT, SMB, and HML factors:

$$R_{i,t} = \hat{\alpha}_i + \hat{\beta}_{1,i} \text{MKT}_t + \hat{\beta}_{2,i} \text{SMB}_t + \hat{\beta}_{3,i} \text{HML}_t + \hat{\varepsilon}_{i,t} \quad (2)$$

The primary event window is  $(-1, +3)$  trading days around the event date; robustness is reported for  $(-1, +1)$ ,  $(-1, +5)$ ,  $(0, +1)$ , and  $(0, +3)$ .

For pre-E1 events (E0 and E0.5), the estimation window spans the standard  $[-250, -30]$  trading

days before the event. For post-E1 events (E2, E4, Oct29, Nov19), the fixed pre-E1 window runs from January 2, 2024 to February 14, 2025 ( $\approx 280$  trading days), avoiding contamination from the E1 structural break.<sup>13</sup>

## 4.4 Cross-Sectional Regression and Inference

The second stage regresses firm-level CARs on cross-sectional characteristics using ordinary least squares (OLS) with HC1 heteroskedasticity-robust standard errors. Stacked specifications pooling multiple events include event fixed effects and cluster standard errors by stock code. All CARs are winsorized at the 1st and 99th percentiles.

Because the second-stage regressions use estimated dependent variables, standard inference may overstate precision. To address this concern, a paired-date reversal placebo test is conducted (see [Appendix A.1.1](#)). Two hundred pairs of pseudo-event dates are sampled uniformly from the pre-E1 period (June 2023 to January 2025), with each pair separated by approximately 105 trading days to match the E1–E4 gap. For each pair, CARs are estimated at both dates and the cross-sectional coefficients computed; the reversal statistic  $\Delta\hat{\beta} = \hat{\beta}_{\text{date}_2} - \hat{\beta}_{\text{date}_1}$  provides a non-parametric null for whether the observed E1-to-E4 sign flips in the size and friction coefficients could arise by chance.

# 5 Results

This section reports the empirical results. Each subsection develops the motivating logic, states the specification, and presents the estimates.

## 5.1 Event-Level Summary

[Table 3](#) reports mean CARs across all seven events in the reform timeline. The first substantive announcement (E1, February 21, 2025) produced a negative mean CAR of  $-0.92\%$  ( $t = -2.79$ ,  $p = 0.006$ ,  $N = 280$ ), with only 46.1% of firms posting positive returns: the typical firm lost value on the announcement. The consultation event (E2, May 15, 2025) elicited a null response ( $-0.25\%$ ,  $p = 0.47$ ), consistent with its content having been fully anticipated from E1. By contrast, the EQDP manager appointment (E4, July 21, 2025) produced a strongly positive mean CAR of  $+3.69\%$  ( $t = 8.05$ ,  $p < 0.001$ ), with 74.1% of firms posting positive returns; the actual capital commitment was uniformly positive. The watch-list removal (Oct29) generated a negative mean CAR of  $-1.05\%$  ( $p = 0.004$ ), and the final report (Nov19) was also negative ( $-0.74\%$ ,  $p = 0.001$ ). The contrast between the negative E1 and the strongly positive E4 motivates the cross-sectional analysis that follows.

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<sup>13</sup>The gap between the estimation window endpoint and the E2 event date is approximately 60 trading days. If E1 permanently altered stock betas, the pre-E1 estimates may be stale. A robustness check using inter-event estimation windows produces qualitatively similar cross-sectional coefficients with wider standard errors.

Table 3: Event-Level Summary Statistics

Event	Date	Channel	$N$	Mean CAR	$t$ -stat	$p$ -value	Median	% Pos
E0	2024-08-02	Signal	258	-0.0297***	-6.79	0.000	-0.0225	28.7%
E0.5	2024-09-23	Placebo	265	0.0102***	3.58	0.000	0.0043	54.7%
E1	2025-02-21	Demand+Gov	280	-0.0092***	-2.79	0.006	-0.0028	46.1%
E2	2025-05-15	Friction/Gov	255	-0.0025	-0.73	0.468	-0.0039	43.9%
E4	2025-07-21	Demand/Liq	290	0.0369***	8.05	0.000	0.0254	74.1%
Oct29	2025-10-29	WL Removal	303	-0.0105***	-2.91	0.004	-0.0120	28.7%
Nov19	2025-11-19	Final Report	303	-0.0074***	-3.41	0.001	-0.0066	37.0%

Notes: E0–E4 use Fama–French three-factor CARs(−1, +3). Oct29 and Nov19 use market-model CARs (FF3 factors unavailable post-March 2025). \* $p < 0.10$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$  for  $H_0$ : mean = 0.

## 5.2 The Intermediation Gap

Government-intermediated equity market interventions are systematically redirected away from their intended beneficiaries when channelled through professional fund managers. The EQDP deploys S\$5 billion through managers subject to standard institutional constraints: fiduciary duties that favour established firms on a risk-adjusted basis,<sup>14</sup> AUM-driven fee structures that penalise small positions, and liquidity screens that exclude thinly traded securities from the investable universe. If the market correctly anticipates these constraints, the announcement should produce a cross-sectional pattern in which larger firms benefit disproportionately, regardless of the stated policy objective of supporting small- and mid-cap equities. (Liquidity is examined separately in H4 as a conditional screen within the investable set.)

The dependent variable throughout is  $CAR_{i,e}$ , the cumulative abnormal return (CAR) for firm  $i$  around event  $e$ , estimated using a Fama–French three-factor model (Fama and French, 1993) with Asia Pacific ex Japan factors over a (−1, +3) trading day event window. The baseline specification is:

$$CAR_{i,E1} = \alpha + \beta_1 \text{AboveMedian}_i + \gamma' X_i + \varepsilon_i \quad (3)$$

where  $\text{AboveMedian}_i$  equals one if firm  $i$ 's market capitalisation exceeds the within-event-sample median, measured from the most recent monthly listings snapshot prior to the event date, and the control vector  $X_i$  includes return on assets, leverage (total liabilities over total assets), and book-to-market ratio, all from the most recent fiscal year. Standard errors are HC1 robust and CARs are winsorized at the 1st and 99th percentiles. The expected sign of  $\beta_1$  is positive.

The size effect is also examined non-parametrically by sorting firms into quartiles of market capitalisation within each event and reporting mean CARs with  $t$ -tests against zero. If the intermediation gap operates monotonically, the smallest quartile should have the most negative CARs and the largest the most positive, with the  $Q4 - Q1$  spread providing an economically

<sup>14</sup>See Law Commission of England and Wales, *Fiduciary Duties of Investment Intermediaries* (2014), <https://lawcom.gov.uk/project/fiduciary-duties-of-investment-intermediaries/>.

interpretable measure of the gap’s magnitude.

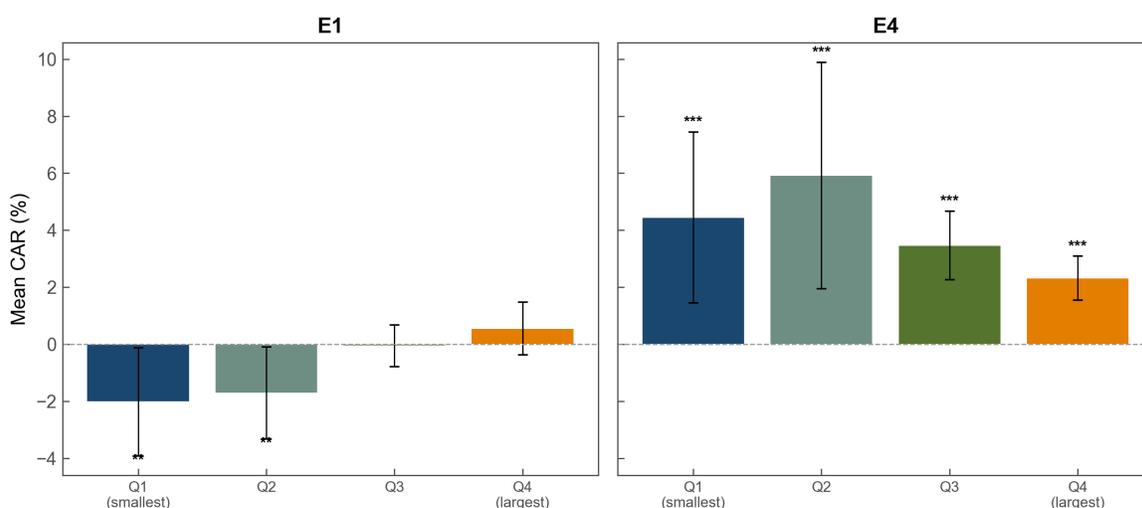
Estimating Equation (3), the above-median indicator is positive and highly significant: firms above the median of log market capitalisation earned mean CARs of +0.25% at E1, while those below earned  $-1.86\%$ , a spread of +2.12 percentage points ( $p = 0.003$ ,  $N = 278$ ). The non-parametric quartile analysis in Table 4 confirms that the effect operates monotonically across the full size distribution: the smallest quartile experienced mean CARs of  $-2.14\%$  ( $p < 0.05$ ) while the largest quartile gained +0.55% (insignificant), producing a  $Q4 - Q1$  spread of +2.70 percentage points ( $p < 0.01$ ). Using continuous  $\ln(\text{MktCap})_i$  as a robustness check yields a coefficient of +0.0048 per log-unit ( $p = 0.013$ ; Table 19).

Table 4: Size Quartile CARs Across Events

Quartile	E1	E2	E4
Q1 (smallest)	-2.14**	-0.74	+4.35***
Q2	-1.88**	+0.30	+4.59***
Q3	-0.05	-0.20	+3.47***
Q4 (largest)	+0.55	-0.26	+2.32***
$Q4 - Q1$	+2.70***	+0.48	-2.04
$N$	278	253	289

Notes: Mean CARs (%) from FF3 model, (-1, +3) window. Size quartiles formed on log market capitalization within each event. \* $p < 0.10$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$ .

Figure 2: Mean cumulative abnormal returns by market capitalisation quartile at events E1 and E4. Error bars denote 90% confidence intervals.



Note: Mean FF3 CAR(-1, +3) by market capitalisation quartile. Error bars show 90% confidence intervals. At E1, returns increase monotonically with size ( $Q4 - Q1 = +2.70$  pp,  $p < 0.01$ ). At E4, the gradient reverses: smaller firms gain more ( $Q1 = +4.35\%$ ,  $Q4 = +2.32\%$ ), consistent with the mandate design targeting small- and mid-cap allocation.

Figure 2 complements the quartile estimates in Table 4, showing the monotonic gradient at E1 ( $Q1 = -2.14\%$ ,  $Q4 = +0.55\%$ ) and its reversal at E4.

The intermediation gap may narrow when the market receives credible information about mandate terms. At E4, three named fund managers were appointed with mandates requiring significant small- and mid-cap allocation. If this information is credible, the size effect should be smaller at E4 than at E1, or reversed in sign. The hypothesis yields two predictions:

$$CAR_{i,E1} = \alpha_1 + \beta_1 \text{AboveMedian}_i + \varepsilon_i \quad \text{with } \beta_1 > 0 \quad (4)$$

$$CAR_{i,E4} = \alpha_2 + \beta_2 \text{AboveMedian}_i + \varepsilon_i \quad \text{with } \beta_2 < \beta_1 \quad (5)$$

To test whether the change from  $\beta_1$  to  $\beta_2$  is statistically significant, we pool both events into a single stacked specification:

$$CAR_{i,e} = \alpha + \gamma_1 \text{AboveMedian}_i + \gamma_2 \text{AboveMedian}_i \times e=E4 + \delta_e + \varepsilon_{i,e} \quad (6)$$

where  $\delta_e$  are event fixed effects and standard errors are clustered by stock code. Here  $\gamma_1$  captures the size effect at E1 (corresponding to  $\beta_1$ ), and  $\gamma_2$  captures the *change* in the size effect from E1 to E4 (i.e.,  $\gamma_2 = \beta_2 - \beta_1$ ). A negative  $\gamma_2$  indicates that the size advantage narrows at implementation.

The E1-to-E4 reversal is the key test of the intermediation gap hypothesis (Equations (4) and (5)). At E4, when three named fund managers were appointed with mandates requiring significant small- and mid-cap allocation, the size gradient flipped sign:  $Q1 = +4.35\%$  ( $p < 0.01$ ),  $Q4 = +2.32\%$  ( $p < 0.01$ ), with the spread turning negative ( $-2.04$ , insignificant). Table 18 in the Appendix confirms this reversal parametrically across five alternative size measures, all of which exhibit the E1-positive/E4-negative pattern.

Table 5 provides the clearest summary of the intermediation gap. The E1 size spread (+2.12 percentage points,  $p = 0.003$ ) is robust to sequential addition of friction count and watch-list status in Panel B: in the most saturated specification (column 3), above-median enters at +2.0 pp ( $p = 0.001$ ), friction at  $-0.35$  pp per event ( $p = 0.005$ ), and watch-list at +4.5 pp ( $p = 0.095$ ), with an  $R^2$  of 10.0%. At E4, the binary split reverses: below-median firms gained +5.23% versus +2.85% for above-median ( $-2.38$  pp,  $p = 0.073$ ), and the above-median coefficient in columns 4–6 is consistently negative ( $-1.8$  pp,  $p = 0.052$  in the full specification), while friction count has no explanatory power.

Table 5: H1: Binary Size Treatment and Controls

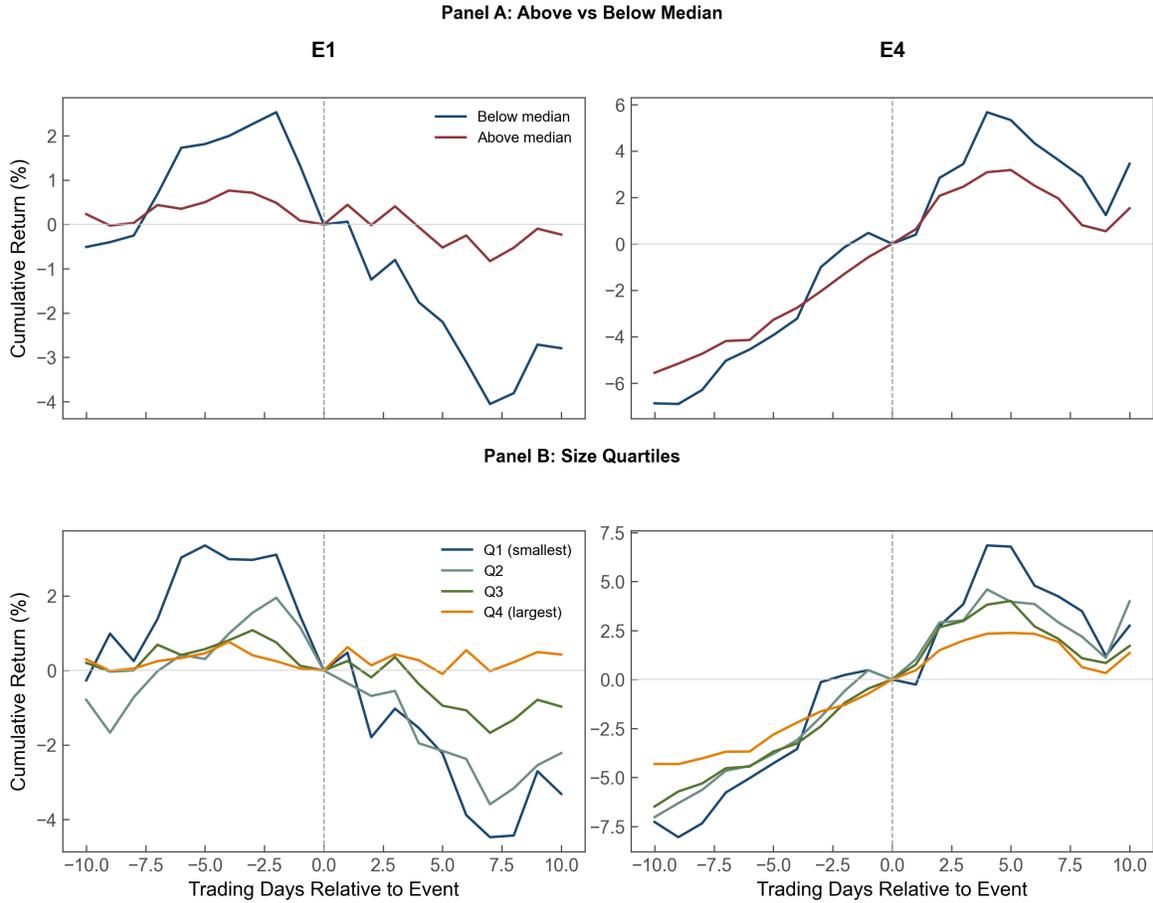
<i>Panel A: Mean CARs by Size Group (%)</i>						
	E1			E4		
	Mean	<i>t</i>	<i>N</i>	Mean	<i>t</i>	<i>N</i>
Below median	-1.86**		139	+5.23***		144
Above median	+0.25		139	+2.85***		145
Difference	+2.12***	(3.02)		-2.38*	(-1.80)	

<i>Panel B: OLS Regressions on Above-Median Indicator</i>						
	E1			E4		
	(1)	(2)	(3)	(4)	(5)	(6)
Above median	0.0226*** (0.0065)	0.0187*** (0.0059)	0.0200*** (0.0060)	-0.0167* (0.0092)	-0.0162* (0.0091)	-0.0180* (0.0092)
Friction count		-0.0033*** (0.0013)	-0.0035*** (0.0013)		0.0005 (0.0015)	0.0008 (0.0014)
Watchlist			0.0446* (0.0266)			-0.0758 (0.0654)
<i>N</i>	278	278	278	289	289	289
<i>R</i> <sup>2</sup>	0.043	0.089	0.100	0.011	0.012	0.024

Notes: Panel A: Mean CARs (%) by above/below median log market capitalisation. *t*-statistic for the two-sample difference in parentheses. Panel B: OLS with HC1 robust SE. DV: FF3 CAR(-1, +3). Above median = 1 if  $\ln(\text{MktCap})_i \geq$  sample median within each event. \* $p < 0.10$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$ .

Figure 3: Cumulative abnormal return paths for above- and below-median firms across events E1 and E4, with 90% confidence bands.



Note: Panel A: Daily cumulative log returns for firms above (navy) vs. below (maroon) median log market capitalisation, normalised to zero at day 0. Panel B: Daily cumulative log returns by size quartile (Q1 = smallest). Left column: E1 (February 21, 2025). Right column: E4 (July 21, 2025). The E1-to-E4 reversal in the size gradient is visible in both panels.

The reversal documented in Table 5 is visible in the CAR trajectories of Figure 3: at E1, below-median firms drift downward while above-median firms are flat; at E4 the pattern inverts. This sign flip is the core evidence for the intermediation gap hypothesis; the stacked specification in Equation (6) confirms that  $\gamma_2 < 0$ . A paired-date reversal placebo confirms that the flip is statistically unusual. For the primary above-median specification, none of the 200 random date-pairs produce a reversal as large as the observed  $\Delta\hat{\beta} = -0.035$  (permutation  $p < 0.005$ ); for the continuous  $\ln(\text{MktCap})_i$  specification, only 3% do ( $\Delta\hat{\beta} = -0.010$ ,  $p = 0.035$ ; Appendix A.1.1).

Table 6 examines two additional dimensions of fund manager investability. Panel A sorts firms by I/B/E/S analyst coverage. At E1, firms with zero analyst coverage (those invisible to the institutional investment ecosystem) experienced mean CARs of  $-1.28\%$  ( $p = 0.010$ ), while firms covered by six or more analysts were essentially flat ( $+0.05\%$ ,  $p = 0.908$ ). At E4, when the GEMS research expansion specifically targeted under-covered firms, the gradient reversed: zero-coverage firms gained

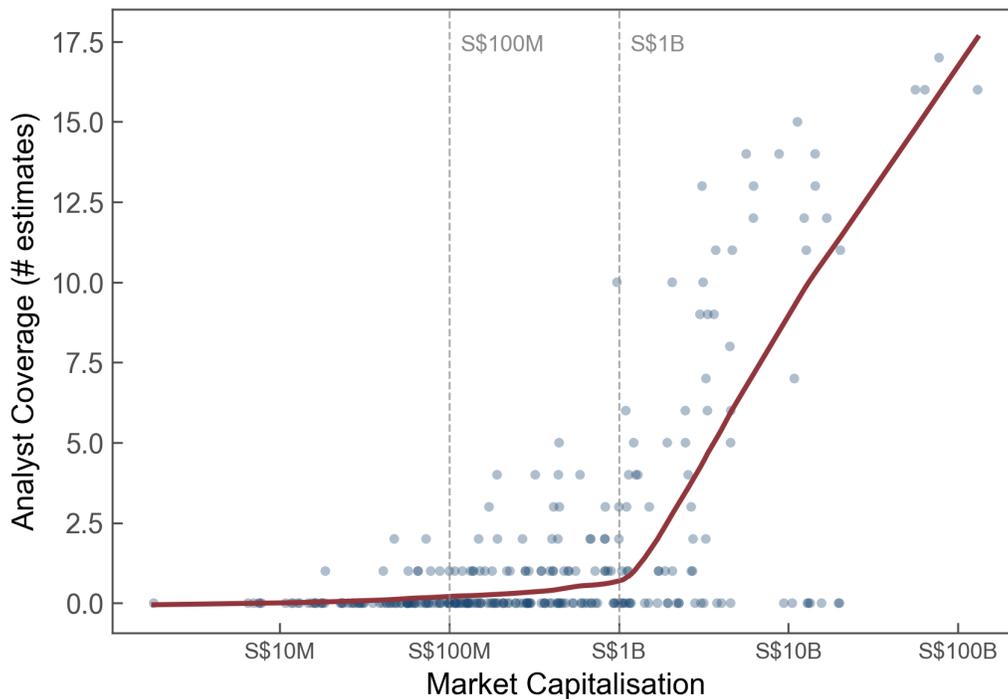
+3.47% while highly covered firms gained only +1.73% (Spearman  $\rho = -0.207$ ,  $p = 0.031$ ). Panel B reports foreign institutional ownership quartile CARs at E1: firms in the top quartile gained +1.40%, while those in the bottom quartile lost -2.41% (Spearman  $\rho = +0.180$ ,  $p = 0.014$ ). The monotonic gradients in both coverage and foreign ownership mirror the size gradient. In multivariate specifications, neither analyst coverage nor foreign institutional ownership retains significance after controlling for log market capitalisation, indicating that these variables capture the same underlying investability construct rather than independent channels. This strong collinearity precludes their joint inclusion as regressors; accordingly, the horse race specification in Table 11 uses the above-median size indicator as the sole investability proxy. The pattern is consistent with the information asymmetry mechanism identified by Didier (2011), who shows that foreign institutional investors concentrate in large firms precisely because size proxies for the information environment that enables institutional participation.

Table 6: Analyst Coverage and Foreign Institutional Ownership

<i>Panel A: Mean CARs (%) by I/B/E/S Analyst Coverage Group</i>				
Coverage group	E1 (Feb 2025)		E4 (Jul 2025)	
	Mean CAR	N	Mean CAR	N
Zero coverage	-1.28**	170	+3.47***	181
1-2 analysts	-0.32	58	+3.56***	53
3-5 analysts	-0.01	21	+4.35**	22
6+ analysts	+0.05	31	+1.73***	34
Spearman $\rho$ (covered only)	-0.049	110	-0.207**	109
			( $p = 0.031$ )	
<i>Panel B: Foreign Institutional Ownership Quartile CARs (E1 only)</i>				
	Mean CAR	Mean IO <sub>for</sub>	N	
Q1 (lowest)	-2.41**	0.01%	46	
Q2	-0.21	0.23%	44	
Q3	-0.70	1.35%	47	
Q4 (highest)	+1.40*	9.72%	47	
Spearman $\rho$	+0.180*	( $p = 0.014$ )	184	

Notes: Panel A: Mean CARs (%) by I/B/E/S analyst coverage group. Firms not in I/B/E/S are classified as zero coverage. Spearman  $\rho$  computed on covered firms only. Panel B: E1 only. Foreign institutional ownership (IO<sub>for</sub>) from FactSet, most recent quarter  $\leq$  event date (Q4 2024). \* $p < 0.10$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$ .

Figure 4: Analyst coverage by market capitalisation. Dashed lines mark approximate thresholds at S\$100 million and S\$1 billion.



Note: Each point represents one SGX-listed firm. The I/B/E/S analyst estimate count rises sharply above approximately S\$1 billion in market capitalisation. Dashed lines at S\$100 million and S\$1 billion mark approximate thresholds.

Figure 4 visualises the analyst-coverage cliff documented in Table 6: below roughly S\$1 billion in market capitalisation, sell-side coverage is near zero, reinforcing the interpretation that the size effect in Table 18 reflects an investability constraint rather than a smooth risk gradient.

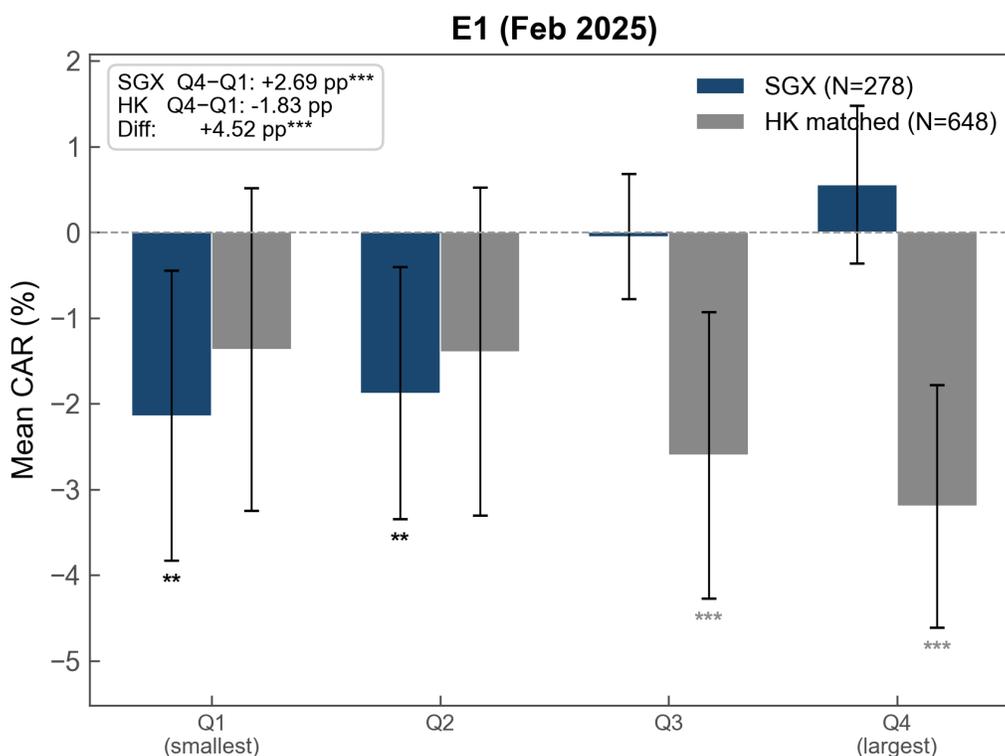
The SGX equity universe, with a total market capitalisation of just under S\$1 trillion, exhibits extreme size dispersion, ranging from micro-cap firms valued at under S\$2 million to blue-chip constituents exceeding S\$130 billion. In a market with this degree of dispersion, firm size does not merely correlate with other characteristics—it largely determines them. Firms below roughly S\$100 million in capitalisation typically have no sell-side analyst coverage, negligible foreign institutional ownership, and minimal daily trading volume. Firms above S\$1 billion, by contrast, have all three. The gradient between these two states is steep, and for practical purposes resembles a threshold rather than a continuum.

In a deep market like the United States, government capital channelled through fund managers can reach mid-sized companies because those companies already sit above the visibility threshold; the fund manager’s task is to overweight them slightly. In Singapore, the intended beneficiaries sit below the threshold entirely—absent from the investable universe, not merely underweighted within it. The intermediation gap follows directly from the institutional architecture of professional asset management: compliance screens, liquidity requirements, benchmark constraints, and due diligence obligations that collectively render small SGX-listed firms inaccessible regardless of the

policy mandate.

A natural concern is that the E1 size gradient reflects a concurrent regional size rotation rather than a Singapore-specific treatment effect. To address this, we construct a matched Hong Kong placebo: each SGX firm is matched to its three nearest Hong Kong Exchange (HKEX) neighbours by log market capitalisation, producing a sample of 648 Hong Kong firms, and we estimate the identical size-CAR specification on both markets at E1. Figure 5 visualises the contrast. SGX exhibits the monotonic upward gradient documented above; the matched HK sample shows no significant size pattern ( $Q4 - Q1 = -1.83$  percentage points,  $p = 0.129$ ). The cross-market difference in the binary above-median coefficient is significant ( $p = 0.001$ ), ruling out a regional size rotation as an alternative explanation. Full regression results appear in Table 15.

Figure 5: Cross-Market Placebo: Size Quartile CARs at E1 (SGX vs Matched HK)



Note: Bars show mean FF3 CARs (%) by size quartile at E1 (February 2025). Navy bars: SGX firms. Gray bars: 648 HKEX firms matched by log market capitalisation ( $K = 3$ ). The SGX size gradient is monotonically positive ( $Q4 - Q1 > 0$ ,  $p < 0.05$ ); the HK gradient is statistically indistinguishable from zero ( $Q4 - Q1 = -1.83$  pp,  $p = 0.129$ ).

The intermediation gap hypothesis addresses the reform’s first instrument: capital deployment through professional fund managers. The E1 announcement, however, bundled capital deployment with a second instrument: deregulation of SGX’s post-listing oversight regime. If the market prices these instruments through distinct institutional channels, the reform should generate cross-sectional variation not only along the size dimension (reflecting anticipated fund flows) but also along a regulatory dimension (reflecting the expected consequences of reduced oversight). The

following hypothesis examines this second channel.

The size results establish that the reform’s capital instrument was priced through the lens of fund manager constraints. We now turn to the reform’s second instrument, deregulation, and ask whether the proposed removal of SGX’s oversight apparatus was priced through a structurally distinct channel.

### 5.3 Friction as a Dual-Edged Signal

Regulatory friction (accumulated queries, trading halts, and suspensions) is conventionally understood as a cost imposed on firms by the regulator. Under this view, reforms that reduce friction should benefit high-friction firms the most. An alternative interpretation holds that the market values the information content of regulatory interventions: queries signal that the regulator has identified potential problems, and halts and suspensions signal that those problems are serious.

If the market views regulatory friction as informative monitoring rather than arbitrary burden, removing it through deregulation should be priced *negatively* for high-friction firms, because investors lose a source of discipline. The logic has an adverse selection dimension: when the regulator publicly queries a firm, the market learns which firms have potential problems; when the query regime is removed, investors can no longer distinguish clean firms from problematic ones that are no longer flagged, creating a lemons problem that depresses valuations across the high-friction segment.

The specification is:

$$CAR_{i,E1} = \alpha + \beta_1 \text{FricCount}_i + \beta_2 \text{Watchlist}_i + \beta_3 \text{AboveMedian}_i + \gamma' X_i + \varepsilon_i \quad (7)$$

where  $\text{FricCount}_i$  is the total count of regulatory friction events (queries, halts, suspensions) for firm  $i$  over the pre-event period,  $\text{Watchlist}_i$  indicates inclusion on SGX’s financial watch-list, and  $X_i$  is a vector of financial controls. The expected sign of  $\beta_1$  is negative (friction penalised) and of  $\beta_2$  positive (stigma relief), reflecting the distinction between general friction (informative monitoring whose removal is costly) and specific removable stigma (an identifiable label whose removal has discrete value).

Estimating [Equation \(7\)](#), friction count enters negatively and significantly in the univariate specification ([Table 7](#), Spec 1): each additional regulatory friction event is associated with  $-0.38$  percentage points of abnormal return ( $p < 0.05$ ). Adding the watch-list indicator and above-median size control in Spec 2, friction retains its sign and magnitude ( $-0.0036$ ,  $p < 0.05$ ), the watch-list coefficient is positive but imprecisely estimated ( $+0.044$ ), and the above-median indicator enters at  $+0.019$  ( $p < 0.01$ ). Adding financial controls (ROA, leverage, book-to-market) in Spec 3 attenuates friction to  $-0.0030$  and renders it statistically insignificant, though the sign and economic magnitude persist.

Table 7: H2: Friction and Announcement Returns (E1)

	(1)	(2)	(3)
Friction count	-0.0038** (0.0015)	-0.0036** (0.0015)	-0.0030 (0.0019)
Watchlist		0.0444 (0.0272)	0.0480 (0.0316)
Above median		0.0192*** (0.0065)	0.0167** (0.0075)
ROA			0.0005 (0.0004)
Leverage			0.0001 (0.0002)
Book-to-market			-0.0008 (0.0032)
<i>N</i>	280	280	244
<i>R</i> <sup>2</sup>	0.054	0.085	0.090

Notes: OLS with HC1 robust SE. DV: FF3 CAR(-1, +3), E1 (2025-02-21). Standard errors in parentheses. \* $p < 0.10$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$ .

The friction penalty should be attenuated for financially distressed firms. For a healthy firm with multiple queries, the market interprets friction as evidence of unresolved governance problems; deregulation removes a check on bad behaviour. For a distressed firm, friction may instead reflect regulatory entrapment: the firm is caught in a cycle of watch-list inclusion, query escalation, and financing difficulties that prevent recovery. Removing the regulatory machinery frees such firms to restructure in the more favourable environment following enactment of the Insolvency, Restructuring and Dissolution Act.<sup>15</sup> The specification is:

$$\text{CAR}_{i,E1} = \alpha + \beta_1 \text{FricCount}_i + \beta_2 \text{Distress}_i + \beta_3 (\text{FricCount}_i \times \text{Distress}_i) + \gamma' X_i + \varepsilon_i \quad (8)$$

where  $\text{Distress}_i$  is a composite indicator equal to one if the firm is flagged for any of: three consecutive pre-tax loss years, trading suspension history, or watch-list status. The expected signs are  $\beta_1 < 0$ ,  $\beta_2 < 0$ , and  $\beta_3 > 0$ : friction penalises healthy firms but partially benefits distressed ones.

The friction penalty interacts with financial distress as predicted by Equation (8). Table 8 shows that in the interaction specification (Spec 2), friction count loads at  $-0.0043$  ( $p < 0.01$ ), the distress composite at  $-0.050$  ( $p < 0.01$ ), and the interaction term at  $+0.010$  ( $p < 0.01$ ). The interaction is economically meaningful: a distressed firm with 10 friction events has a predicted CAR of  $-5.0\% + 10 \times (-0.43\% + 1.02\%) = +0.9\%$ , reversing the sign of the friction penalty. Distressed

<sup>15</sup>The Insolvency, Restructuring and Dissolution Act 2018 (No. 40 of 2018) came into effect on 30 July 2020.

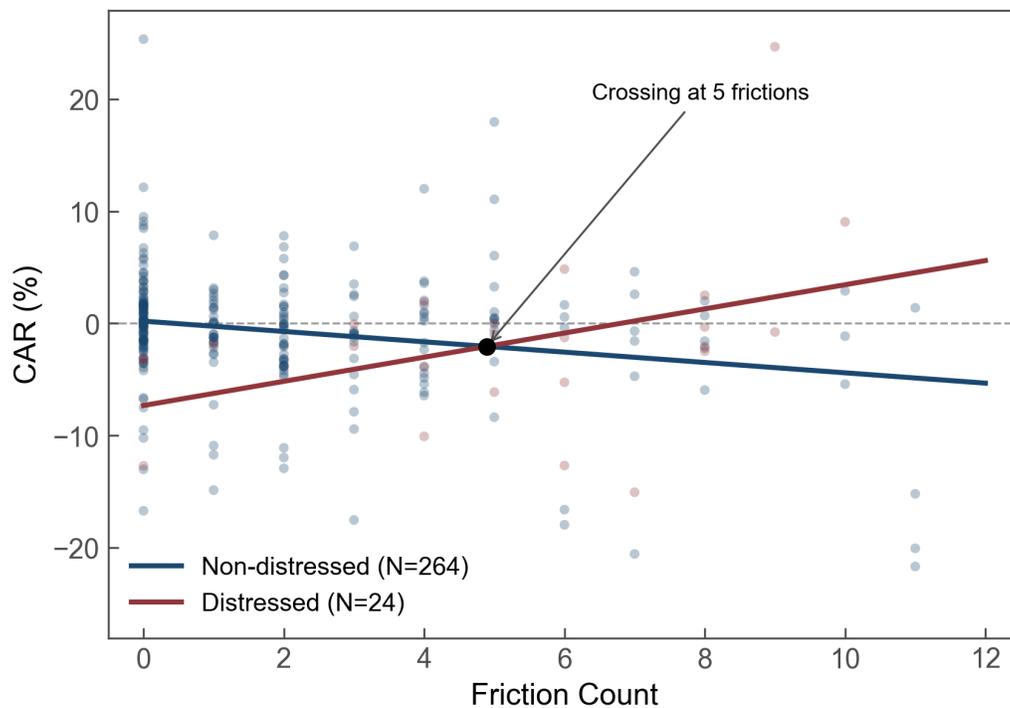
firms with accumulated regulatory friction stand to gain from deregulation because it removes the regulatory machinery that trapped them in a cycle of watch-list inclusion and financing difficulties.

Table 8: H2a: Friction  $\times$  Distress Interaction (E1)

	(1)	(2)
Friction count	-0.0037*** (0.0013)	-0.0043*** (0.0014)
Distress	0.0016 (0.0137)	-0.0499*** (0.0151)
Friction $\times$ Distress		0.0102*** (0.0039)
<i>N</i>	280	280
<i>R</i> <sup>2</sup>	0.057	0.080

Notes: OLS with HC1 robust SE. DV: FF3 CAR(-1, +3), E1. Distress is a composite flag (watch-list, three consecutive losses, or suspension).

Figure 6: Predicted cumulative abnormal returns as a function of friction count, separately for distressed and non-distressed firms. Lines cross at approximately five frictions.



Note: Scatter plot overlaid with fitted lines from the friction $\times$ distress interaction regression (Table 8). Navy dots: non-distressed firms ( $N = 264$ ). Maroon dots: distressed firms ( $N = 24$ ). The fitted lines cross at approximately 5 friction events, where the distress penalty is fully offset by the interaction term.

Figure 6 plots the interaction estimated in Table 8. For non-distressed firms, each additional friction lowers CARs monotonically; for distressed firms, the positive interaction offsets the friction penalty, and the lines cross at roughly five frictions, the point at which deregulatory relief outweighs the negative signal.

Different indicators of regulatory attention and financial distress may carry different market interpretations. The specification supplements the aggregate friction count with separate indicators for fundamental impairment, suspension history, and watch-list status:

$$\text{CAR}_{i,E1} = \alpha + \beta_1 \text{FricCount}_i + \beta_2 \text{ThreeLosses}_i + \beta_3 \text{Suspension}_i + \beta_4 \text{Watchlist}_i + \varepsilon_i \quad (9)$$

where  $\text{ThreeLosses}_i$  flags three consecutive years of pre-tax losses (the watch-list trigger criterion),  $\text{Suspension}_i$  flags any trading suspension history, and  $\text{Watchlist}_i$  flags current watch-list inclusion. The expected pattern is  $\beta_1 < 0$  (general friction negative),  $\beta_2 < 0$  (fundamental impairment negative), and  $\beta_4 > 0$  (watch-list stigma relief positive).

Decomposing the distress composite into its components via Equation (9), Table 9 reveals that three consecutive pre-tax losses drive the bulk of the distress effect ( $-0.047$ ,  $p < 0.01$ ), while watch-list status carries a significant positive coefficient ( $+0.050$ ,  $p < 0.05$ ), confirming the stigma-relief mechanism. Trading suspension history is not individually significant ( $+0.013$ ,  $p = 0.44$ ), suggesting that the market distinguishes between the watch-list (a specific and removable stigma) and suspensions, which may reflect resolved historical episodes.

Table 9: H2b: Distress Decomposition (E1)

	(1)
Friction count	-0.0036*** (0.0013)
Three consecutive losses	-0.0473*** (0.0182)
Suspension	0.0126 (0.0163)
Watch-list	0.0499** (0.0225)
$N$	271
$R^2$	0.088

Notes: OLS with HC1 robust SE. DV: FF3 CAR(-1, +3), E1. Components of the distress composite entered separately alongside friction count.

The watch-list was formally abolished on October 29, 2025, with all issuers automatically removed.

This provides a test of the stigma-relief mechanism at implementation rather than announcement:

$$CAR_{i,Oct29} = \alpha + \beta_1 Watchlist_i + \beta_2 \ln(MktCap)_i + \gamma' X_i + \varepsilon_i \quad (10)$$

where  $Watchlist_i$  reflects pre-removal watch-list status. A positive  $\beta_1$  would confirm that the market prices watch-list removal as stigma relief at implementation.

The Oct 29 evidence supports the stigma-relief mechanism, though precision is limited by the small treatment group. When the watch-list was formally abolished on October 29, 2025, the five previously watch-listed firms gained +8.1% on average, compared to  $-1.2\%$  for non-watch-listed firms (Table 10, Panel A). The difference of +9.3 percentage points is economically large, but the Welch  $t$ -test  $p$ -value of 0.288 reflects the small number of treated firms ( $N = 5$ ). Panel B reports the regression from Equation (10): the watch-list coefficient is +0.093 in the bare specification ( $p = 0.18$ ) and stable across the addition of size and friction controls (+0.090 in Spec 3,  $p = 0.18$ ). No other cross-sectional variable predicts Oct29 CARs, consistent with the event being narrowly targeted at watch-list removal.

Table 10: H2c: Watch-List Removal Implementation (Oct 29)

<i>Panel A: Mean CARs by watchlist status</i>			
	<i>N</i>	Mean CAR	<i>p</i> -value
Watchlisted	5	0.0811	0.347
Non-watchlisted	303	-0.0121***	0.000
Difference		0.0932	0.288
<i>Panel B: Regression</i>			
	(1)	(2)	(3)
Watchlist	0.0932 (0.0684)	0.0928 (0.0684)	0.0897 (0.0677)
Above median		-0.0010 (0.0083)	-0.0156 (0.0112)
Friction count			-0.0005 (0.0011)
Illiquidity			-0.0020 (0.0048)
Catalist			-0.0216 (0.0132)
<i>N</i>	303	303	303
<i>R</i> <sup>2</sup>	0.036	0.036	0.054

Notes: Panel A:  $p$ -values for  $H_0$ : mean = 0 (individual groups) or  $H_0$ : diff = 0 (Welch  $t$ -test). Panel B: OLS, HC1 robust SE. DV: Market-model  $CAR(-1, +3)$ , Oct 29, 2025.

## 5.4 Channel Separation

The preceding hypotheses posit that the bundled reform operates through two structurally distinct channels: capital deployment, whose market impact is mediated by fund manager investability constraints (H1), and deregulation, whose impact is mediated by the information content of the oversight regime (H2). If these are genuinely independent dimensions rather than alternative measures of a single underlying characteristic (small firms tend to be both uninvestable and high-friction), they should load simultaneously in a horse race without either absorbing the other:

$$\begin{aligned} \text{CAR}_{i,E1} = & \alpha + \beta_1 \text{AboveMedian}_i + \beta_2 \text{FricCount}_i + \beta_3 \text{Watchlist}_i \\ & + \beta_4 \text{Illiq}_i + \beta_5 \text{Catalist}_i + \varepsilon_i \end{aligned} \quad (11)$$

where  $\text{AboveMedian}_i$  equals one if a firm's log market capitalisation exceeds the within-event-sample median,  $\text{Illiq}_i$  is the [Amihud \(2002\)](#) illiquidity ratio (mean ratio of absolute daily return to dollar volume over the 60 pre-event trading days), and  $\text{Catalist}_i$  indicates listing on the Catalyst board. The hypothesis is that  $\beta_1 > 0$  and  $\beta_2 < 0$  simultaneously, with both surviving the inclusion of the other. If either coefficient absorbs the other, the two variables measure a single underlying dimension rather than distinct reform channels.

The specification is augmented with Singapore Standard Industrial Classification (SSIC) level-1 sector fixed effects ( $\lambda_s$ ) to rule out sectoral confounds:

$$\begin{aligned} \text{CAR}_{i,E1} = & \alpha + \beta_1 \text{AboveMedian}_i + \beta_2 \text{FricCount}_i + \beta_3 \text{Watchlist}_i \\ & + \beta_4 \text{Illiq}_i + \beta_5 \text{Catalist}_i + \lambda_s + \varepsilon_i \end{aligned} \quad (12)$$

Board composition variables are added to test whether governance quality represents a third independent dimension. The governance-augmented specification adds the share of independent directors ( $\text{IndepShare}_i$ ) and an indicator for CEO-chair separation ( $\text{NoDuality}_i$ ) to [Equation \(11\)](#):

$$\begin{aligned} \text{CAR}_{i,E1} = & \alpha + \beta_1 \text{AboveMedian}_i + \beta_2 \text{FricCount}_i + \beta_3 \text{Watchlist}_i \\ & + \beta_4 \text{Illiq}_i + \beta_5 \text{Catalist}_i + \beta_6 \text{IndepShare}_i + \beta_7 \text{NoDuality}_i + \varepsilon_i \end{aligned} \quad (13)$$

These variables are constructed from SGX's XML issuer feeds and the Company with Active Directors registry, covering approximately 267 of 285 E1 firms.

[Table 11](#) reports the horse race specification from [Equation \(11\)](#). When entered jointly, the above-median indicator loads at +0.018 ( $p < 0.01$ ) and friction count at  $-0.0035$  ( $p < 0.01$ ), with neither absorbing the other. The watch-list indicator is positive and marginally significant (+0.047,  $p < 0.10$ ), while Amihud illiquidity ( $p = 0.76$ ) and Catalyst board tier ( $p = 0.60$ ) are statistically indistinguishable from zero. The joint specification achieves an  $R^2$  of 10.3%, with explanatory power concentrated in the size and friction channels.

This conclusion is robust to additional controls. Adding SSIC level-1 sector fixed effects in [Equation \(12\)](#) (Spec 4) raises  $R^2$  to 25.9% while preserving both the above-median indicator (+0.022,  $p < 0.05$ ) and friction ( $-0.0039$ ,  $p < 0.01$ ), ruling out sectoral confounds. Augmenting

with governance variables from Equation (13) (Spec 5) confirms that board independence share ( $-0.028$ ,  $p = 0.28$ ) and CEO-chair separation ( $+0.002$ ,  $p = 0.81$ ) are both insignificant, while the above-median and friction coefficients remain unchanged. Governance quality, as measured by board structure, does not constitute a third independent dimension of announcement-day pricing. Using continuous  $\ln(\text{MktCap})_i$  in place of the binary indicator yields qualitatively identical results but with a wider confidence interval ( $p = 0.13$ ; Table 19). The simultaneous survival of both coefficients confirms that the reform was priced on two genuinely independent dimensions: anticipated fund flows (mediated by investability constraints) and regulatory information value (mediated by the oversight regime). The bundled announcement produced a single cross-sectional pattern with two distinct structural causes.

Table 11: H3: Channel Separation Horse Race (E1)

	(1)	(2)	(3)	(4)	(5)
Above median	0.0226*** (0.0065)		0.0177*** (0.0066)	0.0221** (0.0090)	0.0215*** (0.0071)
Friction count		-0.0036*** (0.0013)	-0.0035*** (0.0013)	-0.0039*** (0.0014)	-0.0036*** (0.0013)
Watchlist			0.0467* (0.0264)	0.0503* (0.0285)	0.0521* (0.0273)
Illiquidity (z-Amihud)			-0.0025 (0.0082)	-0.0013 (0.0098)	-0.0020 (0.0085)
Catalist			-0.0069 (0.0133)	0.0016 (0.0181)	-0.0006 (0.0134)
Independence share					-0.0285 (0.0262)
No CEO duality					0.0024 (0.0100)
Sector FE	No	No	No	Yes	No
$N$	278	280	278	245	263
$R^2$	0.043	0.057	0.103	0.259	0.114

Notes: OLS with HC1 robust SE. DV: FF3 CAR(-1, +3), E1 (2025-02-21). Above median = 1 if  $\ln(\text{MktCap})_i \geq$  sample median. Spec (4) includes SSIC sector FE. \* $p < 0.10$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$ .

## 5.5 Conditional Liquidity

Although illiquidity enters H3 as a control, the theory implies that its effect should be conditional rather than global. Within the subset of large-cap firms (those that clear the fund manager investability screen), illiquidity may determine which specific firms are selected for purchase. This

conditional effect reflects a two-stage selection process: fund managers first screen on size, then on tradability within the investable set. The specification is estimated within each size tercile  $k$ :

$$\text{CAR}_{i,E1} = \alpha_k + \beta_{1,k} \text{Illiq}_i + \varepsilon_i \quad \text{for } i \in \text{Tercile}_k, k \in \{\text{Small, Medium, Large}\} \quad (14)$$

with the expectation that  $\beta_{1,\text{Large}} < 0$  and  $\beta_{1,\text{Small}} \approx 0$ .

Illiquidity does not appear as an independent predictor of abnormal returns in unconditional specifications at any event. However, Equation (14) reveals a notable conditional pattern when estimated within size terciles. At E1, the Amihud illiquidity coefficient within the large-cap tercile is  $\hat{\beta}_{1,\text{Large}} = -1.24$  ( $p = 0.003$ ): among the firms that clear the fund manager investability screen, more illiquid stocks experienced significantly more negative CARs. The medium tercile shows a smaller but still significant effect ( $\hat{\beta}_{1,\text{Medium}} = -0.33$ ,  $p < 0.001$ ), while the small tercile coefficient is economically negligible and statistically indistinguishable from zero ( $-0.001$ ,  $p = 0.89$ ). This pattern is consistent with a two-stage selection process in which fund managers first screen on size and then, within the investable set, screen on tradability. At E4, the large-cap coefficient remains negative and strengthens in magnitude ( $-2.26$ ,  $p < 0.10$ ), while the medium tercile exhibits a significant positive coefficient ( $+0.42$ ,  $p < 0.01$ ), consistent with the EQDP mandate terms shifting liquidity sensitivity toward mid-cap firms. Table 12 reports the full tercile-stratified results.

Table 12: Conditional Liquidity Effects by Size Tercile

	Small	Medium	Large
<i>Panel A: E1 (2025-02-21)</i>			
<i>z_amihud</i>	-0.0013 (0.0094)	-0.3312*** (0.0902)	-1.2355*** (0.4005)
<i>N</i>	93	92	93
<i>Panel B: E4 (2025-07-21)</i>			
<i>z_amihud</i>	0.0163 (0.0208)	0.4156*** (0.1109)	-2.2608* (1.3282)
<i>N</i>	96	96	96

*Notes:* OLS with HC1 SE. DV: FF3 CAR(-1, +3). Size terciles formed on log market cap within event. *z\_amihud* is the standardized Amihud illiquidity measure from the pre-event cross-section.

Table 13 consolidates the horse race specification across all five events using the above-median size indicator. The size and friction channels are specific to E1: the above-median coefficient is significant at E1 (+0.021,  $p < 0.01$ ) and marginally at Nov19 (+0.012,  $p < 0.10$ ), while friction count is significant only at E1 ( $-0.004$ ,  $p < 0.01$ ). No cross-sectional variable consistently predicts CARs at E2 or E4. The watch-list coefficient is large and positive at both E1 (+0.047) and Oct29 (+0.090) but imprecisely estimated due to the small treatment group. Illiquidity is significant only at Nov19 (+0.007,  $p < 0.01$ ); the E2 coefficient is negative ( $-0.031$ ) but not statistically significant. The positive Nov19 illiquidity coefficient is consistent with market structure enhancements benefiting less liquid firms.

Table 13: Master Coefficient Table: Horse Race Across Events

	E1	E2	E4	Oct29	Nov19
Above median	0.0212*** (0.0076)	0.0061 (0.0088)	-0.0106 (0.0133)	-0.0160 (0.0116)	0.0119* (0.0062)
Friction count	-0.0043*** (0.0015)	0.0015 (0.0015)	-0.0010 (0.0019)	-0.0005 (0.0011)	0.0005 (0.0012)
Watchlist	0.0466 (0.0283)	0.0227 (0.0873)	-0.1872 (0.1208)	0.0900 (0.0680)	-0.0023 (0.0130)
Illiquidity	-0.0026 (0.0086)	-0.0309 (0.0230)	0.0285 (0.0240)	-0.0019 (0.0048)	0.0069*** (0.0026)
Catalist	-0.0051 (0.0147)	0.0007 (0.0218)	-0.0068 (0.0290)	-0.0211 (0.0138)	-0.0018 (0.0077)
Big-4 auditor	-0.0084 (0.0099)	-0.0164 (0.0156)	-0.0302 (0.0220)	0.0016 (0.0086)	-0.0046 (0.0050)
$N$	264	248	287	301	301
$R^2$	0.109	0.104	0.068	0.054	0.092
Mean CAR	-0.0085	-0.0036	0.0400	-0.0106	-0.0072

Notes: OLS, HC1 robust SE. E1–E4: FF3 CAR(−1, +3); Oct29/Nov19: market-model CAR(−1, +3). \* $p < 0.10$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$ .

## 6 Limitations

The paper’s identification relies on cross-sectional variation within single events rather than across events. The research design originally intended to exploit differences in channel content between E2 (friction-specific) and E4 (demand-specific) to identify channels separately through cross-event coefficient variation. This separation was only partially achieved: E2 produced null mean abnormal returns ( $p = 0.48$ ), consistent with the consultation being fully anticipated from

E1, while E4 produced uniformly positive mean returns but still exhibited a reversed size gradient (Q1 = +4.35%, Q4 = +2.32%) rather than a clean demand-only level shift. The paper therefore relies primarily on within-E1 decomposition, showing that size and friction load simultaneously, rather than the cleaner identification that full cross-event variation would have provided.

The watch-list result, while economically large and directionally consistent across two events (E1: +5.0% in Table 9; Oct29: +8.1%), rests on a treatment group of only five firms. The Oct29 horse race coefficient (+9.1%) does not achieve statistical significance at conventional levels ( $p = 0.181$ ), so the result should be treated as suggestive evidence for the stigma-relief mechanism rather than definitive identification.

Governance variables do not emerge as a robust third pricing channel. In the main E1 specifications, board independence share and CEO-chair separation are individually and jointly insignificant in the horse race. Appendix regressions show isolated significant coefficients at specific events (e.g., Fresh independence at E4), but these do not form a consistent pattern across specifications or events. Director-feed coverage is rich ( $\approx 267/285$  E1 firms), so the binding constraint is measurement scope rather than sample size: our data cover board *structure* (independence share, CEO-chair separation, busy-board indicators, and board size) rather than board *quality*. Governance dimensions not captured in our data, such as disclosure quality, shareholder engagement, or internal audit effectiveness, might predict reform CARs.

Size, analyst coverage, and foreign institutional ownership are highly correlated dimensions of a single underlying construct that we term *investability*: the degree to which a firm is visible to, and tradeable by, professional fund managers. Although Table 6 shows that low-coverage and low-ownership firms underperform at E1, group means are not strictly monotonic across all investability proxies, and each proxy is highly collinear with log market capitalisation ( $r > 0.5$  for both coverage and institutional ownership), preventing separate identification in multivariate specifications. The paper therefore treats investability as a single composite channel proxied primarily by size, with coverage and ownership providing corroborative descriptive evidence.

Finally, post-August 2025 prices are sourced from Yahoo Finance and lack bid-ask quotes and exact traded values. CARs for Oct29 and Nov19 use market-model benchmarks only, rather than the FF3 specification applied to E0–E4, because Fama–French Asia-Pacific ex-Japan three-factor data are unavailable after January 2026. Cross-sectional variables for post-E1 events are forward-filled from the most recent available snapshot, except market capitalisation and liquidity, which are recomputed from contemporaneous prices. All results are specific to the SGX setting and may not generalise to markets with different institutional investor bases, regulatory structures, or levels of secondary market liquidity.

## 7 Conclusion

Singapore’s February 2025 equity market reform deployed two policy instruments under a unified mandate: government-funded capital deployment to draw institutional money into the market,

and regulatory liberalisation to lower the cost of remaining listed. Both targeted firms at the bottom of the exchange's ecosystem—small, illiquid, thinly covered, and regulatory-burdened companies. The evidence presented in this paper shows that markets priced both instruments as likely to miss those firms, and that each failure traces to the institutional channels through which the reform was transmitted.

The market priced capital deployment as likely to bypass smaller firms because of intermediation. Professional fund managers operate within an institutional architecture (fiduciary obligations, AUM-based compensation, liquidity requirements, benchmark-relative evaluation) optimised for deploying capital into large, liquid securities. Directing S\$5 billion through these intermediaries and expecting it to reach micro-cap equities is equivalent to routing water through pipes that narrow to a pinhole: the constraint is in the plumbing, not the pressure. The market understood this at E1, pricing the reform as a large-cap windfall. The intermediation gap is not a failure of fund managers, who responded rationally to the incentives they face, but a structural property of the transmission mechanism. When, five months later, three specific managers were named with mandates explicitly requiring significant small- and mid-cap allocation, the market revised and the size gradient reversed. The implication is that intermediated capital deployment can work, but its effectiveness depends on the specificity and credibility of mandate terms that constrain the intermediary's natural portfolio tilt.

The market priced deregulation as information loss rather than burden relief. The reform's architects viewed SGX's public oversight apparatus—the query regime, the financial watch-list, the trading halt framework—as a cost imposed on listed firms. The market viewed it as information infrastructure. Regulatory queries told investors which firms the regulator was scrutinising; trading halts signalled unresolved compliance issues; the watch-list identified financial distress. Dismantling these mechanisms did not resolve the underlying problems they tracked; it proposed to make those problems opaque. The market accordingly penalised firms that had attracted the most regulatory attention. The failure, however, was not uniform. For financially distressed firms trapped in a self-reinforcing cycle of watch-list inclusion, financing impairment, and low valuation, the regulatory machinery itself was part of the problem. Removing the watch-list removed the trap, and the market priced this targeted relief positively at both announcement and implementation. Broad oversight removal was penalised when it appeared to eliminate useful monitoring; targeted watch-list abolition was rewarded where it removed an identified stigma mechanism whose costs exceeded its informational value.

The broader implication is that well-intentioned reform fails when it ignores the structural constraints of its transmission channels. This problem is not unique to Singapore. Across developed markets, the growth of passive investment, the expansion of private equity, and the dominance of US equities in global portfolio allocation have systematically redirected capital away from smaller listed firms. Government programmes designed to counteract these trends face a common structural problem: the professional intermediaries through which public market capital must flow are themselves shaped by the institutional architecture that produced the capital deficit. The self-referential quality of intermediation, where the channels through which corrective capital flows are themselves products of the structural biases being corrected, is documented in the theoretical literature on benchmarking and delegated management, and diagnosed at the policy level

by successive UK reviews of institutional investment. The European Union’s Listing Act ([European Parliament and Council of the European Union, 2024](#)), Japan’s GPIF allocation shifts, and Korea’s Corporate Value-Up Programme all face variants of the same constraint. The intermediation gap we document is one manifestation of a broader phenomenon that other jurisdictions may encounter when channelling equity market intervention through benchmarked institutional asset managers. The gap is partly a rational response to real risk differentials: small listed firms fail more frequently and present acute information asymmetries. But it operates too broadly, screening out viable small- and mid-cap firms alongside genuinely distressed ones. The policy challenge is not to override intermediary caution wholesale, but to design mandate terms, as the E4 announcement demonstrated, that narrow the gap without forcing capital into unviable positions.

The two channels may also have interacted at E1. Because small firms disproportionately carry regulatory friction, the negative signal from proposed deregulation (that oversight of problematic firms would be weakened) may have amplified the intermediation gap by reinforcing negative sentiment toward small caps as a whole. The paper does not formally test this interaction at the market level, but the cross-sectional correlation between size and friction ( $r \approx -0.22$ ) is suggestive: the deregulatory component of the bundled reform may have actively worsened the capital deployment component’s size tilt, making the two failures not merely parallel but self-reinforcing.

The intermediation gap and the friction penalty are two instances of the same phenomenon: the distance between regulatory intent and market outcome, mediated by institutional structure. Understanding that structure is a prerequisite for designing interventions that reach their intended beneficiaries. Both forms of mismatch can be mitigated through more precise design: specific, credible mandate terms for capital deployment, and targeted removal of identified burden mechanisms rather than wholesale dismantling of oversight. The reform’s own timeline illustrates this logic: when generic intent was replaced by specific commitment at E4, the market revised; when the watch-list was abolished at Oct29, the positive response concentrated among previously watch-listed firms, albeit in a treatment group too small for statistical precision. The distance between good policy and good outcomes is, in the end, a design problem.

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# A Robustness and Supplementary Results

This appendix collects identification tests, specification robustness checks, supplementary figures, and additional event-level and cross-sectional results.

## A.1 Identification and Placebo Tests

### A.1.1 Paired Reversal Placebo

The E1-to-E4 reversal in the size coefficient is central to the intermediation gap hypothesis. To assess whether such a reversal could arise by chance, we construct a paired-date reversal placebo. Two hundred pairs of pseudo-event dates are sampled uniformly from June 2023 to January 2025, each pair separated by approximately 102 trading days (matching the E1–E4 gap) and excluding windows around E0 and E0.5. For each pair, firm-level CARs are estimated at both dates using a standard  $[-250, -30]$  estimation window, and the corresponding size and friction coefficients from the horse race specification in Equation (11) are computed. The reversal statistic  $\Delta\hat{\beta} = \hat{\beta}_{\text{date}_2} - \hat{\beta}_{\text{date}_1}$  measures the change in each coefficient across the pair.

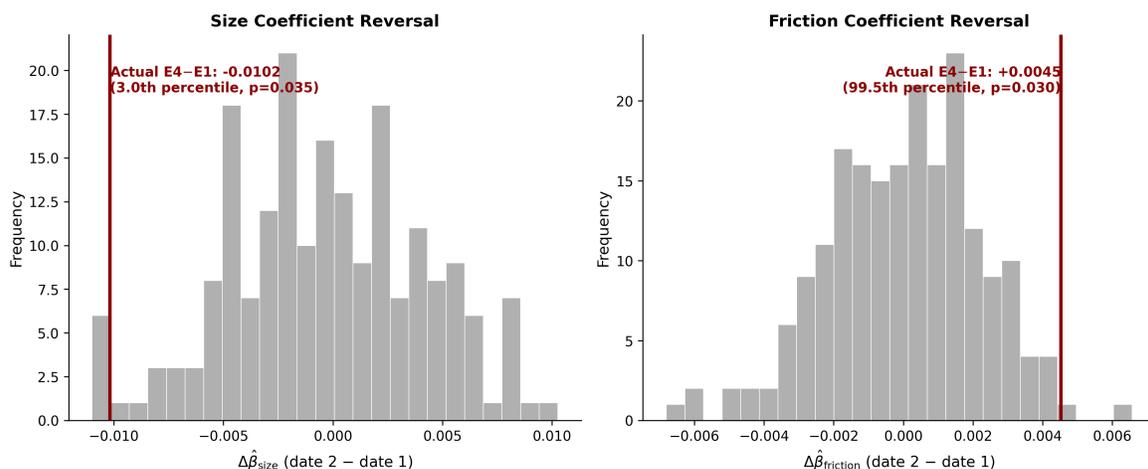
Table 14 reports the results. The binary above-median indicator produces the most extreme reversal:  $\Delta\hat{\beta}_{\text{median}} = -0.035$  falls at the 0th percentile of the placebo distribution ( $p < 0.005$ ), with none of the 200 placebo pairs generating a reversal of comparable magnitude. The continuous size measure reversal ( $\Delta\hat{\beta}_{\text{size}} = -0.010$ , 3rd percentile,  $p = 0.035$ ) and the friction coefficient reversal ( $\Delta\hat{\beta}_{\text{fric}} = +0.0045$ , 99.5th percentile,  $p = 0.030$ ) are likewise unusual. All three reversals reject the null that the E1-to-E4 sign flips could arise from random cross-sectional variation. Figure 7 plots the placebo distributions with the actual reversals marked.

Table 14: Paired Reversal Placebo (200 Pseudo-Event Pairs)

Variable	Actual $\Delta\hat{\beta}$	Placebo Mean	Placebo SD	Pctile	Perm. $p$
Above median	-0.0349	+0.0010	0.0142	0.0%	<0.005***
log(Market cap)	-0.0102	-0.0003	0.0044	3.0%	0.035**
Friction count	+0.0045	+0.0000	0.0022	99.5%	0.030**

Notes: 200 pseudo-event date-pairs separated by  $\approx 102$  trading days (matching the E1–E4 gap).  $\Delta\hat{\beta} = \hat{\beta}_{\text{date}_2} - \hat{\beta}_{\text{date}_1}$  from the horse race specification (Equation (11)) with HC1 SE. Two-sided  $p$ : fraction of placebos with  $|\Delta\hat{\beta}| \geq |\Delta\hat{\beta}_{\text{actual}}|$ . Above median = 1 if  $\ln(\text{MktCap})_i \geq \text{sample median}$ . \* $p < 0.10$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$ .

Figure 7: Distribution of placebo coefficient reversals from 200 random date-pairs. Vertical lines mark the observed E1-to-E4 reversals.



Note: Left panel: distribution of  $\Delta\hat{\beta}_{\text{size}}$  (continuous  $\ln(\text{Market cap})$  coefficient) across 200 placebo pairs; the actual reversal ( $-0.0102$ , maroon line) falls at the 3rd percentile. Right panel: distribution of  $\Delta\hat{\beta}_{\text{fric}}$  (friction count); the actual reversal ( $+0.0045$ ) falls at the 99.5th percentile. Both reversals are statistically unusual at the 5% level.

### A.1.2 Cross-Market Placebo: Hong Kong

This subsection reports the full regression results underlying the cross-market placebo summarised in Figure 5. Each SGX firm is matched to its three nearest HKEX neighbours by log market capitalisation ( $K = 3$ ), producing a matched sample of 648 Hong Kong firms. The identical size-CAR specification is then estimated on both markets at E1. Table 15 Panel A reports results for both the continuous  $\ln(\text{MktCap})_i$  specification and the binary above-median indicator. Under the continuous measure, the SGX coefficient is positive and significant while the HK coefficient is negative and indistinguishable from zero; the cross-market difference is significant ( $p = 0.027$ ). The binary indicator produces an even sharper contrast ( $p = 0.001$ ). Panel B reports size quartile CARs within each market: the SGX gradient is monotonically increasing from  $Q1$  to  $Q4$ , while the HK sample shows no positive size gradient; its  $Q4-Q1$  spread is  $-1.83$  percentage points ( $p = 0.129$ ).

Table 15: Cross-Market Placebo: SGX vs Matched Hong Kong Sample (E1)

	SGX	HK (matched)	Difference	$p$
<i>Panel A: Size regressions (E1, FF3 CAR[-1, +3])</i>				
log(Market cap)	+0.0042* (0.0023)	-0.0028 (0.0021)	+0.0070** (0.0031)	0.027
Above median	+0.0212*** (0.0070)	-0.0152* (0.0088)	+0.0364*** (0.0113)	0.001
$N$	278	648	926	
$R^2$	0.020	0.002		
<i>Panel B: Size quartile CARs (% , E1)</i>				
	SGX		HK (matched)	
	Mean CAR	$N$	Mean CAR	$N$
Q1 (smallest)	-2.01**	70	-1.37	162
Q2	-1.71**	69	-1.39	162
Q3	-0.05	69	-2.60***	162
Q4 (largest)	+0.55	70	-3.20***	162
Q4 - Q1	+2.57** [ $t = 2.39$ ] ( $p = 0.018$ )		-1.83 [ $t = -1.52$ ] ( $p = 0.129$ )	
Cross-market Q4-Q1 difference: +4.40 pp ( $\hat{p} = 0.007$ )				

Note: Panel A reports OLS regressions of FF3 CARs (-1, +3) on size measures. The HK sample consists of 648 HKEX firms matched to SGX firms by log market capitalisation ( $K = 3$  nearest neighbours). HC1 robust standard errors in parentheses. The difference column tests  $H_0: \beta_{SGX} = \beta_{HK}$  using  $z = (\hat{\beta}_{SGX} - \hat{\beta}_{HK}) / \sqrt{SE_{SGX}^2 + SE_{HK}^2}$ . Panel B reports mean CARs by size quartile within each market. \* $p < 0.10$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$ .

## A.2 Specification Robustness

### A.2.1 CAR Window Robustness

Table 16 reports the E1 horse race specification across five CAR windows. The above-median size indicator is significant at all five windows ( $p < 0.05$ ), ranging from +0.011 at (-1, +1) to +0.025 at (-1, +5). This uniformity, combined with the wider confidence intervals around the continuous  $\ln(\text{MktCap})_i$  measure reported in Appendix A.2.4, supports the threshold interpretation: the size effect reflects a binary investability distinction rather than a monotonic gradient. The friction coefficient is robust across all windows wider than (-1, +1): -0.0034 ( $p < 0.01$ ) at the baseline (-1, +3), -0.0033 ( $p < 0.05$ ) at (-1, +5), and -0.0028 ( $p < 0.01$ ) at (0, +2). The narrowest window (-1, +1) produces a smaller and insignificant friction coefficient (-0.0011), consistent with friction

information being incorporated over multiple trading days rather than instantaneously.

Table 16: CAR Window Robustness: E1 Horse Race

	(-1, +1)	(-1, +3)	(-1, +5)	(0, +2)	(0, +5)
Above median	0.0111** (0.0049)	0.0190*** (0.0067)	0.0251*** (0.0093)	0.0113** (0.0047)	0.0205** (0.0081)
Friction count	-0.0011 (0.0010)	-0.0034*** (0.0012)	-0.0033** (0.0015)	-0.0028*** (0.0010)	-0.0025* (0.0013)
Watchlist	0.0292 (0.0207)	0.0478* (0.0264)	0.0882** (0.0451)	0.0535* (0.0306)	0.0650 (0.0405)
Illiquidity	0.0011 (0.0056)	-0.0028 (0.0082)	-0.0007 (0.0121)	-0.0068 (0.0108)	0.0015 (0.0122)
Catalist	-0.0114 (0.0103)	-0.0057 (0.0133)	0.0070 (0.0170)	0.0007 (0.0100)	0.0097 (0.0148)
$N$	280	280	280	280	280
$R^2$	0.061	0.101	0.072	0.105	0.057

Notes: OLS, HC1 SE. E1 horse-race specification across CAR windows. DV: FF3 CARs. Above median = 1 if  $\ln(\text{MktCap})_i \geq \text{sample median}$ . \* $p < 0.10$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$ .

## A.2.2 Factor Model Robustness

Table 17 reports the E1 horse race specification estimated separately using market-model CARs (CAPM residuals) and Fama–French three-factor CARs. The friction coefficient is stable across both factor models:  $-0.0041$  ( $p < 0.05$ ) under the market model and  $-0.0038$  ( $p < 0.05$ ) under FF3. The watch-list coefficient is likewise significant under both specifications ( $+0.042$ ,  $p < 0.05$  under MM;  $+0.047$ ,  $p < 0.10$  under FF3). The most notable difference is illiquidity, which is significant under the market model ( $-0.0070$ ,  $p < 0.05$ ) but not under FF3, consistent with the SMB factor absorbing part of the liquidity-size nexus. Overall, the core size and friction results are robust to factor model choice.

Table 17: Factor Model Robustness: E1 Horse Race

	Market Model	FF3
Above median	0.0181*** (0.0069)	0.0156** (0.0074)
Friction count	-0.0041** (0.0016)	-0.0038** (0.0015)
Watchlist	0.0420** (0.0185)	0.0466* (0.0275)
Illiquidity	-0.0070** (0.0034)	-0.0030 (0.0083)
Catalist	-0.0146 (0.0119)	-0.0076 (0.0141)
$N$	283	279
$R^2$	0.142	0.090

*Notes:* OLS, HC1 SE. E1 horse-race specification. DV:  $CAR(-1, +3)$ . Market model uses CAPM residuals; FF3 uses Fama–French three-factor residuals.

### A.2.3 Size Effect Across Alternative Measures

Panel A reports univariate size regressions by event: the E1 coefficient is +0.0048 ( $p < 0.05$ ) and the E4 coefficient is  $-0.0053$  ( $p < 0.05$ ), a sign flip consistent with Bayesian learning as the market updated once mandate details were disclosed. Panel B shows that the reversal is robust across five alternative size measures (log market cap, log assets, above-median indicator, top-decile indicator, and the composite  $z$ -score), all of which exhibit the E1-positive/E4-negative pattern.

Table 18: H1: Size Effect and E1–E4 Reversal

<i>Panel A: Univariate</i>					
	E1	E2	E4		
log_mktcap	0.0048** (0.0019)	0.0010 (0.0021)	-0.0053** (0.0026)		
<i>N</i>	278	253	289		
<i>R</i> <sup>2</sup>	0.031	0.001	0.019		

<i>Panel B: Alternative measures (E1 vs. E4 sign flip)</i>					
	E1 $\beta$	E1 $p$	E4 $\beta$	E4 $p$	Sign Flip
log_mktcap	+0.00417	(0.058)	-0.00328	(0.126)	Yes
log_assets	+0.00327	(0.053)	-0.00376	(0.075)	Yes
above_median	+0.02187	(0.001)	-0.00858	(0.297)	Yes
top_decile	+0.01339	(0.131)	-0.01551	(0.024)	Yes
z_size	-0.00963	(0.024)	+0.00854	(0.080)	Yes

Panel A: OLS with HC1 robust SE. DV is FF3 CAR(-1, +3).

Panel B: Univariate regressions per measure. z\_size sign reversed (higher = smaller).

Notes: Panel A: OLS with HC1 robust SE. DV is FF3 CAR(-1, +3). Panel B: Univariate regressions per measure. z\_size sign reversed (higher = smaller).

#### A.2.4 Continuous Size Measure

Table 19 reports the horse race specification using the continuous  $\ln(\text{MktCap})_i$  measure in place of the binary above-median indicator. The size coefficient enters positively in all specifications but with wider confidence intervals than the binary measure: +0.0031 ( $p = 0.12$ ) in the joint specification and +0.0047 ( $p < 0.05$ ) with sector fixed effects. The wider standard errors reflect the concavity of the size–CAR relationship documented in Figure 2: the gradient is steep below the median and flat above it, favouring a threshold specification over a log-linear one. All other coefficients are virtually unchanged between the continuous and binary specifications.

Table 19: Horse Race with Continuous Size Measure (E1)

	(1)	(2)	(3)	(4)	(5)
log(Market cap)	0.0048** (0.0019)		0.0031 (0.0020)	0.0047** (0.0022)	0.0048*** (0.0018)
Friction count		-0.0036*** (0.0013)	-0.0036*** (0.0012)	-0.0039*** (0.0014)	-0.0036*** (0.0013)
Watchlist			0.0455* (0.0267)	0.0527* (0.0286)	0.0538* (0.0275)
Illiquidity (z-Amihud)			-0.0025 (0.0078)	-0.0012 (0.0093)	-0.0017 (0.0079)
Catalist			-0.0091 (0.0134)	0.0021 (0.0185)	-0.0002 (0.0131)
Independence share					-0.0311 (0.0272)
No CEO duality					0.0031 (0.0100)
Sector FE	No	No	No	Yes	No
$N$	278	280	278	245	263
$R^2$	0.031	0.057	0.091	0.252	0.104

Notes: OLS with HC1 robust SE. DV: FF3 CAR(-1, +3), E1 (2025-02-21). Same specification as Table 11 but using continuous  $\ln(\text{MktCap})_i$  instead of the binary above-median indicator. \* $p < 0.10$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$ .

### A.2.5 Catalist Board-Tier Effect

The Catalist board-tier coefficient reported in preliminary analyses (-3.0 percentage points,  $p < 0.001$ ) was inflated by a sample composition artefact. The initial sample included non-equity stock codes (warrants, structured products, daily leverage certificates), all classified as Mainboard, whose positive mean CARs at E1 inflated the Mainboard reference group and exaggerated the apparent Catalist underperformance. Table 20 reports the equity-only results. Under the market model, the bare Catalist coefficient remains significant (-2.98 percentage points,  $p < 0.01$ , Panel A), but the FF3 model, which includes the SMB factor, attenuates it to -1.78 percentage points, no longer significant at conventional levels. Adding the above-median size indicator further reduces the coefficient to -0.65 percentage points. Catalist firms are substantially smaller than Mainboard firms on average, confirming that the board-tier variable proxies for size rather than capturing a distinct regulatory channel.

Table 20: Catalyst Board-Tier Effect

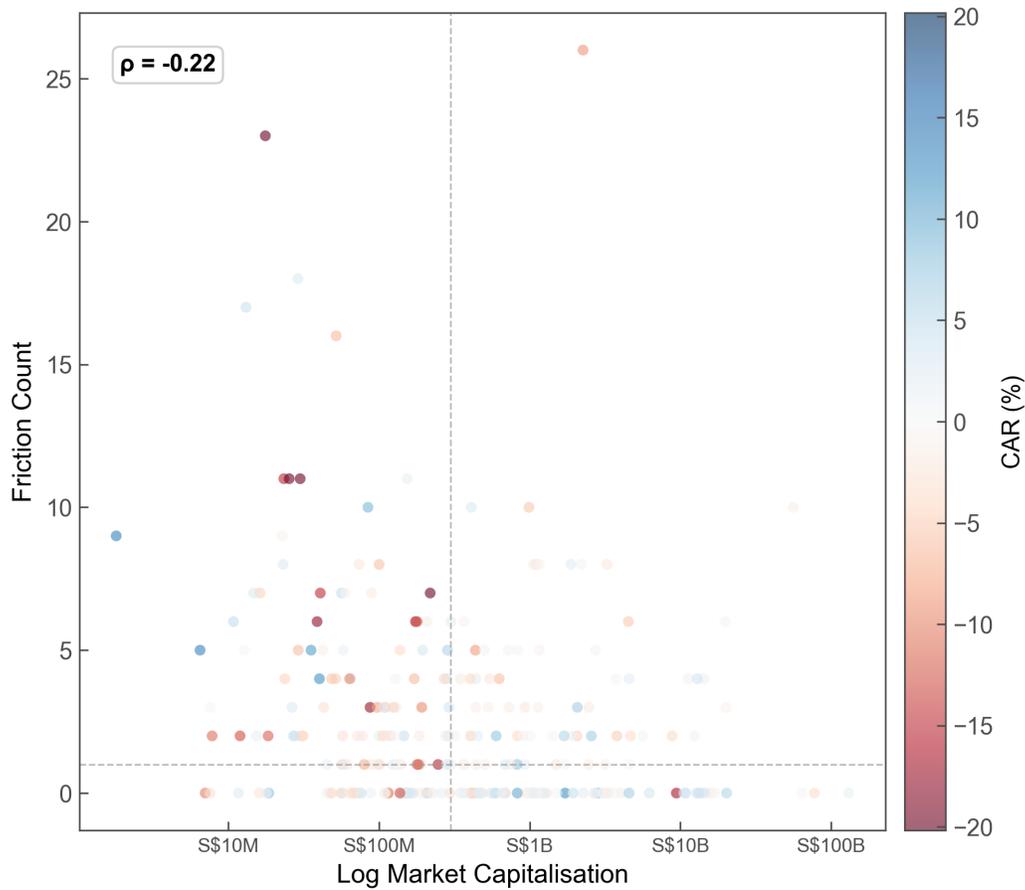
<i>Panel A: Catalyst coefficient by model and controls (E1)</i>				
	Market Model		FF3	
	Bare	+Size	Bare	+Size
Catalist	-0.0298*** (0.0108)	-0.0165 (0.0121)	-0.0178 (0.0127)	-0.0065 (0.0140)
Above median		0.0239*** (0.0074)		0.0201** (0.0078)
<i>N</i>	285	285	280	280
<i>R</i> <sup>2</sup>	0.035	0.072	0.011	0.036

<i>Panel B: Board means by event (MM CAR(-1, +3) %)</i>				
	E1	E2	E4	E0.5
Mainboard	-1.04	-0.40	+2.67	-2.90
Catalist	-4.02	-0.33	+3.75	+1.12
Diff (Cat-MB)	-2.98***	+0.08	+1.09	+4.02

Notes: Panel A: HC1 SE. The FF3 size factor (SMB) absorbs most of the board effect. Panel B: Equity-only sample. Diff tested via Welch *t*-test.

Figure 8: Scatter plot of log market capitalisation against regulatory friction count. The negative correlation (Pearson  $\rho = -0.22$ ) confirms that size and friction are empirically related but not collinear.



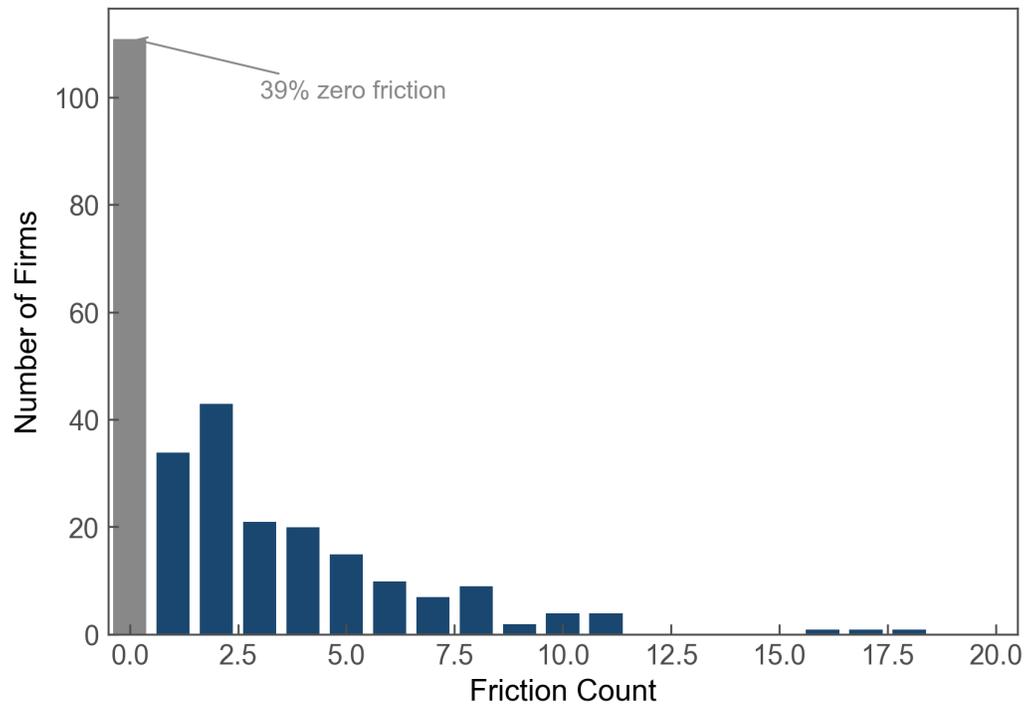
Note: Each point represents a firm at E1. Colour indicates FF3 CAR(-1, +3), winsorised at the 1st and 99th percentiles. Dashed lines mark sample medians.  $\rho$  denotes the Pearson correlation between log market capitalisation and total friction count ( $\rho = -0.22$ ), confirming that the two channels are not collinear.

Figure 8 visualises this moderate negative correlation ( $\rho = -0.22$ ), confirming that both channels retain independent explanatory power in the horse-race regressions of Table 11.

## A.3 Supplementary Figures

### A.3.1 Friction Distribution

Figure 9: Distribution of regulatory friction counts across the SGX equity panel. The majority of firms have zero or one friction event; the right tail is driven by repeat watch-list and trading-halt episodes.

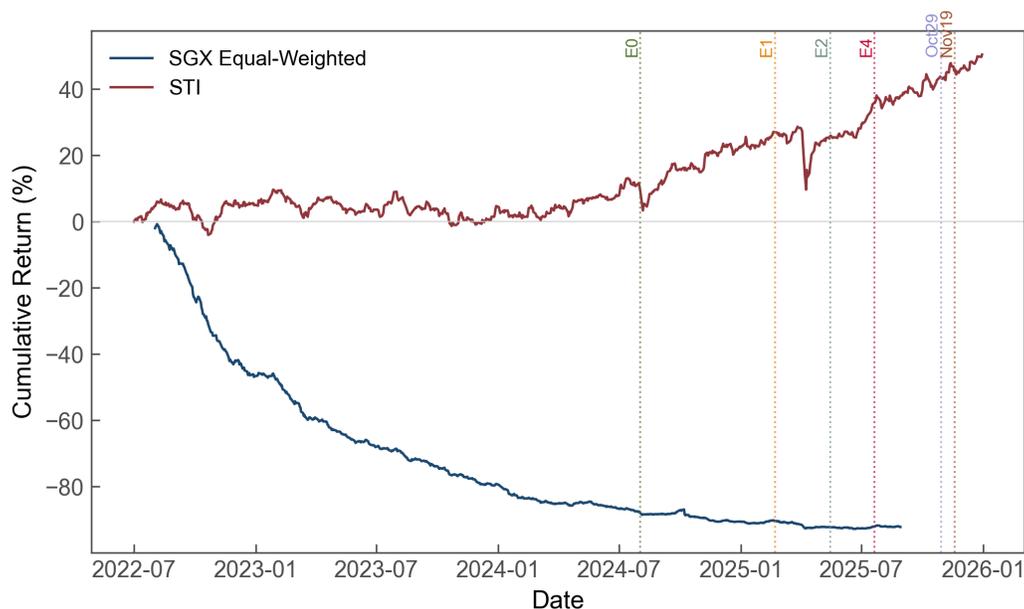


Note: Distribution of total friction event count across the 335 equity-only sample firms. Friction events include SGX queries, trading halts, suspensions, and watch-list inclusions over August 2022 to August 2025.

Figure 9 shows the heavily right-skewed friction distribution underlying the estimates in Table 7, confirming that the linear specification is driven primarily by the contrast between zero-friction and moderate-friction firms.

### A.3.2 Market Index Comparison

Figure 10: Equal-weighted SGX equity index versus the Straits Times Index (STI) around the E1 announcement. The divergence reflects the large-cap tilt of the STI.



Note: Cumulative daily equal-weighted return across all SGX-listed equities with valid price observations. Vertical dashed lines mark event dates.

Figure 10 illustrates why benchmark choice matters: the STI’s capitalisation weighting masks the negative average response visible in the equal-weighted index, consistent with the size effect documented in Section 5.

## A.4 Additional Event and Cross-Sectional Results

### A.4.1 E0: Review Group Formation

The Review Group formation announcement on August 2, 2024 (E0) produced a strongly negative mean CAR of  $-2.97\%$  ( $p < 0.001$ ,  $N = 258$ ), with only 28.7% of firms posting positive returns. Cross-sectional regressions yield significant size and friction coefficients, consistent with the patterns documented for E1. However, the event window coincides with the late-July/early-August 2024 JPY carry trade unwind, which generated large negative returns across Asian equity markets. Augmenting the market model with a JPY factor (FF4-JPY) causes the REIT effect and several other cross-sectional patterns to disappear, indicating that the E0 results are confounded by the carry trade unwinding. We therefore treat E0 as uninformative for hypothesis testing and rely on E1 as the primary announcement event.

#### A.4.2 E2 and E4 Detailed Results

The E2 consultation event (May 15, 2025) produced a null mean CAR of  $-0.25\%$  ( $p = 0.48$ ,  $N = 255$ ). No cross-sectional variable achieves significance at conventional levels, and the horse race  $R^2$  is 4.1%. This null result is consistent with the consultation having been fully anticipated from E1's announcement that detailed proposals would follow "by mid-2025."

E4 (July 21, 2025) produced a uniformly positive mean CAR of  $+3.35\%$  ( $p < 0.001$ ,  $N = 290$ , 74.1% positive). Unlike E1, no firm characteristic predicts which firms benefited more: the continuous size measure is marginally negative ( $-0.003$ ,  $p = 0.126$ ), friction count is zero ( $p = 0.54$ ), and the horse race  $R^2$  is 4.1%. The EQDP deployment was a rising tide that lifted all equities roughly equally. The absence of size-based differentiation at E4, combined with its presence at E1, is itself informative: once specific mandate terms requiring small/mid-cap allocation accompanied the capital deployment, the market no longer differentiated by size.

#### A.4.3 November 19 Results

The final report event produced a null mean CAR of  $-0.3\%$  ( $p = 0.34$ ). REITs outperformed non-REITs (+1.1 percentage points,  $p = 0.004$ ), size was marginally positive ( $+0.003$ ,  $p = 0.029$ ), and illiquidity was positively signed ( $+0.007$ ,  $p = 0.007$ ), the opposite direction from E1, suggesting that the market structure enhancements (board lot reduction, market-making incentives) were priced as benefiting less liquid firms.

#### A.4.4 Governance Variables

Table 21 reports univariate governance regressions across E1, E2, E4, and Oct29. Board independence share, non-busy board status, and turnover rate are insignificant at all four events. CEO-chair separation is insignificant at E1, E4, and Oct29 but positive at E2 ( $+0.022$ ,  $p < 0.05$ ). Fresh independence is marginally positive at E1 ( $+0.052$ ,  $p < 0.10$ ) and strongly positive at E4 ( $+0.121$ ,  $p < 0.01$ ), suggesting that firms with recently refreshed boards benefited disproportionately from the EQDP deployment.

Table 21: Governance Variables Across Events

	E1	E2	E4	Oct29
Independence share	-0.0124 (0.0268)	-0.0019 (0.0299)	-0.0134 (0.0475)	-0.0090 (0.0337)
No CEO duality	0.0051 (0.0101)	0.0216** (0.0106)	-0.0204 (0.0124)	0.0033 (0.0094)
Non-busy board	-0.0190 (0.0260)	-0.0139 (0.0236)	-0.0295 (0.0410)	-0.0315 (0.0279)
Fresh independence	0.0521* (0.0271)	-0.0078 (0.0143)	0.1207*** (0.0246)	-0.0037 (0.0161)
Turnover rate	-0.0032 (0.0036)	-0.0020 (0.0033)	-0.0009 (0.0053)	0.0024 (0.0032)

Notes: Univariate OLS, HC1 SE. E1–E4: FF3 CAR(−1, +3); Oct29: MM CAR(−1, +3). Governance variables from director data. Oct29 governance merged from E1 cross-section.

#### A.4.5 Broker/Institutional Ownership

Singapore’s nominee and custody structure means that substantial shareholdings are held through intermediary accounts. We decompose the top-20 shareholder register into four categories: insider (directors and substantial shareholders), nominee (bank nominee accounts), broker (retail securities brokers), and institutional (fund managers and sovereign wealth funds). While nominee accounts hold shares on behalf of any investor type, broker accounts predominantly serve retail investors who maintain securities accounts with their brokerage. We use *Broker %* (the share of top-20 holdings registered through retail securities brokers) as a proxy for retail-dominated ownership and, inversely, for the absence of institutional infrastructure that facilitates price discovery around information events.

Table 22 Panel A reports stepwise OLS regressions of E1 abnormal returns on broker ownership. Univariately, a one percentage point increase in broker ownership is associated with a −0.0003 lower CAR ( $p = 0.054$ ; column 1). The coefficient is stable across specifications but loses significance after adding size and friction controls (columns 2–4), consistent with broker ownership partly proxying for small-firm, high-friction characteristics. In the most saturated specification (column 5), which adds ROA, leverage, illiquidity, and Catalyst controls with a wider (−1, +3) event window, the broker coefficient doubles to −0.0006 ( $p = 0.019$ ), suggesting a genuine intermediation channel operating independently of firm size and market frictions.

Panel B examines whether post-reform ownership changes align with the policy’s intended direction. If the programme channelled capital toward small and mid-cap firms, nominee holdings (the primary custodial vehicle for institutional investment) should increase disproportionately for smaller firms. The observed pattern runs contrary to this prediction. Controlling for

FY2024 nominee levels, larger firms exhibit higher FY2025 nominee ownership (coefficient on  $\log(\text{MktCap}) = 1.11$ ,  $p = 0.049$ ; column 1), while Catalist-listed firms show a 2.7 percentage point decline in broker holdings relative to Mainboard peers ( $p = 0.024$ ; column 2). These ownership patterns are consistent with the announcement-return evidence suggesting that intermediation favoured larger, more liquid firms, though they do not isolate the causal effect of the EQDP on ownership structure.

The broker ownership subsample covers 205 of 295 E1 firms (70%), with excluded firms being marginally smaller ( $p = 0.082$ ) and overwhelmingly Catalist-listed (97% vs 81%,  $p < 0.001$ ). CARs and friction counts do not differ significantly between subsamples. The ownership rebalancing sample covers 161 firms with top-20 shareholder data in both FY2024 and FY2025; results should be interpreted with these coverage caveats in mind.

Table 22: Broker Ownership and E1 Abnormal Returns

	(1)	(2)	(3)	(4)	(5)
<i>Panel A: Broker ownership and E1 abnormal returns</i>					
Broker %	-0.0003* (0.0002)	-0.0003 (0.0002)	-0.0003 (0.0002)	-0.0003 (0.0002)	-0.0006** (0.0003)
Log(Mktcap)		0.0020 (0.0017)	0.0019 (0.0016)	0.0024 (0.0016)	0.0011 (0.0025)
Friction count			-0.0001 (0.0012)	-0.0005 (0.0012)	-0.0037** (0.0016)
Watchlist				0.0530** (0.0204)	0.0719*** (0.0261)
ROA					0.0006 (0.0005)
Leverage					-0.0001 (0.0002)
Illiquidity					0.0015 (0.0079)
Catalist					-0.0064 (0.0135)
<i>N</i>	205	204	204	204	187
<i>R</i> <sup>2</sup>	0.023	0.031	0.031	0.065	0.169
<i>Panel B: Post-E4 ownership rebalancing</i>					
	Nominee % (FY2025)		$\Delta$ Broker %		
Nominee % (FY2024)	0.8408*** (0.0548)				
Log(Mktcap)	1.1059* (0.5601)		-0.1963 (0.2611)		
Catalist	-1.1627 (1.2811)		-2.7198** (1.2001)		
<i>N</i>	161		161		
<i>R</i> <sup>2</sup>	0.822		0.015		

Notes: Panel A: OLS with HC1 robust standard errors in parentheses. Columns (1)–(4): dependent variable is FF3 CAR(-1, +1); column (5): FF3 CAR(-1, +3) with additional controls (ROA, leverage, illiquidity, Catalist). Broker % is the share of top-20 holdings registered through retail securities brokers. Panel B: OLS with HC1 robust standard errors. Dependent variables are FY2025 nominee ownership (column 1) and the FY2024-to-FY2025 change in broker ownership (column 2), estimated on the subsample of firms with top-20 shareholder data in both fiscal years. Nominee % (FY2024) is the lagged dependent variable. \* $p < 0.10$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$ .