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Public Market Trend: A Global Analysis of Delisting Patterns [1]

Ishak Demir[2], Erfan Ghofrani[3], and Ying Liu[4]

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Abstract

The number of publicly listed companies has declined in several major markets in recent years, prompting concerns about the long-term resilience of public equity markets and renewed debate over what drives firms to exit — as opposed to enter — public listing. This paper examines global delistings and net listing dynamics across stock exchanges worldwide. Using data on 60 exchanges from 2010–2024, we document that delisting activity is strongly time-varying and heavily concentrated in advanced economies, with M&A-related exits accounting for the majority of delistings throughout the sample. Firm-level evidence further shows that M&A delistings involve relatively larger and financially healthier firms, whereas involuntary delistings are concentrated among smaller and financially distressed firms. Exchange-level trading conditions appear to matter more consistently than broad macroeconomic fundamentals. Their role, however, varies by exit channel: overall and involuntary delistings are more prevalent when secondary-market liquidity is lower, whereas M&A delistings are more closely linked to stronger market returns and lower volatility. We also find important differences across economy groups: advanced economies (AEs) are more heavily dominated by M&A exits and display stronger links between delisting outcomes and market conditions than emerging markets and developing economies (EMDEs). Finally, net listing dynamics are driven primarily by entry conditions rather than exit conditions, with stronger market returns and GDP growth associated with higher net listing rates. This suggests that policies aimed at strengthening public equity markets should not focus exclusively on reducing delistings, but also on improving the conditions that support new listings.

Keywords: Delistings, M&A, Net listing, stock exchanges
JEL classification: G15, G32, G34

[1] The views expressed in this paper are of the authors and do not necessarily reflect those of the World Federation of Exchanges or its member institutions. Any errors are ours.

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1 Introduction

Stock exchanges play a central role in public markets by providing a transparent and liquid venue for the trading of securities. Public markets offer stricter disclosure, more robust investor protection, and deeper liquidity than private markets, thereby enabling firms to raise capital efficiently and investors to allocate resources effectively. However, the global public equity market has shown signs of contraction. The total number of listed companies worldwide has declined since 2021, following the sharp but short-lived surge in initial public offerings during that year (Demir et al., 2025). As illustrated in Figure 1, this downward trend is visible across most regions, particularly in Europe and Central Asia, where the reduction in listed firms has been both persistent and pronounced. Concerns have also intensified in the United Kingdom and European Union, where the London Stock Exchange and European main markets have experienced a notable rise in delistings, prompting questions about the long-term competitiveness of these markets (The Economist, 2024; Gati et al., 2024).

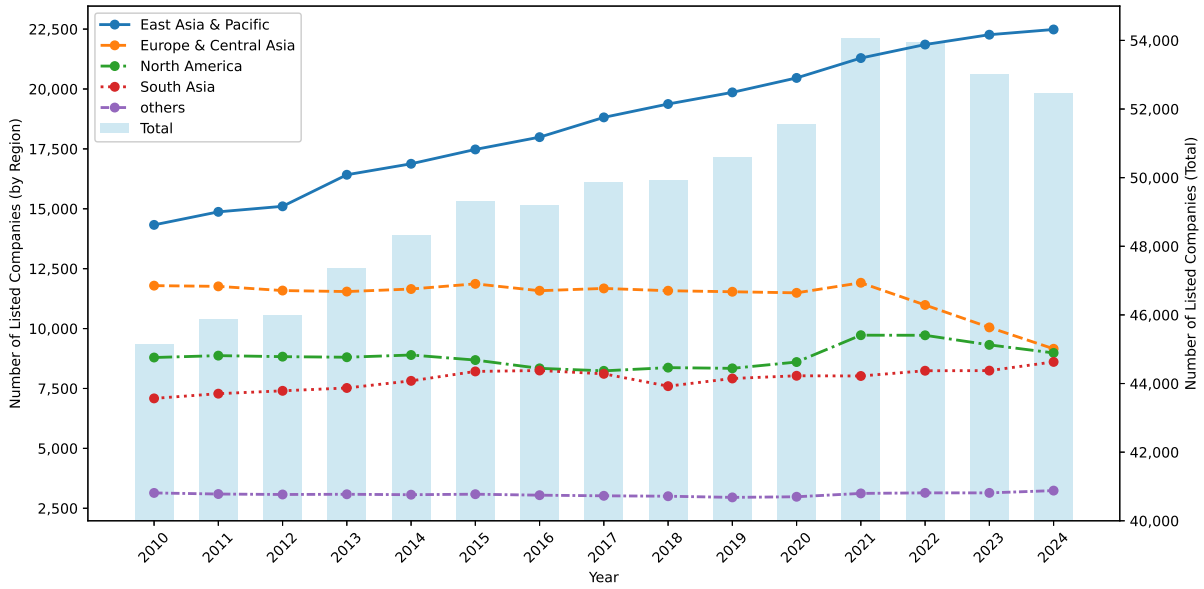


Figure 1. Number of listed companies across global exchanges by year
This figure plots the number of listed companies across global exchanges from 2010 to 2024. The left y-axis reports the number of listed companies by geographic region, and the right y-axis reports the global total. "Others" includes Latin America & Caribbean, Middle East & North Africa, and Sub-Saharan Africa. The sample of exchanges included in the analysis is reported in Table A1. Data source: World Federation of Exchanges (WFE).

A decline in the number of listed companies reflects the joint dynamics of entry and exit, yet the determinants of delistings remain less well understood than those of IPO activity. Delistings refers to the removal of a firm's shares from trading on a stock exchange. The literature generally distinguishes three broad categories of delistings (Azevedo et al. (2024), D'Ecclesia et al. (2026)): (1) involuntary delistings, due to bankruptcy, liquidation, or failure to meet regulatory or listing-rule requirements; (2) voluntary delistings, typically linked to going-private transactions, strategic withdrawals, or firms shifting to alternative trading venues; and (3) delistings due to mergers and acquisitions, where listed firms are absorbed by other entities. Understanding why companies leave public markets has become a central policy question. Rising delisting rates may signal structural weaknesses in the public equity ecosystem, shifts in firms' financing preferences, or jurisdiction-specific regulatory and macroeconomic pressures.

In this study, we examine global delistings patterns. We investigate how delisting activity varies across

jurisdictions and explore the relationship between delisting decisions and both exchange-level characteristics and broader macroeconomic conditions. Our objective is to contribute to current policy debates on the future of public equity markets and to offer evidence-based insights that may help exchanges and regulators strengthen the appeal and resilience of public markets.

We utilise data from 60 global exchanges from 2010 to 2024. Our analysis yields several main findings. First, global delisting activity is strongly time-varying and concentrated in a small number of major regions, especially North America and Europe & Central Asia. Delistings rise markedly in the mid-2010s, peak in 2021, and remain elevated thereafter. Second, mergers and acquisitions are the dominant exit channel throughout the sample and account for most of the major fluctuations in aggregate delisting activity. By contrast, involuntary delistings are smaller in magnitude but more volatile, while voluntary delistings remain comparatively limited and stable over time. Third, exchange-level market liquidity, measured by turnover velocity, is negatively associated with the overall delisting rate, suggesting that more liquid secondary-markets may help firms remain publicly listed. At the same time, the correlates of delistings differ across exit channels: M&A delistings are more closely linked to higher market return and lower volatility, whereas involuntary delistings are more prevalent when liquidity is weaker.

We also document important differences across economy groups. In advanced economies (AEs), delistings are more heavily dominated by M&A-related exits, and exchange-level trading conditions are more systematically related to delisting rates. In emerging market and developing economies (EMDEs), delisting composition is more mixed and the observable exchange-level and macroeconomic variables explain less of the variation in delisting outcomes. Finally, when we turn to net listing, defined as IPOs minus delistings, we find that net listing dynamics are associated with entry conditions rather than exit conditions. Stronger market returns and GDP growth are associated with higher net listing rates, indicating that cyclical conditions mainly affect firms' incentives to enter public markets.

A large stream of research examines why firms delist, emphasizing both economic and regulatory determinants. Studies such as (Sanger and Peterson, 1990; Fama and French, 2004) show that poorly performing, illiquid, and financially distressed firms face a higher likelihood of involuntary delistings. In Europe and emerging markets (Vinten and Thomsen, 2006; Dewenter et al., 2010; Shi and Fang, 2023), country-level governance and regulatory strictness also shape delisting risk: tighter rules discipline firms but increase the probability of removal for weak performers. A related literature investigates voluntary delistings—often reflecting a deteriorating cost–benefit balance of public listing. Studies on UK markets (Kashefi Pour and Lasfer, 2013) and voluntary delistings more broadly (Azevedo et al., 2024) show that firms delist when they no longer benefit from capital-market access, have limited growth opportunities, and face declining liquidity. Shekhar and Urzua (2026) examine the post-delisting outcomes of voluntarily delisted firms from major European exchanges and find that these firms experience improved profitability after delisting.

A substantial body of research examines foreign firms' withdrawal from U.S. exchanges and SEC reporting, especially after the Sarbanes–Oxley Act (SOX). Marosi and Massoud (2008) and Doidge et al. (2010) show that SOX significantly increased compliance costs, prompting many foreign issuers, particularly small, illiquid, or insider-controlled firms to voluntarily delist or deregister. Chaplinsky and Ramchand (2012) find that governance becomes a primary driver of delistings only in the post-SOX era: firms from well-governed home countries, with low U.S. trading volume or limited capital-raising needs, are disproportionately likely to exit. Legal analyses (Macey et al., 2008; Gelter, 2024) highlight how SEC delisting and deregistration procedures under Exchange Act Rule 12d2-2, Form 25, Rule 12g-4, and Form 15, together with shareholder-record thresholds and exchange discretion over continued-listing standards, shape firms' ability to leave U.S. markets, helping explain why foreign firms may perceive the U.S. as "easy to enter but difficult to exit."

Delistings typically produce sharp declines in liquidity and substantial shareholder losses. Early and recent evidence (Sanger and Peterson, 1990; Macey et al., 2008; Park et al., 2014) shows that delisted

firms experience large negative returns, wider spreads, and severe liquidity deterioration, especially when trading moves to OTC markets. In markets with weaker investor protection, insiders often reduce their holdings before delisting, leading to wealth transfers from retail investors. Beyond financial markets, delistings also have real economic effects: using quasi-experimental methods, Bakke et al. (2012) show that losing listing status causally reduces investment, employment, and financial flexibility. Other studies (Loveland et al., 2021) demonstrate that delisting waves often coincide with industry restructuring, mergers, or deregulation, suggesting delistings can be part of broader economic realignment rather than purely firm-level failure.

Another important literature studies how delistings shape empirical asset pricing and firms' public–private boundary. Shumway (1997); Beaver et al. (2007); Eisdorfer (2008) show that missing or mismeasured post-delisting returns create significant biases in stock-return series, distorting anomalies such as momentum, accruals, and the size premium. These papers highlight the importance of properly incorporating extreme negative delisting returns, especially for distressed firms. Complementing this, research on going-private transactions (Bharath and Dittmar, 2010; Ljungqvist et al., 2016) shows that firms often delist via private equity when the costs of public listing, such as litigation risk, disclosure, and lack of liquidity outweigh its benefits. Such transactions reflect the same economic forces driving voluntary delistings: diminished value from remaining public and increasing advantages to private control.

This paper contributes to the literature in four ways. First, it provides new global evidence on delisting dynamics across a broad set of exchanges and jurisdictions. While much of the existing literature focuses on IPO waves, listing gaps, or the decline in the number of public firms within individual countries, less is known about how delistings evolve across markets and over time in a comparative international setting. Second, by distinguishing between M&A, voluntary, and involuntary delistings, we show that exits from public markets are not a homogeneous phenomenon and that different exit channels are associated with different market conditions. Third, by comparing AEs with EMDEs and by examining both delistings and net listing, the paper provides a broader perspective on how public equity markets expand or contract over the cycle. Fourth, we provide firm-level evidence on the characteristics of companies that leave public markets. Using matched firm-level data, we show that delisting outcomes differ substantially by exit channel: M&A-related delistings tend to involve relatively larger and financially healthier firms, whereas involuntary delistings are concentrated among smaller firms with weaker financial health. This evidence helps distinguish acquisition-driven exits from exits associated with financial distress or failure to meet listing requirements. From a policy perspective, this distinction matters because measures aimed at supporting smaller and financially weaker listed firms may be more relevant for reducing involuntary exits, whereas M&A-related delistings should not necessarily be interpreted as evidence of deterioration in public-market conditions.

Beyond this firm-level distinction, the results carry further policy implications. They suggest that secondary-market liquidity is among the more consistent and actionable levers for reducing delisting pressure, that changes in listing requirements should be weighed against broader market conditions rather than treated as a primary lever over aggregate delisting activity, and that efforts to strengthen public equity markets should not focus exclusively on curbing delistings when the expansion of public markets depends at least as much on the conditions supporting new listings. They further suggest that the relative importance of these policy levers is likely to differ between advanced and emerging market economies. We discuss these implications in Section 6.

The remainder of the paper proceeds as follows. Section 2 describes the data and variable construction. Section 3 presents the main evidence on global delisting cycles and their correlates. Section 4 examines net listing dynamics. Section 5 considers additional explanatory factors, including market concentration and changes in exchange listing stringency. Section 6 discusses the policy implications of our findings. Section 7 concludes.

2 Data

The sample covers 60 stock exchanges from 2010 to 2024 at annual frequency. The data are compiled from multiple sources. Delisting data are extracted from Bloomberg using the corporate actions function. The dataset includes the delisting date, delisting reason, and exchange for each company. We complement the Bloomberg data with firm-level data from S&P Compustat, from which we obtain companies' market capitalization and Z-scores to examine the size and financial health of delisted firms. For each exchange, we aggregate the number of delisted companies at the annual level.[5]

Delisting reasons are categorised as follows: M&A includes *Acquired/Merged* and *Reorganization*; Voluntary delistings include *Company's Request* and *Privatized*; all other reasons are classified as involuntary delistings.[6] We also aggregate the number of delisting from each exchange for each reason at annual level. In addition, we compute the ratio of delistings in each category to the lagged number of listed companies. This normalization accounts for heterogeneity in exchange size and measures delisting activity relative to the number of companies listed on the exchange in the previous year.

Exchange-level data are extracted from the World Federation of Exchanges (WFE) database.[7] From the monthly reports, we obtain the number of listed companies, number of IPOs, market capitalisation, market index returns, and turnover velocity. We compute market-index volatility as the standard deviation of monthly returns over the preceding 12 months for each exchange's aggregate market price index. Market return is calculated as the cumulative annual return of the market index of each exchange. For the annual dataset, we use year-end values for the number of listed companies and market capitalisation, and we aggregate the IPOs within each year. Turnover velocity is represented by the mean of its observed values within each year.

We also use macroeconomic variables of the jurisdictions where exchange is located following the previous studies on IPOs (see, for example, Demir et al. (2025)). These variables encompass real GDP growth ($\Delta GDP_{i,t}$), reflecting overall economic activity; inflation measured by the Consumer Price Index ($\Delta CPI_{i,t}$); and the Financial Development Index ($FD_{i,t}^{Index}$), a composite indicator capturing the depth, access, and efficiency of the financial sector, which are obtained from the IMF.

Table A1 lists the exchanges covered in the study, together with the jurisdictions in which they are located. The geographic region classification follows the World Bank classification, while the economy-level classification follows the IMF classification.[8] The analysis covers 60 exchanges across 55 jurisdictions worldwide. Of these, 25 exchanges are located in AEs and 35 are located in EMDEs.

Table 1 reports summary statistics for the key variables. On average, an exchange experiences 17.73 delistings and 26.43 IPOs per year, implying that exchanges typically experience more entries than exits. However, the large standard deviations point to substantial heterogeneity across exchange-year observations. M&A delistings constitute the largest component of exits, with a mean of 12.39, compared with 1.68 voluntary and 3.67 involuntary delistings. To make delisting activity comparable across exchanges of very different sizes, we scale the number of delistings by the lagged number of listed firms on the exchange; we refer to this ratio as the delisting rate, R^{Delist}, and use analogous ratios for each delisting category and for net listing. Relative to the lagged number of listed firms, the average delisting rate is

[5] In cases where multiple securities of the same company are delisted, we count the company only once.

[6] We exclude the delisting reasons *Expired*, *Not Available*, *Assimilated with underlying shares*, *Matured*, and *Security Called for Redemption* as these categories typically correspond to bonds or preferred shares. We also exclude the delisting reason *Cancellation of Listing*.

[7] `https://statistics.world-exchanges.org/Account/Login`

[8] World Bank country classification is available at: `https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups`. World Bank regional classifications comprise East Asia and Pacific, Europe and Central Asia, Latin America and the Caribbean, Middle East and North Africa, North America, South Asia, and Sub-Saharan Africa. IMF economy classification is available at: `https://www.imf.org/en/publications/weo/weo-database/2023/april/groups-and-aggregates`. IMF economy classifications comprise two groups of Advanced Economies (AEs) and Emerging & Developing Economies (EMDEs).

1.89 percent, while the average net listing rate is 0.50 percent.[9] However, the rate of net listing is widely distributed from −15.62 percent to 14.49 percent.

Table 1. Summary statistics

This table reports summary statistics for the main variables used in the analysis, including the mean, median, standard deviation, minimum, and maximum. N^{Delist} denotes the number of companies delisted from an exchange in a given year. N^{MA}, $N^{\text{Voluntary}}$, and $N^{\text{Involuntary}}$ denote the numbers of delistings due to mergers and acquisitions, voluntary reasons, and involuntary reasons, respectively. N^{IPO} denotes the number of initial public offerings on an exchange. Net Listing is defined as the difference between the number of IPOs and the number of delistings. R^{Delist}, R^{MA}, $R^{\text{Voluntary}}$, $R^{\text{Involuntary}}$, and $R^{\text{Net Listing}}$ are defined as the numbers of total delistings, M&A-related delistings, voluntary delistings, involuntary delistings, and net listings, respectively, divided by the lagged number of listed companies on the exchange. Market Return is the annual return on the exchange market index, and Market Volatility is the standard deviation of monthly returns on the exchange index over the previous 12 months. Turnover Velocity is the ratio of the value of domestic shares traded on the electronic order book to the market capitalisation of domestic shares over the period. FD Index denotes the financial development index.

Variable	Mean	Median	Std. Dev.	Min	Max	N
N^{Delist}	17.73	3.00	39.41	0.00	341.00	900
N^{MA}	12.39	1.00	28.95	0.00	205.00	900
$N^{\text{Voluntary}}$	1.68	0.00	5.89	0.00	126.00	900
$N^{\text{Involuntary}}$	3.67	0.00	11.74	0.00	163.00	900
N^{IPO}	26.43	4.00	46.80	0.00	319.00	863
R^{Delist} (%)	1.89	0.97	2.58	0.00	16.62	899
R^{MA} (%)	1.12	0.37	1.70	0.00	9.18	899
$R^{\text{Voluntary}}$ (%)	0.29	0.00	0.70	0.00	4.00	899
$R^{\text{Involuntary}}$ (%)	0.39	0.00	0.80	0.00	4.33	899
$R^{\text{Net Listing}}$ (%)	0.50	0.00	4.16	−15.62	14.49	862
Market Return	0.06	0.06	0.18	−0.39	0.70	869
Market Volatility	0.05	0.04	0.03	0.01	0.23	868
Turnover Velocity	0.55	0.32	0.71	0.00	3.68	859
Δ GDP	0.03	0.03	0.03	−0.08	0.11	811
Δ CPI	0.01	0.01	0.01	−0.01	0.05	812
FD Index	0.56	0.50	0.20	0.24	0.96	672

There is also considerable variation in market and macroeconomic conditions. The average market return is 6 percent and the average market volatility is 5 percent, while turnover velocity has a mean of 0.55 and a median of 0.32, suggesting a right-skewed distribution of trading activity, indicating that most exchanges exhibit relatively moderate levels of turnover, while a smaller number of exchanges experience substantially higher trading activity, which pulls the mean above the median. Taken together, these statistics indicate substantial cross-sectional and time-series variation in the main variables, providing a useful basis for the empirical analysis.

[9] Net listing is calculated as the number of IPOs minus the number of delistings.

3 Delisting cycles

In this section, we begin by outlining the global dynamics of firm delistings. We then examine how delisting activity relates to exchange-level characteristics and macroeconomic conditions. We also try to understand the difference among three types of delistings. Finally, we compare patterns between AEs and EMDEs to highlight structural differences in their delisting cycles.

3.1 Dynamics of delistings

Figure 2 reports the annual number of delisted firms from 2010 to 2024. The stacked bars decompose total delistings by exchange region, while the line series report delistings by type.

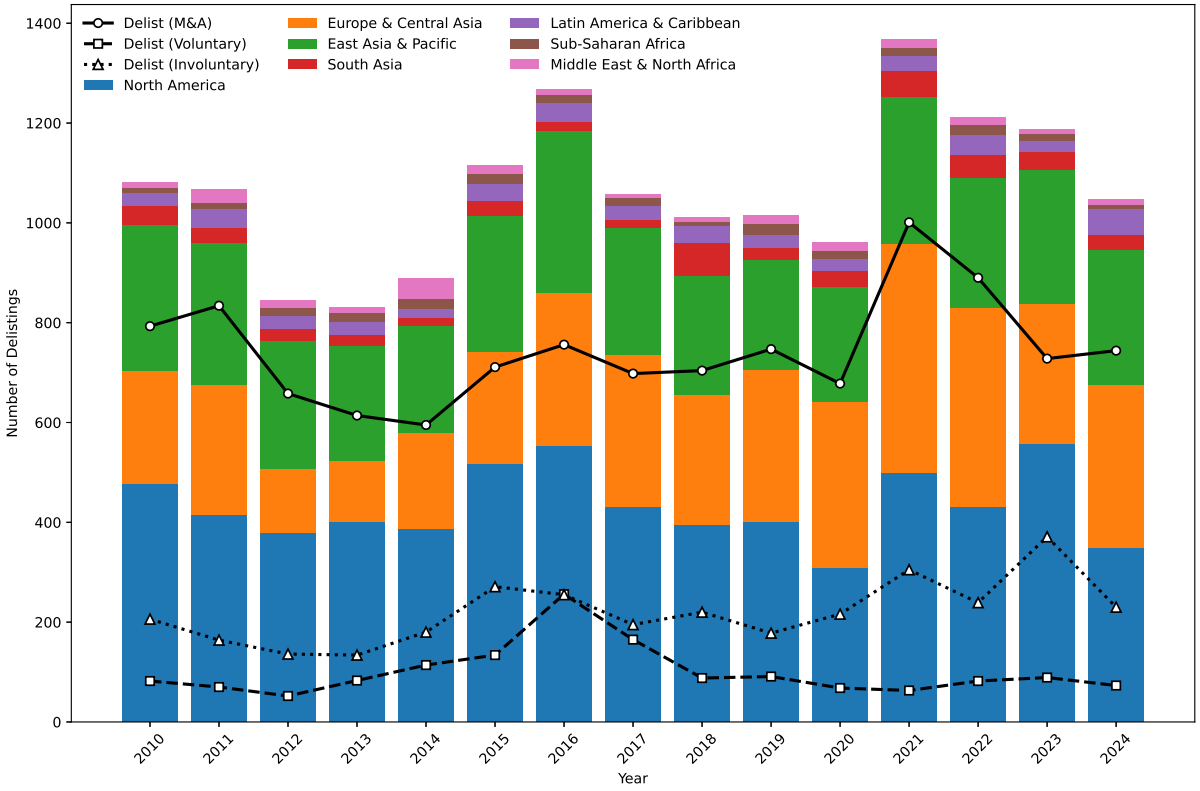


Figure 2. Number of delisted companies by region and category of delistings
This figure plots the number of delisted companies group by exchange region (bar plots), and by type of delistings (line plot) from 2010 to 2024.

Three main patterns stand out. First, delisting activity exhibits substantial time variation. Total delistings fall in the early part of the sample, rise strongly in the mid-2010s, and reach a pronounced peak in 2021, followed by a partial decline thereafter. This indicates that the pace of exits from public markets is highly time-varying, with delisting activity concentrated in discrete high-intensity periods.

Second, delistings are concentrated in a few major regions. North America and Europe & Central Asia account for the largest share of total delistings in nearly every year, while East Asia & Pacific forms the third major component. This pattern partly reflects the fact that these regions also have the largest number of listed firms (Figure 1). The remaining regions contribute much smaller numbers. The sharp increase in 2021 is driven primarily by North America and Europe & Central Asia, suggesting that changes in large developed market exchanges dominate global delisting dynamics.

Third, M&A-related delistings are the largest category throughout the sample and explain most of the major fluctuations in aggregate delistings. The surge in 2021, in particular, is closely linked to a sharp rise

in M&A-related delistings. Involuntary delistings are smaller in magnitude but more volatile, with several temporary spikes, especially in 2023. This increase may be attributable to tighter financial conditions, including higher interest rates and stricter lending standards.[10] As firms come under financial stress, they are also more likely to violate continued-listing requirements, such as minimum share price, market capitalization, equity, or other exchange standards. By contrast, voluntary delistings remain relatively limited and stable over time, although 2016 recorded a noticeable increase. A plausible explanation is the reform of Germany's delistings framework after the 2013 decision, which simplified delisting by removing the need for shareholder approval and eliminating the obligation for controlling shareholders to make a cash compensation offer to minority investors. Legal commentary notes that these changes were followed by a marked rise in delistings and downlistings and enabled firms to use delisting more strategically in restructurings and takeover contexts.[11] The increase in voluntary delistings in 2016 may therefore partly reflect this easing of the German delisting regime. Overall, the figure indicates that global delisting cycles are shaped primarily by acquisition activity on the largest exchanges, while other forms of delistings play a secondary, though still non-negligible role.

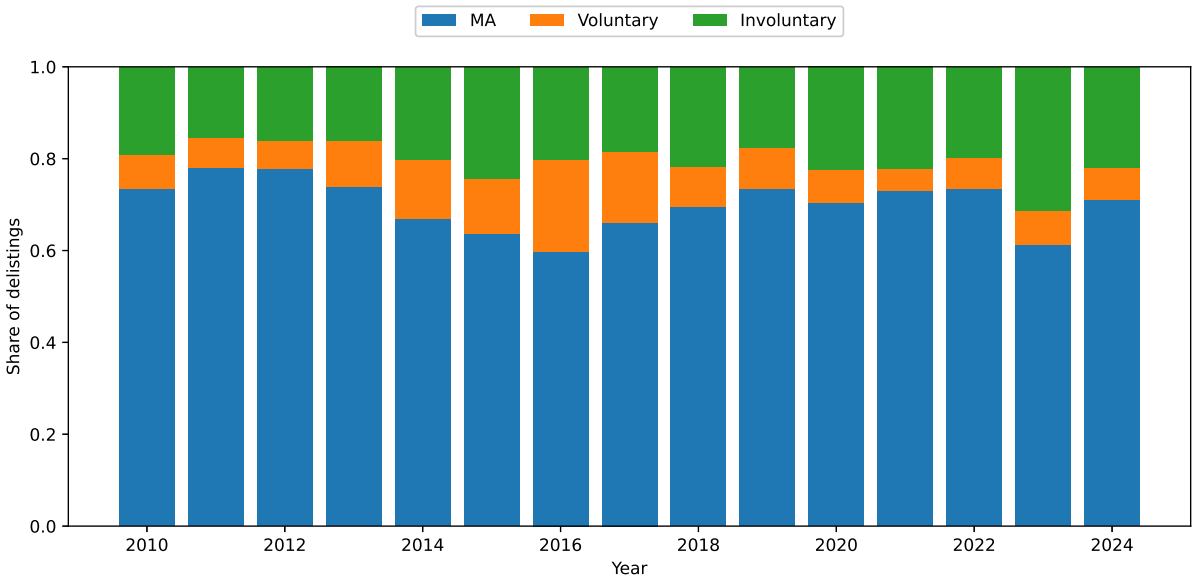


Figure 3. Composition of delistings

This figure plots the annual composition of each delisting type from 2010 to 2024. For each year, the share of a given delisting type is calculated as the number of delistings in that category divided by the total number of delistings.

Figure 3 complements the previous figure by showing the composition of delistings by type, expressed as shares of total annual delistings. A clear pattern emerges: M&A-related delistings account for the majority of delistings in every year of the sample. In most years, they represent roughly two-thirds to three-quarters of all delistings, confirming that corporate acquisitions and take-private transactions are the dominant channel through which firms exit public markets. By contrast, voluntary delistings consistently account for the smallest share and remain relatively stable over time, while involuntary delistings occupy an intermediate position and display somewhat greater variation across years.

The figure also shows that the relative importance of delisting types changes over the cycle. The share of M&A delistings declines somewhat in the mid-2010s, when voluntary and involuntary exits become

[10] Dietrich Knauth, "US Bankruptcies Surged 18% in 2023, Seen Rising Again in 2024: Report," Reuters, January 3, 2024, https://www.reuters.com/markets/us/us-bankruptcies-surged-18-2023-seen-rising-again-2024-report-2024-01-03/.

[11] McDermott Will & Schulte LLP, "Taking advantage of the consequences of delistings or downlisting in Germany," *Lexology*, September 9, 2015.

more prominent, before rising again in the later part of the sample. In particular, around 2015–2017 and again in 2023, the contribution of involuntary delistings becomes visibly larger, suggesting periods in which adverse firm-level performance, non-compliance, or market stress played a more important role in explaining exits from listed markets. Nevertheless, even in those years, M&A remains the largest component. Overall, Figure 3 reinforces the conclusion that global delisting dynamics are primarily linked to M&A activity, while voluntary and involuntary delistings mainly explain variation at the margin.

3.2 Size and financial health of delisted companies

We next examine the economic characteristics of delisted companies along two dimensions: their size relative to same-exchange peers, and their financial health as measured by the Altman Z-score, and whether either varies systematically across delisting categories. To do so, we match each delisted company in our sample to Compustat firms using fuzzy matching based on company names and exchanges where they are listed, followed by a manual review of every matched pair.[12] Of the 16,042 delisted-company observations, we retain 9,377 with a confirmed match. For each matched company, we construct market capitalisation as price multiplied by shares outstanding, summed across all securities the company has listed on that exchange. Following Macey et al. (2008), we use the firm's market capitalisation 12 months prior to delisting rather than its market value on the delisting date itself, since the latter may already be distorted at the point of exit, for example, depressed by financial distress or inflated by a takeover premium. Because no market-capitalisation threshold for "large-cap" or "small-cap" is comparable across the global exchanges in our sample, we instead rank each company's market capitalisation against all companies trading on the same exchange in the same quarter and express it as a percentile, and further bucket this percentile into terciles of the exchange's own size distribution (bottom, middle, and top third) as a threshold-free measure of relative firm size.[13] Market capitalisation is available for 8,459 of the 9,377 matched companies; the remainder cannot be matched to a specific security record in Compustat.

Figure 4 reports the distribution of the market-cap percentile of delisted companies each year. The box marks the interquartile range (25th–75th percentile), the horizontal line inside it the median, and the black marker the mean. Two patterns stand out. First, the distribution is centred close to the median (50%) throughout the sample, and the mean and median track each other closely in every year, indicating a broadly symmetric distribution rather than one skewed by a handful of very large or very small companies. Second, the interquartile range is wide: typically spanning from the high-20s to the mid-70s, confirming that delisted companies are drawn broadly across the size spectrum in any given year rather than clustering near one extreme. The distribution also shifts modestly downward after 2018, with the median declining from the low-50s to around the upper-40s by 2022–2024, while the overall dispersion remains substantial. This gradual, broad-based decline foreshadows the category-specific pattern documented below.

Figure 5 decomposes this evidence by delisting category, plotting for each category the annual share of companies falling in the bottom (Small), middle (Mid), and top (Large) third of their exchange's size distribution, together with the category's own mean market-cap percentile each year (line, right axis). Within each category-year, the tercile shares are computed as the number of companies in each tercile divided by the total number of companies in that delisting category. The three panels reveal sharp heterogeneity across delisting categories. M&A-related delistings average the 53.8th market-cap percentile and skew toward the top of the size distribution; the line confirms this is not merely a sample-period average but holds in every individual year, staying above the 50th percentile throughout 2010–2024.

[12] The match score measures the similarity between company names. Only matches scoring above 85 are retained.

[13] We use quarter-end data for market capitalisation and financial health measure. Where firms listed on the same exchange report values in different currencies, all values are converted to US dollars using daily exchange rates. Each firm's market capitalisation is expressed as a cross-sectional percentile ranging from 1 to 99, where the value denotes the share of firms the observation exceeds within the same period and same exchange; for example, a percentile of 60 indicates that the firm's market capitalisation is larger than that of 60% of firms of same exchange in that quarter.

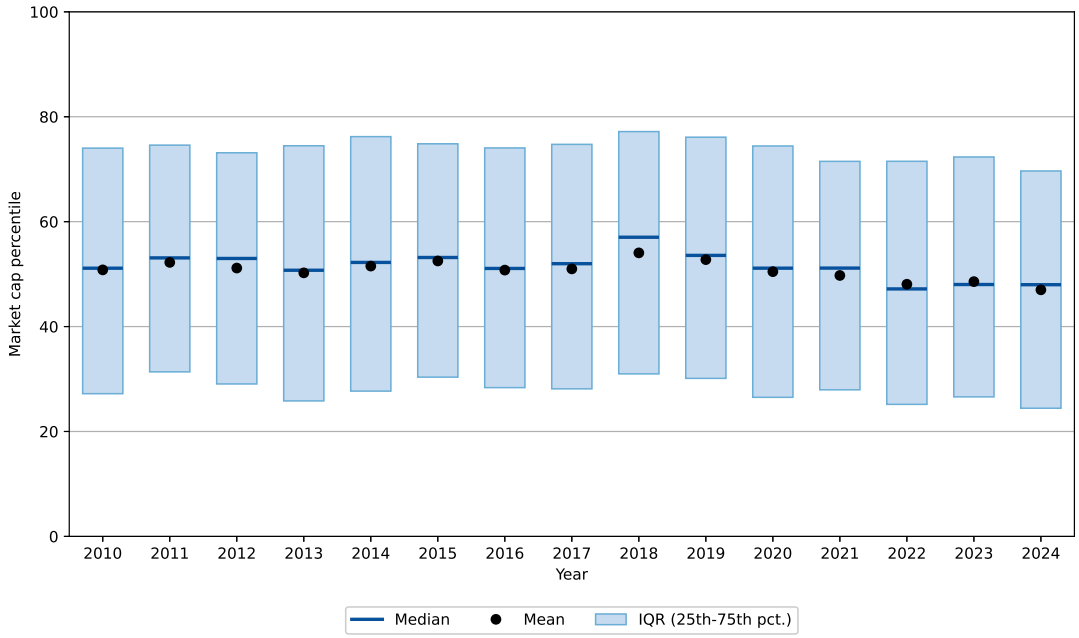


Figure 4. Distribution of delisted companies' market capitalisation percentile by year

This figure reports the market capitalisation percentile of delisted companies relative to same-exchange, same-quarter peers, measured 12 months before delisting. The box marks the interquartile range (25th–75th percentile) each year, the horizontal line inside it the median, and the black dot the mean.

Involuntary delistings average only the 35.7th percentile and skew heavily toward the bottom, consistent with involuntary exits reflecting financial distress or a failure to meet listing standards rather than firm decline being evenly spread across categories. In addition, its line correspondingly sits below the M&A line in every year of the sample, and below the 50th percentile in every year as well. Voluntary delistings fall in between the two and are visibly more volatile from year to year, both in tercile composition and in its own mean-percentile line, which crosses above the M&A line in several years (2010, 2020, 2022) and dips below the Involuntary line in others (most sharply in 2014), reflecting the far smaller number of observations in this category. Notably, M&A's own size composition is essentially stable across the sample period; the broad-based downward drift visible in Figure 4 instead traces to involuntary delistings, which both grew from 11.9 to 19.8 percent of the matched sample after 2018 and skewed further toward the smallest tercile within that category (51.5 to 60.7 percent Small). This provides firm-level corroboration for the tighter-financial-conditions explanation offered above for the rise in involuntary delistings, particularly around 2023: not only did involuntary exits become more frequent, but the firms involved also became smaller relative to their exchange peers.

Market capitalisation captures a company's economic scale but says nothing about its underlying financial health, so we complement it with the Altman Z-score (Altman, 1968), a composite predictor of bankruptcy risk that combines five weighted accounting and market-based ratios: working capital, retained earnings, EBIT, and sales, each scaled by total assets, plus the market value of equity relative to total liabilities, into a single score. Conventionally, a score below 1.81 signals financial distress and an elevated risk of bankruptcy within the near term, a score above 2.99 indicates financially safe, and the intermediate range is an ambiguous "grey zone." Because the market-value-of-equity component embeds a company's share price, the Altman Z-score also provides complementary evidence on whether the size patterns documented above reflect genuine differences in financial condition rather than a purely

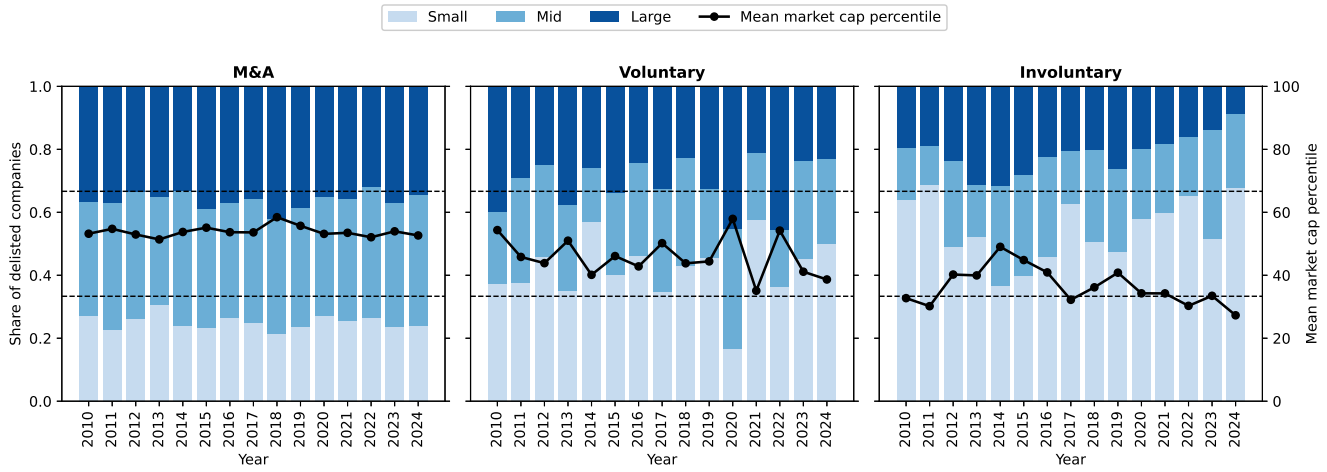


Figure 5. Size-tercile composition of delisted companies, by delisting category
Bars (left axis) report the share of delisted companies falling in the bottom (Small), middle (Mid), and top (Large) tercile of same-exchange market capitalisation each year, for M&A, Voluntary, and Involuntary delistings respectively; horizontal dashed lines mark the 33rd and 67th percentiles. The black line (right axis) reports the category's own mean market-cap percentile each year.

statistical size effect. We merge each matched company's Altman Z-score from the same source and the same pre-delisting period used for market capitalisation.[14] A score is available for 4,172 of the 9,377 matched companies (3,522 M&A, 411 involuntary, and 239 voluntary delistings).

Figure 6 plots the mean Altman Z-score of delisted companies each year, by delisting category, against the distress (1.81) and safe (2.99) cutoffs. The pattern mirrors and reinforces the size evidence above. M&A-related delistings sit close to or above the safe cutoff in most years and only recent years saw a decline to gray zone. Involuntary delistings, by contrast, sit close to or below the distress cutoff throughout the sample. Voluntary delistings again fall in between the two and are the most volatile, swinging from sharply negative in 2011–2012 to above the safe cutoff in several later years. That the Altman Z-score produces the same ordering across categories is strong corroborating evidence that M&A targets are not only larger but also financially healthier prior to exit, whereas involuntary delistings reflect genuine financial distress rather than a statistical artefact of firm size.

Overall, the evidence in this section shows that delisted companies are not a uniformly small or economically marginal group, but that their relative size and financial condition prior to exit differ substantially by delisting type. M&A-related delistings involve firms that are generally above the exchange median in size and exhibit stronger financial health, while involuntary delistings are disproportionately concentrated among smaller and financially distressed firms. Voluntary delistings are less systematic along both dimensions, consistent with their potentially idiosyncratic nature.

3.3 Exchange-level and macroeconomic correlates of delistings

This section examines the factors associated with firm delisting dynamics using a panel regression framework. Specifically, we consider as dependent variables the rate of total delistings, as well as rate of M&A, voluntary delistings, and involuntary delistings. This framework allows us to assess how exchange characteristics and broader macroeconomic conditions shape listing outcomes over time.

[14] Altman Z-score values are winsorized at the 2.5th and 97.5th percentile of the full external panel, to limit the influence of a small number of extreme ratios that arise when a company's book equity is close to zero.

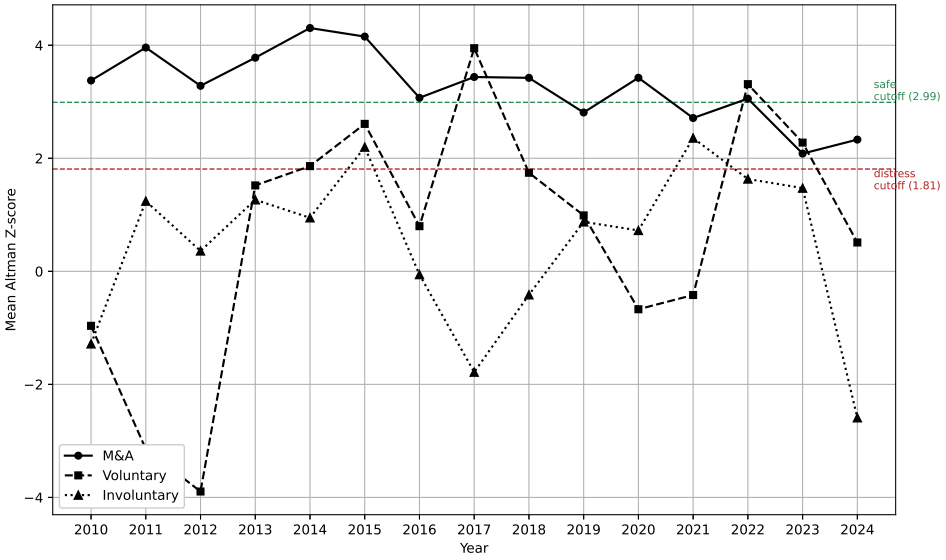


Figure 6. Mean Altman Z-score of delisted companies by year and delisting category
This figure reports the mean Altman Z-score of delisted companies, measured in the same pre-delisting quarter as market capitalisation, by year and delisting category. Horizontal dashed lines mark the distress (1.81) and safe (2.99) Altman Z-score cutoffs.

Our baseline specification is

$$Y_{i,t} = \alpha + \beta' X_{i,t-1} + F_i + G_{r(i),t} + \epsilon_{i,t},$$

where $Y_{i,t}$ is the outcome variable for exchange (i) in period (t), and $X_{i,t-1}$ is a vector of exchange-level and macro-level covariates lagged by one year. The inclusion of one-year-lagged regressors helps reduce reverse-causality concerns. Exchange fixed effects, F_i, absorb time-invariant characteristics of each exchange, such as institutional structure, listing rules, and persistent market features. $G_{r(i),t}$ denotes region-by-time fixed effects, which control for time-varying shocks common to exchanges within the same region, including regional business cycle conditions, regulatory changes, and other policy or market-wide developments. Finally, $\epsilon_{i,t}$ is the error term. Standard errors are clustered at the exchange level.

Table 2 presents the baseline results for the rate of total delistings. Column (1) includes exchange-level variables, column (2) includes macroeconomic variables, and column (3) includes both jointly. Across specifications, turnover velocity is negatively related to the rate of delistings. The coefficient is statistically significant when exchange-level controls are included alone and remains negative, though weaker in significance, in the full specification. This finding suggests that more liquid and active secondary-markets tend to have lower rate of delisting. Greater secondary-market liquidity may reduce delisting pressure not only by improving firms' access to capital, supporting valuation, but also by reducing the likelihood of prolonged illiquidity or price deterioration that can trigger breaches of ongoing-listing requirements.

Among the macroeconomic variables, inflation is negatively associated with the rate of delisting and remains statistically significant throughout. One interpretation is that higher inflation may support firms' nominal sales, earnings, and asset values, thereby reducing financial pressure and lowering the incidence of delistings, at least in the short run. The financial development index is also negative and significant when entered alone, but loses significance once exchange-level controls are included. In contrast, market volatility, market return, and GDP growth are not statistically significant in any specification. Taken together, the evidence points to exchange-level trading conditions as more robust correlates of delisting activity than broader macroeconomic factors.

Table 3 examines the factors associated with different delisting types by separately analysing the

Table 2. Rate of delisting and market conditions

This table reports panel regression estimates where the dependent variable is the rate of delisting at the exchange-year level. Column (1) includes exchange-level variables only, column (2) includes macro-level variables only, and column (3) includes both exchange-level and macro-level variables. All specifications include exchange fixed effects and region-by-year fixed effects. Standard errors clustered at the exchange level are reported in parentheses. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

	Dependent variable: $R_{i,t}^{\text{Delist}}$		
	(1)	(2)	(3)
Market Volatility$_{i,t-1}$	1.969		2.644
	(2.834)		(3.906)
Market Return$_{i,t-1}$	0.002		0.171
	(0.359)		(0.421)
Turnover Velocity$_{i,t-1}$	-0.768^{***}		-0.512^{*}
	(0.282)		(0.302)
$\Delta GDP_{i,t-1}$		0.833	-1.652
		(2.743)	(2.176)
$\Delta CPI_{i,t-1}$		-19.376^{*}	-16.853^{*}
		(9.736)	(10.066)
$\text{FD}_{i,t-1}^{\text{index}}$		-5.792^{***}	-2.092
		(2.098)	(2.318)
FE: Exchange	✓	✓	✓
FE: Region×Year	✓	✓	✓
Num. Obs.	817	725	651
R^2	0.772	0.735	0.789

rates of M&A, voluntary, and involuntary delistings. The results reveal substantial heterogeneity across delisting categories. For M&A delistings, market volatility is negatively associated with the M&A share, while market return is positively associated with it, and both relationships remain statistically significant when macroeconomic controls are added to the model. This pattern suggests that M&A-related exits are more prevalent in periods of strong market performance and low uncertainty, consistent with improved financing conditions for acquirers and higher equity valuations that facilitate takeover activity. By contrast, turnover velocity does not appear to be systematically related to the M&A rate.

For involuntary delistings, market return is negatively associated with the involuntary delisting rate when only exchange-level controls are included, although the coefficient loses statistical significance once macroeconomic variables are added. One possible interpretation is that poor market performance tends to coincide with weaker firm fundamentals and greater financial distress, making involuntary delistings more likely. Turnover velocity enters with a negative and statistically significant coefficient in both specifications, indicating that exchanges with more active trading tend to experience a lower share of involuntary delistings. Greater secondary-market liquidity may reduce involuntary exits by supporting firms' valuations, improving access to capital, and lowering the likelihood of prolonged non-compliance with listing requirements.

By contrast, the voluntary delisting rate is not systematically related to the included covariates. Most coefficients are statistically insignificant, and the explanatory power of the regressions is lower than for M&A delistings. This may reflect the fact that voluntary delistings are driven primarily by firm-specific considerations, such as ownership structure, private equity activity, or strategic restructuring, which are not well captured by exchange-level or macroeconomic variables. In addition, the relatively low number

of voluntary delistings in the sample further limits the ability to detect systematic relationships.

Table 3. Market conditions and Delisting composition

This table reports panel regression estimates for the composition of delisting across exchanges. Columns (1), (3), and (5) include exchange-level variables only. Columns (2), (4), and (6) include both exchange-level and macro-level variables. Standard errors clustered at the exchange level are reported in parentheses. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

	$R_{i,t}^{\text{MA}}$		$R_{i,t}^{\text{Voluntary}}$		$R_{i,t}^{\text{Involuntary}}$	
	(1)	(2)	(3)	(4)	(5)	(6)
Market Volatility$_{i,t-1}$	−2.010*	−2.932*	0.490	0.914	2.091	2.833
	(1.122)	(1.691)	(0.853)	(1.265)	(1.332)	(1.746)
Market Return$_{i,t-1}$	0.490**	0.493*	−0.227	−0.123	−0.329*	−0.229
	(0.238)	(0.265)	(0.181)	(0.198)	(0.182)	(0.225)
Turnover Velocity$_{i,t-1}$	−0.177	−0.162	−0.258	−0.097	−0.247**	−0.185**
	(0.167)	(0.186)	(0.169)	(0.069)	(0.114)	(0.088)
$\Delta GDP_{i,t-1}$		−0.662		−0.310		0.033
		(1.268)		(0.897)		(0.693)
$\Delta CPI_{i,t-1}$		−6.857		−1.414		−3.772
		(5.469)		(2.866)		(5.932)
$\text{FD}_{i,t-1}^{\text{index}}$		−0.914		−0.229		−0.628
		(0.956)		(0.622)		(1.557)
FE: Exchange	✓	✓	✓	✓	✓	✓
FE: Region×Year	✓	✓	✓	✓	✓	✓
Num. Obs.	817	651	817	651	817	651
R^2	0.812	0.825	0.482	0.383	0.457	0.442

Overall, the results indicate that delisting dynamics differ meaningfully across categories and should not be treated as a homogeneous outcome. Exchange-level trading conditions appear to matter more consistently than broad macroeconomic fundamentals, although their effects vary by delisting type. In particular, secondary-market liquidity is associated with lower overall and involuntary delisting rates, while M&A delistings are more closely linked to stronger market performance and lower volatility. By contrast, voluntary delistings are less systematically explained by the variables considered here, suggesting that they are more likely shaped by firm-specific motives and other factors outside the exchange-level framework.

3.4 The difference between AEs and EMDEs

We next examine whether delisting patterns differ systematically by the economy level of the exchange jurisdiction. Figure 7 shows clear differences in the composition of delistings between AEs and EMDEs. In AEs, delistings are dominated by M&A-related exits, which account for about 72 percent of all delistings, while voluntary delistings represent only a small share. By contrast, although M&A remains the largest component in EMDEs, its share is notably lower, at about 56 percent, and both voluntary and involuntary delistings account for larger shares than in AEs. This pattern suggests that delistings in AEs are more closely linked to corporate restructuring and takeover activity, whereas delistings in EMDEs are more diversified across different exit channels.

To assess whether the determinants of delistings also differ across these two groups, Table 4 re-estimates the baseline specification separately for AEs and EMDEs. The results indicate that exchange-level trading conditions matter more strongly in AEs. In particular, turnover velocity is negatively and

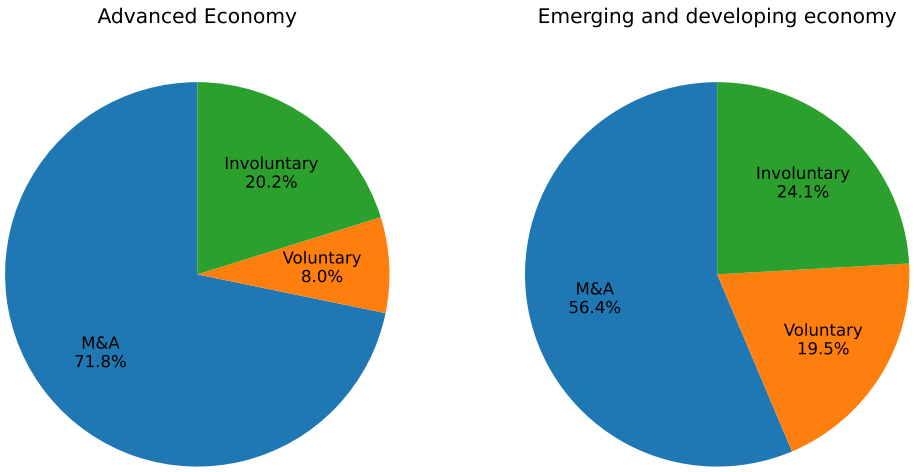


Figure 7. Share of delisting types by economy level of exchange jurisdiction
This figure shows the composition of delisting by economy group. The left panel reports the shares of delisting for exchanges in AEs, and the right panel reports the shares of delisting for exchanges in EMDEs.

significantly associated with the rate of delisting in AEs across specifications that include exchange-level controls. This finding suggests that, among AEs exchanges, more active secondary-market trading is associated with a lower delisting rate. By contrast, the corresponding coefficient is small and statistically insignificant for EMDEs, indicating that exchange market liquidities are less systematically related to delisting dynamics in that group.

The macro-level covariates also appear to operate differently across the two economy groups. For AEs, the financial development index enters with a negative coefficient and is marginally significant in the full specification, consistent with the view that deeper financial systems are associated with a lower delisting rate. For EMDEs, inflation is negatively associated with delisting rate in the full specification, while the remaining macroeconomic indicators are not estimated precisely.

To conclude, the results indicate that delisting patterns differ meaningfully between AEs and EMDEs, both in composition and in their correlates. In AEs, delistings are more heavily concentrated in M&A-related exits, and the rate of delisting is more systematically associated with exchange-level trading conditions, particularly market liquidity, as well as, to a lesser extent, financial development. In EMDEs, by contrast, delistings are less dominated by M&A and more evenly distributed across voluntary and involuntary exits, while the regression results yield much weaker and less precise relationships. One possible explanation is that delisting activity in EMDEs is shaped by a broader set of idiosyncratic factors, including regulatory discontinuities, market segmentation, ownership concentration, political and institutional uncertainty, and thinner trading environments that are not fully captured by the exchange-level and macroeconomic variables included here. As a result, delisting outcomes in EMDEs may be more heterogeneous and less systematically linked to the observable market conditions considered in the baseline specification.

4 Net listing

Net listing is defined as the difference between the number of IPOs and the number of delistings for an exchange, and therefore captures net entry into the market. A positive net listing indicates that new listings exceed exits, while a negative net listing implies a net contraction in the number of listed

Table 4. Delistings and economy level of exchange jurisdiction

This table reports panel regression estimates for the rate of exchange delistings, separately for AEs and EMDEs. For each group, firm column includes exchange-level variables only, second column includes macro-level variables only, and third column includes both exchange-level and macro-level variables. All specifications include exchange fixed effects and region-by-year fixed effects. Standard errors clustered at the exchange level are reported in parentheses. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

	Dependent variable: $R_{i,t}^{\text{Delist}}$					
	AEs			EMDEs		
	(1)	(2)	(3)	(4)	(5)	(6)
Market Volatility$_{i,t-1}$	5.082		10.621	-0.814		-3.284
	(6.700)		(7.562)	(2.146)		(2.738)
Market Return$_{i,t-1}$	-0.814		-0.410	0.431		0.695
	(0.541)		(0.849)	(0.464)		(0.481)
Turnover Velocity$_{i,t-1}$	-1.638***		-1.475**	-0.017		0.126
	(0.530)		(0.669)	(0.235)		(0.220)
$\Delta GDP_{i,t-1}$		-5.519	-1.337		2.006	-1.841
		(5.966)	(5.410)		(2.945)	(2.180)
$\Delta CPI_{i,t-1}$		-0.614	-18.213		-14.047	-22.052*
		(14.485)	(19.081)		(11.004)	(12.161)
$\text{FD}_{i,t-1}^{\text{index}}$		-6.770	-8.697*		-3.902	3.172
		(4.076)	(4.354)		(3.082)	(3.066)
FE: Exchange	✓	✓	✓	✓	✓	✓
FE: Region×Year	✓	✓	✓	✓	✓	✓
Num. Obs.	367	296	290	450	429	361
R^2	0.807	0.803	0.813	0.750	0.572	0.717

firms. Compared with delistings alone, the net listing provides a broader measure of exchange dynamism because it jointly reflects both entry and exit conditions.

Figure 8 provides a first view of the time-series evolution of IPOs and delistings, both in aggregate and by economy group. The left panel shows that IPO activity is substantially more volatile than delisting activity. Aggregate IPO counts decline sharply in the early 2010s, recover intermittently, and surge in 2021 before falling back in subsequent years. This volatility is driven primarily by exchanges in AEs, where IPO volumes are consistently much larger and fluctuate more strongly over time. EMDEs display the same broad cyclical pattern, but at a lower level and with more muted swings.

The right panel shows that delistings are comparatively more stable over time, although they also increase noticeably around 2016 and again in 2021–2023. AEs account for the vast majority of delistings throughout the sample, while EMDEs contribute a much smaller and relatively flat number of exits. Taken together, the figure suggests that variation in the net listing is driven more by fluctuations in IPO activity than by changes in delistings, especially in AEs. Periods of weak net listing tend to coincide with IPO slowdowns rather than unusually large increases in delistings, whereas the strong improvement in net listing around 2021 reflects an exceptional wave of new listings. This suggests that concerns about declining numbers of listed firms are likely to be more closely linked to weak listing conditions, particularly subdued IPO activity than to an abnormal increase in delisting rates.

These descriptive patterns also point to differences across economy groups. In AEs, the net listing appears more time-varying, reflecting the strong responsiveness of IPO activity to changing market conditions. In EMDEs, by contrast, the net listing is likely to be narrower and more persistent, given the

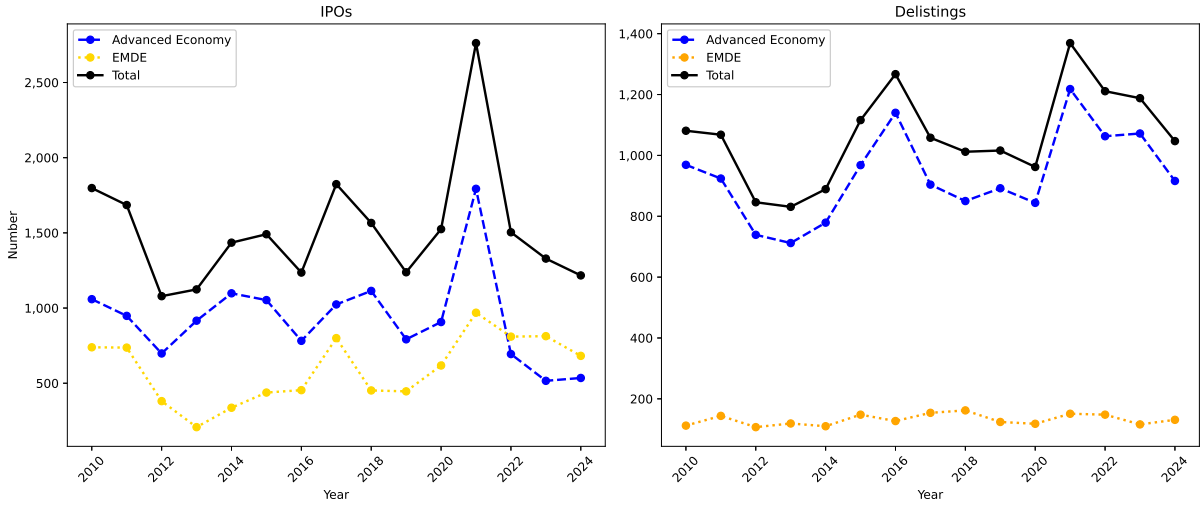


Figure 8. Number of IPOs and Delistings

This figure plots the number of IPOs (left panel) and delistings (right panel). The black solid line represents the total, the blue dashed line represents AEs, and the yellow dotted line represents EMDEs.

lower level of IPO activity and the smaller variation in delistings. The next subsection formally examines the determinants of the net listing using the panel regression framework introduced above.

Table 5. Rate of net listing and market conditions

This table reports panel regression estimates where the dependent variable is the rate of net listing at the exchange-year level. Column (1) includes exchange-level variables only, column (2) includes macro-level variables only, and column (3) includes both exchange-level and macro-level variables. All specifications include exchange fixed effects and region-by-year fixed effects. Standard errors clustered at the exchange level are reported in parentheses. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

	Dependent variable: $R_{i,t}^{\text{Net Listing}}$		
	(1)	(2)	(3)
Market Volatility$_{i,t-1}$	0.875		-2.102
	(4.239)		(6.540)
Market Return$_{i,t-1}$	2.103***		1.832**
	(0.678)		(0.865)
Turnover Velocity$_{i,t-1}$	1.656		1.628
	(1.034)		(1.184)
$\Delta GDP_{i,t-1}$		7.465**	6.322*
		(3.691)	(3.721)
$\Delta CPI_{i,t-1}$		25.154	2.701
		(22.818)	(21.699)
$\text{FD}_{i,t-1}^{\text{index}}$		9.056	6.179
		(5.525)	(6.691)
FE: Exchange	✓	✓	✓
FE: Region×Year	✓	✓	✓
Num. Obs.	815	692	649
R^2	0.666	0.648	0.677

Table 5 presents the regression results for the rate of net listing. Two findings stand out. First, lagged market return is positively and significantly associated with net listing, suggesting that stronger equity market performance is linked to greater net entry. Economically, strong stock markets raise valuations and improve investor sentiment, which can make public listing more attractive for firms and encourage new issuance relative to exits. Second, lagged GDP growth is also positively related to net listing. This pattern is consistent with the view that stronger real economic activity expands firms' financing needs and growth opportunities, thereby supporting IPO activity and reducing the likelihood that listings contract on net (Demir et al. (2025)).

By contrast, the coefficients on market volatility, turnover velocity, inflation, and the financial development index are not estimated precisely in the full specification. The lack of a robust effect for market volatility may reflect the fact that temporary uncertainty does not necessarily translate into weaker net listing once broader market performance is taken into account. The evidence indicates that net listing dynamics are shaped primarily by cyclical conditions affecting firms' incentives to enter public markets, rather than by the broader set of exchange-level trading variables considered here.

Table 6 reports the regression results for the rate of net listing separately for AEs and EMDEs. The estimates suggest that the drivers of net listing differ across the two groups. In AEs, market return is positively associated with net listing and is statistically significant in the exchange-only specification, although the coefficient becomes less precisely estimated once macroeconomic controls are added. This pattern is consistent with the view that favorable equity market performance supports new listings and improves net entry. In addition, GDP growth is positively and significantly related to net listing in the macro-only specification, although this relationship weakens in the full model. By contrast, turnover velocity does not appear to be systematically associated with net listing in AEs.

For EMDEs, the results point to a somewhat different pattern. Market return is not statistically significant, while turnover velocity is positively associated with net listing and remains significant in the full specification. This suggests that, in EMDEs, more active secondary market may be more closely linked to improved net listing outcomes. GDP growth is positively related to net listing in the macro-only specification. Overall, the split-sample results indicate that net listing in AEs is more closely tied to market valuation conditions, whereas in EMDEs it is more closely associated with exchange-level trading activity. At the same time, the limited significance of several macro-financial variables suggests that the determinants of net listing remain heterogeneous across economy groups.

Table 6. Rate of net listing and economy level of exchange jurisdiction
This table reports panel regression estimates for the rate of net listing at the exchange-year level, separately for AEs and EMDEs. For each group, column (1) includes exchange-level variables only, column (2) includes macro-level variables only, and column (3) includes both exchange-level and macro-level variables. All specifications include exchange fixed effects and region-by-year fixed effects. Standard errors clustered at the exchange level are reported in parentheses. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

	Dependent variable: $R_{i,t}^{NetListing}$					
	AEs			EMDEs		
	(1)	(2)	(3)	(4)	(5)	(6)
Market Volatility$_{i,t-1}$	-3.831		-7.132	7.182		3.934
	(6.736)		(9.208)	(6.610)		(10.665)
Market Return$_{i,t-1}$	3.000**		2.299	1.172		0.392
	(1.141)		(1.714)	(0.914)		(1.420)
Turnover Velocity$_{i,t-1}$	0.425		-0.630	2.818*		3.375**
	(0.896)		(0.944)	(1.422)		(1.350)
$\Delta GDP_{i,t-1}$		16.171***	10.196		8.681*	5.462
		(5.461)	(6.664)		(5.089)	(5.285)
$\Delta CPI_{i,t-1}$		-5.984	-0.716		29.689	-9.840
		(28.414)	(32.031)		(27.083)	(26.470)
$FD_{i,t-1}^{index}$		8.160	9.015		7.825	1.400
		(7.109)	(7.504)		(8.644)	(11.243)
FE: Exchange	✓	✓	✓	✓	✓	✓
FE: Region×Year	✓	✓	✓	✓	✓	✓
Num. Obs.	366	293	289	449	399	360
R^2	0.723	0.738	0.742	0.700	0.635	0.700

5 Other explanatory factors

In addition to exchange-level trading conditions and macroeconomic fundamentals, delisting outcomes may also be shaped by broader structural and institutional features of the market environment. This section considers two such factors. The first is market concentration, measured by the Herfindahl-Hirschman Index (HHI), which captures the degree to which market share is concentrated among a smaller number of listed firms. Greater concentration may affect listing and delisting dynamics by influencing how investor attention, capital, and trading activity are distributed across listed firms, thereby affecting smaller issuers' visibility, liquidity, and incentive to remain public listed. The second factor is exchange listing stringency index developed by Demir et al. (2026). More specifically, we use indicators for whether listing requirements became more stringent or more relaxed. Changes in listing standards may alter the composition of listed firms and, in turn, affect the frequency and type of delistings. Examining these two dimensions helps assess whether delisting patterns are associated not only with market performance and macroeconomic conditions, but also with structural market concentration and regulatory changes at the exchange level.

5.1 Market concentration

Market concentration may represent an important determinant of delisting dynamics, as it captures the extent to which listed-firm activity is dominated by a relatively small number of companies. We measure

concentration using the Herfindahl-Hirschman Index (HHI) based on firm-level sales. Higher HHI values indicate that aggregate sales among listed firms are concentrated in fewer companies. The index is computed as the sum of squared sales shares, where each firm's share is measured as its sales relative to total sales across all firms in the country. In our analysis, the HHI is calculated at the country level using Compustat data and covers the period 2013–2024.

Market concentration may influence delistings through several channels. On the one hand, if investor attention, liquidity, and capital are concentrated in a limited number of large firms, smaller listed companies may experience weaker trading activity, lower visibility, and higher costs of remaining public, thereby increasing the likelihood of delisting. On the other hand, concentration may also reflect the growth of successful listed firms rather than the decline of smaller issuers, it may coincide with stronger aggregate market performance, deeper investor interest, and a more attractive public-market environment. Market concentration may also be relevant for M&A, as larger firms in concentrated markets may have greater financial capacity and strategic incentives to acquire smaller listed firms, potentially leading to delistings through acquisition. The overall relationship between market concentration and delistings is therefore an empirical question.

Table 7 extends the baseline specification by adding lagged market concentration to examine whether a more concentrated market structure is associated with differences in the overall rate of delisting and in the rate of delisting across M&A, voluntary, and involuntary categories.

Table 7. Market concentration and delistings

This table reports panel regression estimates of the association between market concentration, measured by $\text{HHI}_{i,t-1}$, and exchange delisting outcomes. The dependent variables are the rates of delisting, M&A-related delistings, voluntary delistings, involuntary delistings, and net listings. All specifications include the following control variables: Market $\text{Volatility}_{i,t-1}$, Market $\text{Return}_{i,t-1}$, Turnover $\text{Velocity}_{i,t-1}$, $\Delta GDP_{i,t-1}$, $\Delta CPI_{i,t-1}$, and $\text{FD}^{\text{index}}_{i,t-1}$. Exchange fixed effects and region-by-year fixed effects are included in all columns. Standard errors clustered at the exchange level are reported in parentheses. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

	$R^{\text{Delist}}_{i,t}$	$R^{\text{MA}}_{i,t}$	$R^{\text{Voluntary}}_{i,t}$	$R^{\text{Involuntary}}_{i,t}$	$R^{\text{Net Listing}}_{i,t}$
$\text{HHI}_{i,t-1}$	1.212*	0.281	0.173	0.519*	-2.972*
	(0.656)	(0.337)	(0.274)	(0.307)	(1.635)
FE: Exchange	✓	✓	✓	✓	✓
FE: Region×Year	✓	✓	✓	✓	✓
Controls	✓	✓	✓	✓	✓
Num. Obs.	474	474	474	474	473
R^2	0.866	0.865	0.390	0.560	0.768

Results presented in Table 7 indicate a positive relationship between market concentration and delistings. Higher levels of concentration appear to be associated with greater pressure on smaller listed firms, which may face lower liquidity and visibility, ultimately increasing the likelihood of market exit. The effect is particularly pronounced for involuntary delistings, for which the coefficient on the lagged HHI is positive and statistically significant, providing support for the idea that more concentrated markets may create less favorable conditions for weaker firms to remain listed. Consistent with this interpretation, the last column shows a negative relationship between market concentration and net listings. This result suggests that when a larger share of market capitalization is concentrated among a smaller number of firms, exits tend to outpace new listings, leading to a decline in the net number of listed companies.

5.2 Exchange listing stringency

We examine whether changes in exchange listing regulation are associated with subsequent delisting outcomes, we complement the cross-exchange evidence on listing stringency with a within-exchange analysis of regulatory changes. We augment the baseline specification with two lagged dummy variables that identify whether an exchange has tightened or relaxed its listing requirements. This distinction is important because the level of listing stringency captures persistent differences across exchanges, whereas the regulatory-change indicators capture changes in an exchange's requirements over time. The latter specification therefore asks whether changes in listing rules are associated with changes in subsequent exit activity, rather than whether exchanges with systematically different listing standards exhibit different delisting rates. Specifically, $d_{i,t-1}^{\text{Stringent}}$ equals one if exchange i adopted more stringent listing requirements, while $d_{i,t-1}^{\text{Relaxed}}$ equals one if the exchange relaxed them. These indicators are based on the WFE Listing Stringency Index (LSI) report (Demir et al. (2026)), which tracks changes in listing requirements across markets. In that framework, more stringent changes are often related to stronger disclosure and governance requirements, whereas more relaxed changes typically reflect lower entry thresholds, such as reductions in minimum share price or free-float requirements. Recent evidence using this aggregate index (Demir et al., 2025) shows that listing stringency is associated with differences in the characteristics of firms entering public markets—particularly the size and quality of IPOs. This suggests that listing rules may shape the composition and quality of listed firms.

The expected relationship between regulatory changes and delisting is priori ambiguous. Stricter requirements may increase the costs of maintaining a listing and make it more difficult for smaller or weaker firms to remain listed, potentially raising delisting risk. Conversely, tighter standards may improve issuer screeningand market quality, resulting in a stronger pool of listed firms and potentially reducing subsequent exits. Relaxation may lower the costs of maintaining a listing and reduce compliance-related exits, but it may also permit weaker firms to enter or remain in the market. The net effect is therefore an empirical question.

Table 8 reports the results. Overall, changes in listing stringency do not appear to be a major determinant of the aggregate delisting rate. The coefficient on $d_{i,t-1}^{\text{Stringent}}$ is negative but statistically insignificant in the regression for total delistings, while the coefficient on $d_{i,t-1}^{\text{Relaxed}}$ is also negative and imprecisely estimated. These findings suggest that short-run changes in listing requirements are not systematically associated with broad shifts in overall delisting activity across exchanges.

Looking across delisting types, however, there is some evidence of more selective effects. A move toward stricter listing requirements is associated with a lower rate of M&A-related delistings, with the coefficient on $d_{i,t-1}^{\text{Stringent}}$ negative and weakly statistically significant. This relationship is specific to M&A-related delistings, as stricter listing requirements do not appear to have a meaningful relationship with either voluntary or involuntary delistings.

Relaxation of listing requirements is also not associated with total delistings, M&A delistings, or voluntary delistings in a statistically robust way. The only significant coefficient appears in the involuntary delistings regression, where $d_{i,t-1}^{\text{Relaxed}}$ enters negatively. This result suggests that easing listing requirements may reduce the likelihood of involuntary exits, possibly by lowering the risk that marginal firms fail to satisfy continued-listing standards (such as minimum price, market capitalisation, or free-float thresholds). This finding is consistent with the view that less stringent listing requirements reduce the likelihood of rule-triggered delistings.

Finally, neither tightening nor relaxing listing requirements is significantly associated with the net listing rate. This result contrasts with the within-exchange IPO evidence in Demir et al. (2026), which shows that relaxing listing standards is associated with an increase in IPO activity. Taken together, these findings suggest that while changes in listing requirements may directly influence firms' entry decisions, particularly through relaxation, their impact on exit decisions is more limited and operates primarily through specific channels such as involuntary delistings.

Table 8. Change of exchange listing stringency and delistings

This table reports panel regression estimates for rates of total delistings, M&A-related delistings, voluntary delistings, involuntary delistings, and net listings. $d_{i,t-1}^{\text{Stringent}}$ ($d_{i,t-1}^{\text{Relaxed}}$) is a dummy variable equal to one if the exchange's listing requirements become more stringent (more relaxed) in period $t-1$, and zero otherwise. All specifications control for Market Volatility$_{i,t-1}$, Market Return$_{i,t-1}$, Turnover Velocity$_{i,t-1}$, $\Delta GDP_{i,t-1}$, $\Delta CPI_{i,t-1}$, and FD$_{i,t-1}^{\text{index}}$, and include exchange fixed effects and region-by-year fixed effects. Standard errors clustered at the exchange level are reported in parentheses. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

	$R_{i,t}^{\text{Delist}}$	$R_{i,t}^{\text{MA}}$	$R_{i,t}^{\text{Voluntary}}$	$R_{i,t}^{\text{Involuntary}}$	$R_{i,t}^{\text{Net Listing}}$
$d_{i,t-1}^{\text{Stringent}}$	-0.439	-0.675*	0.107	0.167	-0.315
	(0.461)	(0.327)	(0.203)	(0.103)	(1.007)
$d_{i,t-1}^{\text{Relaxed}}$	-1.445	-1.243	0.096	-0.350*	5.819
	(1.115)	(1.099)	(0.215)	(0.188)	(3.785)
FE: Exchange	✓	✓	✓	✓	✓
FE: Region×Year	✓	✓	✓	✓	✓
Controls	✓	✓	✓	✓	✓
Num. Obs.	235	235	235	235	235
R^2	0.735	0.778	0.374	0.593	0.583

Overall, the evidence indicates that listing requirements changes play a more nuanced role in shaping public market dynamics. While cross-exchange differences in listing stringency may signal market quality and affect the composition of listed firms, within-exchange changes in listing requirements appear to have only modest and selective effects on delisting outcomes. This reinforces the broader conclusion that delisting dynamics appear to be more closely associated with market conditions and exchange- and firm-level characteristics than with short-term changes in listing requirements.

6 Policy Implications

The findings of this paper carry several implications for policies aimed at strengthening public equity markets.

First, the composition of delistings matters. M&A-related exits account for the majority of delistings and are associated with relatively favourable market conditions and larger, financially healthier firms. Such exits should therefore not automatically be interpreted as evidence of deterioration in public markets. In contrast, involuntary delistings are more strongly associated with weaker secondary-market liquidity and are disproportionately concentrated among smaller and financially weaker firms. Policies aimed at supporting the resilience of public markets may therefore be better targeted toward improving secondary-market liquidity and the ability of smaller and financially weaker firms to remain listed, rather than treating all delistings as an equivalent policy problem.

Second, exchange-level trading conditions also carry policy relevance in their own right. Secondary-market liquidity, measured by turnover velocity, is negatively associated with the overall delisting rate as well as with involuntary delistings specifically, and this relationship is consistent. This suggests that measures supporting active secondary-market trading – such as market-making incentives, reducing fragmentation of liquidity, or lowering trading frictions – are among the more direct and actionable levers available for reducing delisting pressure. Macroeconomic conditions such as GDP growth and market returns are also significantly associated with M&A activity and net listing, though these operate through broader economic cycles rather than exchange-specific policy. Their relevance lies less in direct interven-

tion than in coordination: distinguishing cyclical swings in delisting and listing activity from changes driven by market structure or regulation requires exchanges, securities regulators, and macroeconomic policymakers to interpret delisting and net-listing trends jointly, rather than in isolation from one another.

Third, the results suggest that changes in listing requirements should be considered alongside, rather than in isolation from, broader market conditions. Within-exchange changes in listing stringency are not systematically associated with overall delisting rates or net listings, although relaxation is associated with a lower rate of involuntary delistings. This suggests that regulatory adjustments may have selective effects on particular exit channels rather than being a primary determinant of aggregate market contraction. Accordingly, reforms to listing standards should balance the objective of maintaining appropriate investor protection and market quality with the need to avoid unnecessarily constraining firms' ability to remain publicly listed.

Fourth, the results indicate that efforts to expand public equity markets should not focus exclusively on preventing delistings. Net listing dynamics are driven more strongly by variation in IPO activity than by changes in delistings, while stronger market returns and GDP growth are associated with higher net listing rates. This suggests that policies designed to deepen public equity markets should place at least equal emphasis on the conditions that support new listings, including an attractive environment for firms seeking public capital. In this respect, strengthening the pipeline of potential issuers and improving the attractiveness and accessibility of public markets may be as important for sustaining the number of listed companies as measures aimed at reducing exits.

Fifth, the positive association between market concentration and both overall and involuntary delisting rates, together with its negative association with net listing, suggests that policymakers may wish to consider the broader consequences of increasing concentration of economic activity among a relatively small number of firms. In more concentrated markets, where a larger share of sales is accounted for by dominant firms, investor attention and trading activity may also become disproportionately concentrated among these firms, potentially weakening the liquidity and visibility of smaller listed companies. From a broader policy perspective, competition and antitrust policies that limit excessive market concentration may therefore complement capital-market measures aimed at broadening investor participation and improving the liquidity and visibility of smaller issuers. Such measures could help create market conditions that are more supportive of firms remaining publicly listed.

Sixth, delisting patterns differ meaningfully between AEs and EMDEs, both in composition and in their correlates, implying that a single policy approach is unlikely to be equally effective across markets. In AEs, delistings are more heavily concentrated in M&A-related exits, and exchange-level trading conditions – particularly secondary-market liquidity and market valuations – are more systematically linked to delisting and net listing outcomes, making these the more effective levers in that context. In EMDEs, M&A remains the largest category but plays a smaller role, with voluntary and involuntary delistings more prominent and the observable correlates weaker and less precisely estimated. This more diversified exit composition suggests that policy responses in EMDEs may need to address a broader set of channels, and may benefit from looking beyond the market-level variables considered here – for example, to institutional quality, ownership concentration, or market segmentation.

7 Conclusion

This paper studies global delistings and net listing dynamics using a panel of 60 stock exchanges across 55 jurisdictions over 2010–2024. Using exchange-level data on delistings, IPOs, market conditions, and macroeconomic fundamentals, we document how firms exit public markets, how these exits differ across delisting types and economy groups, and how broader listing dynamics are shaped by both entry and exit conditions.

Four main findings emerge. First, global delisting activity is strongly time-varying and concentrated

in a small number of major regions, especially North America and Europe & Central Asia. Delistings rise markedly in the mid-2010s, peak in 2021, and remain elevated thereafter. M&A-related exits account for the majority of delistings throughout the sample and explain most of the major fluctuations in aggregate delisting activity. By contrast, involuntary delistings are smaller in magnitude but more volatile, while voluntary delistings remain comparatively limited and stable over time.

A further firm-level analysis provides evidence on the characteristics of companies exiting public markets. Delisted companies differ substantially in both size and financial health depending on the exit channel. M&A-related delistings are concentrated among firms that are relatively large compared with their same-exchange peers and generally exhibit stronger financial health, while involuntary delistings are disproportionately concentrated among smaller firms and firms with weaker financial conditions. The Altman Z-score evidence reinforces this distinction, with M&A targets generally close to or above the financial-safety threshold and involuntary delistings close to or below the distress threshold. Voluntary delistings lie between these two groups and display greater year-to-year variation. These findings provide firm-level evidence that different delisting channels reflect economically distinct exit processes rather than a common phenomenon.

Second, the determinants of delistings differ across exit channels. Higher secondary-market liquidity is associated with lower overall delisting rates, suggesting that more liquid secondary-markets help firms remain listed by supporting valuations, improving access to capital, and reducing listing pressure. Looking across delisting types, M&A delistings are more closely linked to favorable market conditions, with higher market returns and lower volatility associated with greater M&A-related exits. Involuntary delistings, by contrast, are more prevalent when exchange liquidity is weaker. Voluntary delistings are not systematically related to the exchange-level and macroeconomic variables considered here, consistent with the view that they are more likely associated with firm-specific motives, ownership structure, private equity activity, or regulatory factors not fully captured in the baseline framework.

Third, delisting patterns differ meaningfully between AEs and EMDES. In AEs, delistings are more heavily dominated by M&A-related exits, and exchange-level trading conditions are more systematically associated with delisting rates. In EMDEs, delisting composition is more mixed, with a larger role for involuntary and voluntary exits, and the observable correlates are generally weaker and less precisely estimated. This suggests that delisting activity in EMDEs may be shaped by a broader set of institutional, regulatory, and market-specific factors that are not fully captured by the exchange-level and macroeconomic variables in our baseline specification.

Fourth, net listing dynamics are driven primarily by entry conditions rather than exit conditions. Descriptively, fluctuations in net listing are much more closely tied to swings in IPO activity than to changes in delistings. In the panel regressions, stronger market returns and GDP growth are positively associated with the rate of net listing, indicating that favorable valuation conditions and stronger real economic activity support net entry into public markets. The split-sample analysis further suggests that these mechanisms differ across economy groups: in AEs, net listing is more closely linked to market returns, whereas in EMDEs it is more closely associated with turnover velocity. These results imply that contractions in the number of listed firms often reflect weak listing conditions, especially weak IPO activity, rather than delisting waves alone.

Additional evidence on listed-firm market structure and regulation reinforces this broader interpretation. Higher concentration among listed firms, measured by the sales-based HHI, is associated with higher delisting rates, especially involuntary delistings, and with lower net listings. These patterns suggest that markets in which listed-firm sales are concentrated among a smaller number of public companies may provide less favorable conditions for smaller firms to remain public, while also limiting the extent to which new listings offset exits. By contrast, changes in exchange listing stringency show only limited and selective associations with delisting outcomes, indicating that short-run changes in listing rules do not appear to be a first-order driver of overall delistings or net listing dynamics, although they may have

selective effects on specific types of exits.

Taken together, these findings point to several policy implications. As noted above, because M&A-related exits involve relatively large, healthy firms, they should not be read as a sign of weakening public markets, while policy attention directed at smaller, financially weaker firms is likely to have a greater effect on involuntary exits. Secondary-market liquidity stands out as one of the more consistent and actionable levers for reducing delisting pressure, while macroeconomic conditions matter mainly for distinguishing cyclical variation from structural change and call for coordination across exchanges, regulators, and macroeconomic policymakers rather than intervention by any single actor. Changes to listing requirements appear to have selective rather than first-order effects on delisting activity, suggesting that reforms to listing standards should be weighed against their effect on specific exit channels rather than treated as a lever for aggregate market size. Importantly, because net listing is driven primarily by entry conditions rather than exit conditions, efforts to strengthen public markets should not focus exclusively on reducing delistings: the conditions that support new listings are at least as important as those governing firms' decisions to remain listed. Finally, because the correlates of both delisting and net listing differ between AEs and EMDEs, the relative priority of these policy levers is likely to vary by market.

Overall, the findings show that delistings are not a homogeneous phenomenon and that public-market dynamics requires distinguishing among economically different exit channels. The evidence also points to an important distinction between the determinants of entry and exit: while delistings are associated with market liquidity and differ systematically across exit types, changes in the number of listed firms are driven more strongly by fluctuations in IPO activity. Future research could build on these findings using firm-level data and sharper identification strategies to better understand the mechanisms behind different delisting decisions and the conditions that support sustained net entry into public markets.

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Appendix

A List of exchanges

Table A1. List of exchanges

This table reports the exchanges covered in the analysis, together with their jurisdiction, economy classification of the jurisdiction, and region.

Exchange	Jurisdiction	Economy level	Region
ASX Australian Securities Exchange	Australia	Advanced Economy	East Asia & Pacific
Abu Dhabi Securities Exchange	United Arab Emirates	Emerging and developing economy	Middle East & North Africa
Amman Stock Exchange	Jordan	Emerging and developing economy	Middle East & North Africa
Athens Stock Exchange	Greece	Advanced Economy	Europe & Central Asia
B3	Brazil	Emerging and developing economy	Latin America & Caribbean
BME Spanish Exchanges	Spain	Advanced Economy	Europe & Central Asia
BSE India Limited	India	Emerging and developing economy	South Asia
Bermuda Stock Exchange	Bermuda	Emerging and developing economy	North America
Bolsa Latinoamericana de Valores (Latinex)	Panama	Emerging and developing economy	Latin America & Caribbean
Bolsa Mexicana de Valores	Mexico	Emerging and developing economy	Latin America & Caribbean
Bolsa de Comercio de Santiago	Chile	Emerging and developing economy	Latin America & Caribbean
Bolsa de Valores de Colombia	Colombia	Emerging and developing economy	Latin America & Caribbean
Bolsa de Valores de Lima	Peru	Emerging and developing economy	Latin America & Caribbean
Borsa Istanbul	Turkey	Emerging and developing economy	Europe & Central Asia
Bourse de Casablanca	Morocco	Emerging and developing economy	Middle East & North Africa
Bucharest Stock Exchange	Romania	Emerging and developing economy	Europe & Central Asia
Budapest Stock Exchange	Hungary	Emerging and developing economy	Europe & Central Asia
Bulgarian Stock Exchange	Bulgaria	Emerging and developing economy	Europe & Central Asia
Bursa Malaysia	Malaysia	Emerging and developing economy	East Asia & Pacific
Colombo Stock Exchange	Sri Lanka	Emerging and developing economy	South Asia
Cyprus Stock Exchange	Cyprus	Advanced Economy	Europe & Central Asia
Deutsche Boerse AG	Germany	Advanced Economy	Europe & Central Asia
Dhaka Stock Exchange	Bangladesh	Emerging and developing economy	South Asia
Dubai Financial Market	United Arab Emirates	Emerging and developing economy	Middle East & North Africa
Euronext	France	Advanced Economy	Europe & Central Asia
Hochiminh Stock Exchange	Vietnam	Emerging and developing economy	East Asia & Pacific
Hong Kong Exchanges and Clearing	Hong Kong	Advanced Economy	East Asia & Pacific
Indonesia Stock Exchange	Indonesia	Emerging and developing economy	East Asia & Pacific
Jamaica Stock Exchange	Jamaica	Emerging and developing economy	Latin America & Caribbean

Exchange	Jurisdiction	Economy level	Region
Japan Exchange Group	Japan	Advanced Economy	East Asia & Pacific
Johannesburg Stock Exchange	South Africa	Emerging and developing economy	Sub-Saharan Africa
Kazakhstan Stock Exchange	Kazakhstan	Emerging and developing economy	Europe & Central Asia
Korea Exchange	South Korea	Advanced Economy	East Asia & Pacific
LSE Group	United Kingdom	Advanced Economy	Europe & Central Asia
Ljubljana Stock Exchange	Slovenia	Advanced Economy	Europe & Central Asia
Luxembourg Stock Exchange	Luxembourg	Advanced Economy	Europe & Central Asia
Malta Stock Exchange	Malta	Advanced Economy	Middle East & North Africa
NYSE	United States of America	Advanced Economy	North America
NZX Limited	New Zealand	Advanced Economy	East Asia & Pacific
Namibian Stock Exchange	Namibia	Emerging and developing economy	Sub-Saharan Africa
Nasdaq - US	United States of America	Advanced Economy	North America
Nasdaq Nordic and Baltics	Sweden	Advanced Economy	Europe & Central Asia
National Stock Exchange of India	India	Emerging and developing economy	South Asia
Philippine Stock Exchange	Philippine	Emerging and developing economy	East Asia & Pacific
Prague Stock Exchange	Czech Republic	Advanced Economy	Europe & Central Asia
SIX Swiss Exchange	Switzerland	Advanced Economy	Europe & Central Asia
Saudi Exchange (Tadawul)	Saudi Arabia	Emerging and developing economy	Middle East & North Africa
Shanghai Stock Exchange	China	Emerging and developing economy	East Asia & Pacific
Shenzhen Stock Exchange	China	Emerging and developing economy	East Asia & Pacific
Singapore Exchange	Singapore	Advanced Economy	East Asia & Pacific
Stock Exchange of Mauritius	Mauritius	Emerging and developing economy	Sub-Saharan Africa
TMX Group	Canada	Advanced Economy	North America
Taipei Exchange	Taiwan	Advanced Economy	East Asia & Pacific
Taiwan Stock Exchange	Taiwan	Advanced Economy	East Asia & Pacific
Tel-Aviv Stock Exchange	Israel	Advanced Economy	Middle East & North Africa
The Egyptian Exchange	Egypt	Emerging and developing economy	Middle East & North Africa
The Stock Exchange of Thailand	Thailand	Emerging and developing economy	East Asia & Pacific
Vienna Stock Exchange	Austria	Advanced Economy	Europe & Central Asia
Warsaw Stock Exchange	Poland	Emerging and developing economy	Europe & Central Asia
Zagreb Stock Exchange	Croatia	Emerging and developing economy	Europe & Central Asia