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ATTRACTING NEW LISTINGS: WHAT SHAPES IPO ACTIVITY ACROSS MARKETS

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Attracting new listings:

What shapes IPO activity across markets*

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Abstract: This paper examines the factors associated with IPO activity across 79 global stock exchanges from 2002 to 2024, offering an analysis of both advanced and emerging and developing economies. Using panel regressions with high-dimensional fixed effects and a wide range of market and macro-financial variables, we find that market liquidity and GDP growth consistently are linked with IPO frequency, while financial development is associated with larger offering sizes, particularly in emerging markets. In contrast, the effect of market returns and volatility weakens when controlling for regional-time fixed effects, suggesting their impact is tied to regional market cycles, structural shifts, or policy environments that vary across time. The analysis highlights structural asymmetries: emerging markets are more responsive to improvements in liquidity, financial development, and economic growth, while advanced economies exhibit stronger sensitivity to volatility and economic conditions, especially in IPO frequency. We also introduce a novel Listing Stringency Index (LSI), which shows that, in cross-exchange comparisons, stricter listing requirements are associated with larger IPO sizes; likely reflecting a selection effect where only larger firms meet higher thresholds, though not necessarily with increased IPO frequency. While this cross-sectional pattern suggests that stringent rules shape who lists, not how many, we also find that relaxing listing requirements within exchanges over time leads to a significant increase in both IPO participation and capital raised; highlighting the potential for regulatory reform to broaden market access. These findings contribute to the literature on market structure and IPO dynamics, offering insights for policymakers, exchanges, and market participants aiming to strengthen public capital markets globally.

Keywords: IPO activity, new listings, listing requirements, listing stringency index, market liquidity, financial development, stock exchanges, public equity markets.

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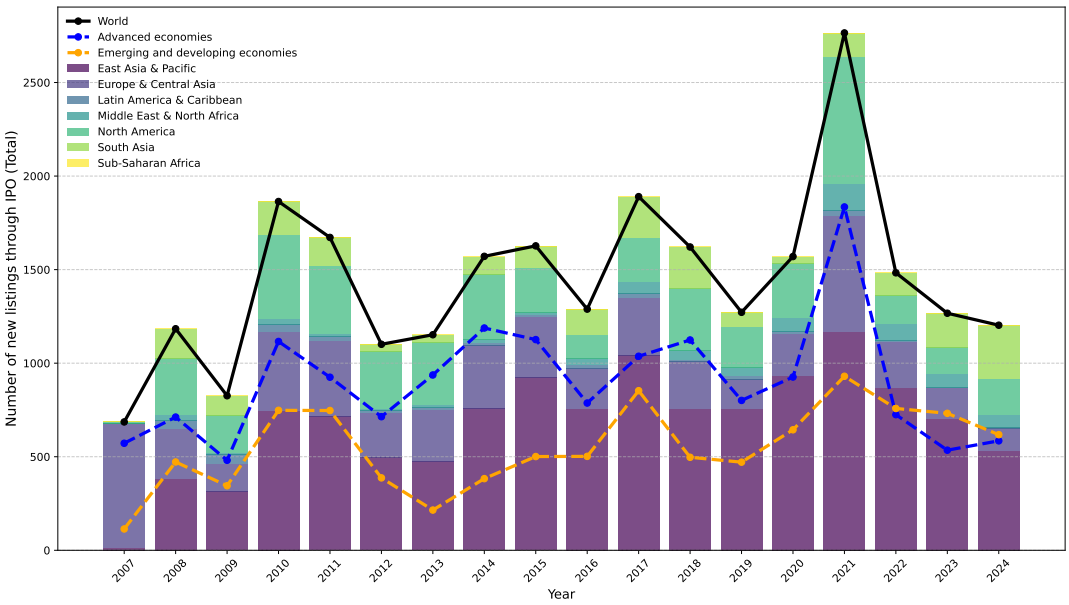
1 Introduction

Initial Public Offerings (IPOs) are a critical mechanism for firms to access external capital, expand ownership, and improve market visibility, while serving as a barometer for financial market health. Over the past two decades, global IPO activity has fluctuated markedly (see Figure 1).

Figure 1: Number of new listings through IPO



This figure plots the number of new listings through IPOs of global exchanges from 2007 to 2024. The data has not been cleaned to account for exchanges entering or exiting the database, or mergers and acquisitions, which may have a minor impact on the series. Data source: WFE Statistics.

Activity surged in 2007 before collapsing during the 2008 global financial crisis. A post-crisis recovery followed, culminating in a historic peak in 2021 when 2,766 IPOs raised $508.9 billion globally. This was followed by a sharp contraction to just 1,263 IPOs and $117.9 billion in proceeds by 2023, reflecting tighter financial conditions and rising geopolitical tensions (World Federation of Exchanges (2025a)). Regional asymmetries are equally striking: markets in advanced economies (AEs) have historically led IPO volumes, while markets in emerging and developing economies (EMDEs) have become increasingly active due to economic expansion and financial liberalisation.

While prior studies have explored market performance, volatility, macroeconomic con-

ditions, and some institutional factors in shaping IPO dynamics, many have been limited in scope, often focusing on individual markets or a narrow set of determinants (e.g., Tran and Jeon (2011); Yung et al. (2008); Shi et al. (2013)). This paper contributes a broader, more integrated analysis by examining IPO activity across 79 stock exchanges from 2002 to 2024, covering both advanced and emerging and developing economies. We incorporate an extensive set of financial and macroeconomic drivers, including exchange-level variables such as market returns, volatility, turnover velocity (market liquidity), and a novel Listing Stringency Index (LSI) derived from direct exchange survey data. Country-level variables include real GDP growth, inflation, lending rates, 10-year bond yields, the IMF's Financial Development Index, and indicators of economic uncertainty and geopolitical risk.

This comprehensive empirical scope allows us to provide a holistic view of IPO determinants and control for confounding macro-financial influences. It also allows us to distinguish how these factors operate across different level of market development.

Our contributions are fourfold. First, we provide a global perspective by covering a wide set of exchange- and country-level variables, across 79 exchanges, using the most recent data available through 2024. Second, we capture the dynamics of the COVID-19 IPO surge, documenting the temporary but dramatic rise in listings during the recovery phase. Third, we introduce a novel Listing Stringency Index (LSI), developed from direct exchange survey data, allowing the first structured and cross-market analysis of how listing requirements shape IPO outcomes, an underexplored dimension in the literature. Finally, by comparing results across advanced and emerging markets and incorporating high-dimensional fixed effects, we offer new insights into how structural and cyclical forces interact in shaping IPO activity.

By exploring these multidimensional factors across a wide temporal and cross-market sample, the paper advances the literature on IPO activity and market structure while offering practical insights for policymakers and market participants seeking to enhance capital market access and resilience.

To account for unobserved heterogeneity in IPO activity, we include region-time and exchange fixed effects in our regression model. Region-time fixed effects control for regional and temporal influences such as local economic conditions and global market trends, while

exchange fixed effects capture time-invariant market characteristics. Together, these fixed effects help mitigate omitted variable bias, including that arising from unobserved factors such as the size of private equity market or fluctuations in firm valuations, which may jointly affect firms' IPO decisions.[1]

Empirical findings show that stock market liquidity and GDP growth consistently correlate with IPO frequency, while country-level financial development supports larger capital raised. When region-time variation is accounted for, market returns, volatility, and financial development lose statistical significance, indicating that their apparent influence is tied to regional factors and time trend rather than cross-market drivers. The empirical results also show that the factors shaping IPO activity differ significantly across economies. In EMDEs, IPO activity is more responsive to liquidity and financial development, whereas in AEs, it is more sensitive to market volatility and economic growth, though these relationships are attenuated once region-time variation is absorbed.

The LSI analysis in cross-exchange comparisons indicates that stricter listing requirements are associated with larger IPO sizes, likely reflecting both a selection effect, where only larger, more established firms can meet stricter thresholds, and a signalling effect, where higher regulatory standards convey firm quality and attract investor confidence. However, this does not necessarily increase IPO frequency. When we examine the direction of changes within exchanges over the last five years, relaxing listing requirements has been associated with a significant increase in IPO participation and in the average capital raised per listing, suggesting that lowering barriers can enable broader and deeper market access. This reflects the potential for regulatory adjustments to improve both the inclusiveness and scale of IPO markets, especially for smaller and growth-oriented firms.

The analysis also captures the exceptional COVID-19 IPO surge, showing a sharp but

[1] World Federation of Exchanges (2025b) shows that there has been a controversial shift from public to private markets driven by factors such as low interest rates, favourable regulatory and tax treatment, and high public market compliance costs. Private equity has become an important competitor to public markets and one of the factors influencing levels of IPO activity. Due to limited data on the private equity market, we cannot directly include it in our analysis; however, the inclusion of region-time and exchange fixed effects helps mitigate the risk of omitted-variable bias. These controls indirectly absorb the effects of the underlying factors, such as low interest rates and favorable tax treatment, that promote private equity's expansion and bring about its influence on the IPO environment.

temporary increase in listings during 2020–2022. This period was marked by unusual liquidity conditions, strong investor sentiment, and policy accommodation, all of which temporarily accelerated IPO activity. However, this surge did not persist, highlighting how extraordinary shocks can amplify short-term listings without necessarily reshaping longer-term trends.

The remainder of the paper is structured as follows: Section 2 reviews the relevant literature; Section 3 describes the data and methodology; Section 4 presents the empirical results; Section 5 conducts robustness checks; Section 6 discusses the policy implications; and Section 7 concludes.

2 Literature review

The decision to go public is often driven by the need to access capital and support firms' growth strategies. Pagano et al. (1998) explore a database of Italian firms, find that firms go public to rebalance finances after periods of rapid growth, reducing leverage and improving liquidity, rather than solely to finance future investments. Brau and Fawcett (2006) survey 336 CFOs, find that firms pursue IPOs to access cheaper capital, which enables mergers and acquisitions (M&A). Celikyurt et al. (2010) support this by studying all US IPOs from 1985 to 2004, documenting that newly public firms use IPO proceeds to fund acquisitions, actively pursuing external growth; acquisitions by IPO firms also outpace those by mature firms in the same industry. Additionally, Rydqvist and Högholm (1995) analyze IPO activity in Sweden from 1970 to 1991 and find that many family-owned firms went public after sharp stock price increases, not necessarily to finance growth but to allow original shareholders to liquidate and diversify their portfolios. This contrasts with the typical view that IPOs primarily serve to finance expansion.

Macroeconomic conditions are significant factors influencing IPO decisions. Tran and Jeon (2011) examine the IPO activities in the US from 1970 to 2005, identifying stock market performance and volatility as key factors in IPO timing. Angelini and Foglia (2018) analyze the UK market, finding that business cycles, volatility, and interest rates influence IPO activity, while stock market returns do not. Yung et al. (2008) propose a model demonstrating

how external factors affecting investment opportunities can create fluctuating information asymmetry in IPO markets, noting economic booms increase IPOs but also lead to higher underpricing and greater variation in long-term returns. Cornaggia et al. (2024) show that large IPOs negatively impact local economies by crowding out local firms and disrupting agglomeration economies. Nguyen Thanh (2020) demonstrates that increased macroeconomic uncertainty reduces IPO activity, as firms delay going public during uncertain periods. On a broader scale, Demir et al. (2023) highlight that economic uncertainty, measured by the World Uncertainty Index (WUI), negatively affects both the number and proceeds of IPOs across 52 countries.

Peer effects and competitive pressures also shape IPO decisions. Aghamolla and Thakor (2022) discover that when a direct competitor goes public, peer firms are significantly more likely to follow, particularly in competitive industries like drug development. Baschieri et al. (2023) find local IPO waves driven by regional economic shocks rather than industry-specific factors, with firms benefiting from local valuations. Spiegel and Tookes (2019) suggest that IPO decisions are driven by anticipated negative industry-wide trends rather than competitive advantages. He (2007) argue that IPO waves occur due to investor coordination over IPO prices, motivating investment banks to produce more information, allowing lower-quality firms to go public during hot periods.

The regulatory environment and market structure changes also determine IPO activity. Ewens and Farre-Mensa (2020) find deregulation in U.S. private equity markets reduced IPO needs, allowing late-stage startups to remain private longer. Lowry et al. (2020) investigate the role of SEC scrutiny, noting increased concerns can lower post-IPO liquidity and returns, leading to IPO withdrawals. Aggarwal et al. (2022) examine dual-class IPOs, arguing this trend is driven by founders' desire to retain control while raising capital, particularly where private capital is abundant.

Strategic decisions between IPOs versus acquisitions have also been studied. Gao et al. (2013) explain the decline in IPOs among smaller firms due to economies of scope, with small firms preferring acquisitions to leverage scale benefits. Bowen et al. (2023) argue startups with disruptive potential are likely to pursue IPOs for independent growth, whereas firms

with synergistic potential opt for acquisitions. Chemmanur et al. (2020) find a significant shift towards acquisitions post-2000, driven primarily by changes in market environments and increased private equity availability.

Global financial regulatory environments affect IPO underpricing and survival. Shi et al. (2013) find stringent disclosure regulations reduce IPO underpricing. Doidge et al. (2013) note financial globalization shifted IPO activity away from the U.S. towards countries with weaker institutions. Hong et al. (2014) demonstrate mandatory IFRS adoption reduces IPO underpricing, enhancing transparency and attracting foreign investment. Espenlaub et al. (2016) reveal stronger legal systems improve IPO survival rates. Lastly, Boulton et al. (2020) demonstrate that short selling constraints significantly increase IPO underpricing by fostering optimism-driven investor sentiment.

This study differs from the existing IPO literature in three key ways. First, this paper uses a broad, two-decade panel spanning 79 exchanges to capture global heterogeneity. Second, this paper introduces a Listing Stringency Index to systematically measure regulatory barriers of global exchanges. Third, it contrasts IPO activity across advanced and emerging and developing markets, with special attention to extraordinary events such as the COVID-19 recovery. These contributions enhance our understanding of cross-market IPO behaviour and offer actionable insights for policymakers and practitioners.

3 Data and methodology

3.1 Data

Our empirical analysis utilizes quarterly data spanning the period from 2002 to 2024, covering 79 stock exchanges globally. Table A.1 in Appendix A. reports the exchanges covered in the study. We employ two key measures to capture different dimensions of IPO activity across exchanges.

First, the ratio of the number of new listings through IPOs to the total number of lagged listed companies ($N_{i,t}^{IPO}/N_{i,t-1}^{Listed}$) represents the frequency of IPO activity. This variable mea-

sures the flow of new listings relative to the existing size of each exchange. Without such normalization, raw IPO counts would disproportionately reflect the activity of large exchanges, potentially masking structural differences in listing dynamics. By adjusting for exchange size, this ratio allows for more meaningful cross-country and temporal comparisons.

Second, we use the logarithm of the capital raised per IPO ($log(K^{IPO}_{i,t}/N^{IPO}_{i,t})$), where K^{IPO} denotes the total capital raised through IPOs on each exchange, andN^{IPO} is the number of new IPO listings. This measure serves as a proxy for the typical size of new listings. It addresses the substantial variation in IPO deal size, where some offerings are disproportionately large. For example, in 2019 on the Saudi stock exchange (Tadawul), Saudi Aramco raised more than $29 billion, marking it as the largest IPO globally at the time, while other IPOs in the same period raised less than $10 million. Using the log of capital raised per new listing helps smooth out these extremes and provides a more stable representation of typical IPO scale across exchanges.

Consistent with the existing literature and policy discourse, we include a range of potential determinants of IPO activity, grouped into two categories:

1. Exchange-level market factors: These include stock market performance ($R_{i,t}$), measured as the percentage monthly return of the aggregate market price index for each exchange; market volatility ($\sigma_{i,t}$), calculated as the standard deviation of monthly returns over the last 12 months for each exchange's aggregate market price index; turnover velocity (market liquidity) ($TurnOver_{i,t}$) from WFE, which is the ratio between the Electronic Order Book (EOB) value traded of domestic companies and their market capitalisation; and the Listing Stringency Index ($LSI_{i,t}$) which measures the complexity and strictness of listing requirements derived from exchange surveys.[2]
2. Country-level macroeconomic factors: These variables encompass real GDP growth ($\Delta GDP_{c,t}$), reflecting overall economic activity; inflation measured by the Consumer Price Index ($\Delta CPI_{c,t}$); the Financial Development Index ($FD^{Index}_{c,t}$), a composite indicator from the IMF capturing the depth, access, and efficiency of the financial sector. In addition to these, the analysis includes more macroeconomic variables to account for

[2]Section 4 provides more details of the Listing Stringency Index (LSI).

evolving economic conditions, such as lending rates ($R_{c,t}^{Lending}$), a proxy for domestic credit conditions from IMF; 10-year bond rates ($R_{c,t}^{Bons,10Yrs}$) as a discount rate for IPO valuation along with the Uncertainty Index ($Uncertainty_{c,t}^{Index}$) from Ahir, Bloom, and Furceri (Ahir et al.) and the Geopolitical Risk Index ($GPRC_{c,t}^{Index}$) from Caldara and Iacoviello (2022) which capture the broad country level and global uncertainties.

Table 1 presents the summary statistics of these variables, providing insights into the mean, standard deviation and percentiles to illustrate the distribution and variability across the data. All variables are winsorised at the 1st and 99th percentiles to mitigate the influence of outliers on the estimation results.

Table 1: Summary Statistics

Variables	*Mean*	*Std.*	*p10*	*p25*	*p50*	*p75*	*p90*	*Obs.*
Panel (A): IPO Activity Variables								
IPO Frequency; $N_{i,t}^{IPO}/N_{i,t-1}^{Listed}$	0.460	0.889	0	0	0	0.585	1.438	5,509
Average IPO Size; $log(K_{i,t}^{IPO}/N_{i,t}^{IPO})$	6.597	8.658	0	0	0	16.959	18.971	5,358
IPO Indicator; $d_{i,t}^{IPO}$	0.397	0.489	0	0	0	1	1	5,691
IPO Size; $log(K_{i,t}^{IPO})$	7.644	9.560	0	0	0	18.515	21.148	5,586
Panel (B): Exchange-Level Market Factors								
Market Volatility; $\sigma_{i,t-4}$	0.071	0.098	0.024	0.033	0.047	0.068	0.108	5,792
Market Return; $R_{i,t-4}$	0.021	0.123	-0.108	-0.032	0.023	0.083	0.154	5,794
Turnover Velocity; $TurnOver_{i,t-4}$	0.510	0.623	0.024	0 .095	0.313	0.668	1.197	5,186
Panel (C): Country-Level Macroeconomic Factors								
GDP Growth Rate; $\Delta GDP_{c,t-4}$	0.010	0.049	-0.041	-0.007	0.011	0.026	0.063	6,500
Inflation Rate; $\Delta CPI_{c,t-4}$	0.010	0.013	-0.001	0.002	0.007	0.014	0.024	6,647
Finacial Development Index; $FD_{c,t-4}^{Index}$	0.529	0.214	0.275	0.355	0.496	0.717	0.833	5,892
10-years Bond Rates; $R_{c,t-4}^{Bond,10Yrs}$	4.622	2.797	1.19	2.606	4.178	6.403	8.553	3,702
Geopolitical Risk Index; $GPRC_{c,t-4}^{Index}$	0.289	0.506	0.017	0.034	0.101	0.311	0.659	4,020
Uncertainty Index; $Uncertainty_{c,t-4}^{Index}$	0.216	0.188	0.031	0.089	0.177	0.292	0.437	3,836
Lending Rates; $R_{c,t-4}^{Lending}$	9.500	8.619	3.25	5.041	7.6	11.384	16.296	4,406

This table reports summary statistics for the main variables used in the study, including the mean, standard deviation, percentiles, and number of observations. Panel (A) presents statistics for the IPO activity variables, Panel (B) covers exchange-level market factors, and Panel (C) shows country-level macroeconomic factors. All data are quarterly and have been winsorized at the top and bottom 1% to reduce the influence of outliers.

Panel A provides summary statistics for IPO activity variables. On average, IPOs accounted for 46% of listed firms, with each IPO raising an average of $733 million. The average total capital raised per exchange-quarter was $2 billion. Approximately 39.7% of exchange-

quarters in the sample featured at least one IPO, indicating that about 4 out of every 10 quarters saw IPO activity at a given exchange.

Panel B presents summary statistics for exchange-level market factors. On average, market volatility is 7.1% per quarter. The mean quarterly return of the market index is 2.1%, indicating generally positive but highly variable equity performance. The average turnover velocity is 0.51, with a 10th percentile of 0.052 and a 90th percentile of 1.482, indicating the wide disparity between low-liquidity and highly active markets.

Panel C provides summary statistics for country-level macroeconomic factors. Average quarterly GDP growth is 1.0%, and inflation averages 1.0%, suggesting moderate expansion and price stability in most economies. The Financial Development Index ranges from 0 to 1, where higher value represents a more mature market. The average FDI is 0.529 and standard deviation is 0.214, capturing a wide spectrum of market maturity. Geopolitical risk (mean 0.289) and Uncertainty index (mean 0.2216) reveal non-trivial cross-country variation in perceived risk.

3.2 Empirical model

This section describes the empirical strategy employed in this study, which primarily utilizes standard OLS panel regression with high-dimensional fixed effects. The main specification is:

$$Y_{i,t} = \Gamma \mathbf{X}_{i,t-4} + \Lambda \mathbf{Z}_{c,t-4} + F_i + G_{r,t} + \epsilon_{i,t}$$

$Y_{i,t}$ denotes the main dependent variables, which measure IPO activity of exchange i in time t. These include the number of new IPOs relative to listed firms (one period lagged number of listed firms) ($N^{IPO}_{i,t}/N^{Listed}_{i,t-1}$) and the average capital raised, measured as the log of capital raised per IPO $log(K^{IPO}_{i,t}/N^{IPO}_{i,t})$.

$\mathbf{X}_{i,t-4}$ is a vector of exchange-level control variables, including stock market returns ($R_{i,t-4}$), market volatility ($\sigma_{i,t-4}$), turnover velocity (liquidity) ($TurnOver_{i,t-4}$), and listing standards ($LSI_{i,t-4}$). $\mathbf{Z}_{c,t-4}$ is the vector of macroeconomic control variables of country c, comprising real GDP growth ($\Delta GDP_{c.t-4}$), inflation ($\Delta CPI_{c.t-4}$), financial development in-

dex ($FD^{Index}_{c,t-4}$). All control variables are lagged by one year, in accordance with the assumption that the process from IPO initiation to successful completion typically spans between 6 to 18 months (PwC (2022) and DFIN (2024)). This lag structure is consistent with the typical decision-making timeline in IPO preparation. As a robustness sensitivity, the model is also re-estimated using alternative lag structures, including 1 and 2 quarters, to assess the sensitivity of the results to this assumption. $\epsilon_{i,t}$ is the error term. Standard errors in estimation are clustered at exchange-level.

F_i denotes exchange fixed effects, controlling for time-invariant characteristics specific to each exchange. $G_{r,t}$ represents region-time fixed effects, capturing unobserved time-varying factors common to all exchanges within a given region at a particular time.[3]

4 Empirical results

We estimate the empirical model outlined in the previous section to examine the drivers of IPO activity across stock exchanges over time. The model incorporates exchange fixed effects and a range of macroeconomic variables.

4.1 Baseline estimation results

Table 2 reports the baseline panel regression results for IPO activity, using two key dependent variables: IPO frequency and average IPO size. These models are estimated under varying specifications to test the robustness of explanatory variables across different control structures. Columns (1) to (4) use the IPO frequency as the dependent variable, while columns (5) to (8) use the average IPO size. All specifications include exchange fixed effects, with columns (4) and (8) additionally controlling for region-time fixed effects.

Market returns ($R_{i,t-4}$) are positively associated with the frequency of new IPO listings but show no significant relationship with IPO size. This indicates that bullish market conditions encourage more firms to go public, although they do not affect the amount of capital

[3]Regions are classified according to the World Bank's classification into seven categories: East Asia & Pacific, Europe & Central Asia, Latin America & Caribbean, Middle East & North Africa, North America, South Asia, and Sub-Saharan Africa.

Table 2: Estimation results for the baseline panel regression model

Dep. Variable:	$\frac{N_{i,t}^{IPO}}{N_{i,t-1}^{Listed}}$				$log(K_{i,t}^{IPO}/N_{i,t}^{IPO})$			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$\sigma_{i,t-4}$	-0.540***	-0.684***	-0.518***	-0.280	-10.17***	-11.18***	-8.351***	-1.683
	(0.172)	(0.156)	(0.165)	(0.265)	(2.009)	(2.054)	(2.384)	(2.783)
$R_{i,t-4}$	0.301**	0.189	0.178	0.0304	0.940	0.374	0.941	1.639
	(0.134)	(0.114)	(0.109)	(0.127)	(0.811)	(0.764)	(0.746)	(1.148)
$TurnOver_{i,t-4}$		0.367**	0.403*	0.411**		2.156	2.076	1.658**
		(0.175)	(0.210)	(0.192)		(1.551)	(1.318)	(0.629)
$\Delta GDP_{c,t-4}$			1.350***	1.001**			4.950**	3.009
			(0.331)	(0.433)			(2.042)	(2.461)
$\Delta CPI_{c,t-4}$			-0.335	2.666			-5.313	17.26
			(1.470)	(2.243)			(13.59)	(15.70)
$FD_{c,t-4}^{Index}$			1.647	-0.189			21.44***	2.620
			(1.064)	(1.330)			(8.066)	(6.845)
Fixed Effect:								
Exchange:	✓	✓	✓	✓	✓	✓	✓	✓
Region × Time:	×	×	×	✓	×	×	×	✓
Observations	4,776	4,495	3,718	3,685	4,653	4,348	3,584	3,550
R-squared	0.216	0.233	0.259	0.400	0.413	0.411	0.402	0.597

This table examines the effects of exchange-level market factors and country-level macroeconomic conditions on IPO activity. Columns (1) to (4) use the ratio of IPOs to listed firms as the dependent variable, while columns (5) to (8) use the log of capital raised per IPO. All specifications include exchange fixed effects, with columns (4) and (8) additionally controlling for region-time fixed effects. Regions are defined based on the World Bank classification (seven regions). All variables are winsorized at the 1st and 99th percentiles, and control variables are lagged by one year. Robust standard errors are reported in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

raised per offering. By contrast, volatility ($\sigma_{i,t-4}$) has a consistently negative and statistically significant impact on both IPO frequency and size, underscoring that heightened uncertainty discourages firms from launching IPOs and reduces the capital they are able to raise. Taken together, these findings highlight that while strong returns may facilitate IPO entry, elevated volatility signals market instability that constrains issuance activity.

Market liquidity, proxied by turnover velocity ($TurnOver_{i,t-4}$), consistently emerges as a strong and statistically significant determinant of IPO activity, in terms of frequency, though not average offering size. Its positive and robust effect on the number of new listings contrasts with its lack of significance for capital raised, suggesting that while liquid markets attract more firms to go public, they do not necessarily enable each firm to raise more funds. This underscores the critical role of market depth in lowering barriers to public market entry. Higher liquidity, reflected in active secondary trading, enhances pricing efficiency and

boosts investor participation, collectively improving listing conditions. This evidence aligns with concerns frequently raised by market participants, particularly regarding SME markets, where thin trading discourages investor engagement and increases capital costs. As noted by Demir (2024), insufficient liquidity is a primary barrier to SME listings, while a global PwC (2018) survey finds that companies rank liquidity as the most important factor when choosing a listing venue. Together, these insights suggest that enhancing market liquidity is essential not only for investor confidence but also as a critical lever for stimulating IPO activity, especially among smaller and growth-oriented firms. In short, liquid markets make public issuance more viable, accessible, and attractive.

The inclusion of macroeconomic conditions provides additional insight into the broader forces shaping IPO markets. Notably, GDP growth ($\Delta GDP_{c,t-4}$) has a positive and statistically significant impact on the frequency of IPOs and the average capital raised per IPO. This supports the view that robust economic expansion not only encourages more firms to access public markets but also creates a more favourable environment for raising capital. In growing economies, broader market optimism and increased demand for equity may enhance both participation and funding outcomes (Pagano et al. (1998); Lowry (2003); Yung et al. (2008)).

Inflation ($\Delta CPI_{c,t-4}$), although not statistically significant, exhibits a negative sign, suggesting that higher inflation may discourage IPO activity by increasing uncertainty and capital costs. The Financial Development Index ($FD^{Index}_{c,t-4}$) is positively associated with IPO size but does not significantly affect IPO frequency, indicating that more developed financial systems facilitate larger offerings without necessarily increasing the number of firms going public.

Including region-time fixed effects in the baseline specification, as reported in Table 2 (columns 4 and 8), leads to notable changes in the estimated drivers of IPO activity. Market liquidity remains a strong and statistically significant predictor of IPO frequency, and additionally becomes significant for average offering size, highlighting its expanded role in supporting both the decision to list and the capital raised. In contrast, the effects of market returns, market volatility, and financial development become statistically insignificant once region-time fixed effects are included, suggesting that their influence is tied to regional market cycles, structural shifts, or policy environments that vary across time and space and are

absorbed by these controls. GDP growth continues to show a positive and significant association with IPO frequency, but not with IPO size, indicating that economic expansions encourage listings without necessarily increasing the capital raised per offering.

Including region-time fixed effects allows us to control for global, regional and common temporal shocks (e.g., financial cycles, pandemic periods, monetary policy shifts) that may affect IPO activity across exchanges within the same region and time period. These effects also account for unobserved heterogeneity that is constant within a region at a given point in time (e.g., regional policy interventions, demand fluctuations, or macroeconomic conditions). While useful for isolating cross-sectional variation, region-time controls also absorb macro-financial dynamics such as investor sentiment or global liquidity waves that are themselves important determinants of IPO activity. For this reason, we report results both with and without region-time fixed effects: the former captures the full influence of macro-financial drivers under real-world conditions, including both their direct effects and any indirect influence operating through region-time dynamics, while the latter shows how these drivers behave when regional and temporal confounders are accounted for, enhancing the robustness and interpretability of our findings.

4.2 Expanded model with additional macro-financial controls

To more comprehensively reflect evolving domestic economic and financial conditions, an extended specification incorporates additional macro-financial variables (see Table 3). We augment the baseline model with additional macro-financial variables to ensure that our findings are not confounded by omitted macro-level influences. However, this enhancement entails a substantial reduction in sample size due to limited data availability, resulting in fewer than 1,200 observations and a contraction in exchange coverage to 19-27 markets (based on the specification and variables). This constraint inevitably weakens the robustness and generalizability of the baseline findings.

In the extended model, 10-year government bond yields ($R_{c,t-4}^{Bond,10Yrs}$) are significantly and negatively associated with IPO size, suggesting that higher long-term rates may dampen valuations and investor demand by reducing the present value of future earnings, reducing

Table 3: Estimation results for the extended model with more macroeconomic factors

Dep. Variable:	$\frac{N_{i,t}^{IPO}}{N_{i,t-1}^{Listed}}$				$log(K_{i,t}^{IPO}/N_{i,t}^{IPO})$			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$R_{c,t-4}^{Bond,10Yrs}$	0.0249	0.0219	-0.0235	0.0164	-0.665**	-0.938**	-0.299	-0.597*
	(0.0937)	(0.0810)	(0.0792)	(0.106)	(0.312)	(0.450)	(0.349)	(0.331)
$GPRC_{c,t-4}^{Index}$	-0.997***	-0.740*	-1.030***	-0.856**	0.362	1.259	-0.627	0.433
	(0.294)	(0.363)	(0.301)	(0.402)	(1.480)	(1.213)	(1.599)	(1.239)
$Uncertainty_{c,t-4}^{Index}$	-0.136	0.346	-0.450	-0.195	-2.752	-3.736	-4.561*	-5.593*
	(0.261)	(0.449)	(0.352)	(0.287)	(1.885)	(2.428)	(2.424)	(3.047)
$R_{c,t-4}^{Lending}$			0.00386	-0.0470**			0.136	0.0968
			(0.0104)	(0.0199)			(0.256)	(0.140)
Controls:	✓	✓	✓	✓	✓	✓	✓	✓
Fixed Effect:								
Exchange:	✓	✓	✓	✓	✓	✓	✓	✓
Region × Time:	×	✓	×	✓	×	✓	×	✓
Observations	1,154	1,042	853	758	1,125	1,014	833	738
R-squared	0.408	0.548	0.429	0.618	0.581	0.690	0.618	0.733

This table examines the effects of additional country-level macroeconomic factors on IPO activity. Columns (1) to (4) use the ratio of IPOs to listed firms as the dependent variable, while columns (5) to (8) use the log of capital raised per IPO. All specifications include exchange fixed effects, with even-numbered columns additionally controlling for region-time fixed effects. Regions are defined based on the World Bank classification (seven regions). All columns control for market volatility, market return, turnover velocity, GDP growth rate, inflation rate and financial development index. All variables are winsorized at the 1st and 99th percentiles, and control variables are lagged by one year. Robust standard errors are reported in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

proceeds raised. In contrast, bond yields and domestic lending rates ($R_{c,t-4}^{Lending}$) do not significantly affect IPO frequency. However, when region-time fixed effects are introduced, lending rates become statistically significant, hinting that domestic credit conditions may play a role in IPO decisions when regional monetary variation is accounted for. While these results should be interpreted with caution, they suggest that borrowing costs may influence IPO dynamics more visibly in certain regional or monetary contexts.

The Geopolitical Risk Index ($GPRC_{c,t-4}^{Index}$) consistently shows a negative and statistically significant effect on IPO frequency, while having no discernible impact on average IPO proceeds. This indicates that heightened geopolitical tensions discourage firms from entering public markets, possibly due to elevated uncertainty and risk aversion, though they do not affect the scale of offerings for firms that proceed. It is plausible that firms and underwriters delay listing plans amid geopolitical disruptions, awaiting more stable conditions. The Uncertainty Index ($Uncertainty_{c,t-4}^{Index}$) exhibits a negative association with both IPO frequency and

IPO size, but only becomes statistically significant for IPO size. This effect emerges specifically in the specification that includes domestic lending rates, which reduces the sample period due to data availability. The results imply that greater macroeconomic uncertainty may depress firm valuations or reduce investor demand, thereby limiting proceeds for firms that do go public. However, this effect is not statistically robust as it appears only under specific model conditions, highlighting the conditional and specification-sensitive nature of uncertainty's role in IPO markets.

In summary, the analysis shows that market liquidity and GDP growth consistently drive IPO frequency across exchanges, while the financial development supports larger offering sizes in baseline models. However, the influence of financial development weakens and loses statistical significance when region-time fixed effects are introduced, suggesting that its role is mediated by broader regional and temporal dynamics. The inclusion of additional macro-financial controls, such as long-term interest rates, geopolitical risk, and economic uncertainty, reveals that higher bond yields and greater uncertainty are associated with smaller IPO proceeds, while geopolitical tensions suppress IPO frequency. The effect of market returns and volatility also weaken once regional and temporal dynamics are controlled for, indicating their sensitivity to cyclical or sentiment-driven fluctuations. Overall, market liquidity and GDP growth emerge as the most robust and reliable predictors of IPO frequency, while financial development and macro-financial stability shape the capital raised per offering.

4.3 Advanced vs. emerging and developing economies

Given the visibly different IPO trends between advanced and emerging and developing economies over time, it is informative to examine the determinants of IPO activity separately for each group. To explore these differences, we estimate the same model for advanced economies (AEs) and emerging and developing economies (EMDEs), following the IMF classification.[4] Table 4 presents the results for both specifications with and without region-time fixed effects.

While some common patterns persist, there are notable asymmetries in the drivers of IPO

[4]The economy level classification follows the International Monetary Fund (IMF) standards, last updated: April 2023. For more details, see: here.

Table 4: Estimation results for the baseline panel regression model, AEs vs EMDEs

Dep. Variable:	$\frac{N^{IPO}_{i,t}}{N^{Listed}_{i,t-1}}$		$log(K^{IPO}_{i,t}/N^{IPO}_{i,t})$		$\frac{N^{IPO}_{i,t}}{N^{Listed}_{i,t-1}}$		$log(K^{IPO}_{i,t}/N^{IPO}_{i,t})$	
IMF Economy Level:	Advanced	Emerging	Advanced	Emerging	Advanced	Emerging	Advanced	Emerging
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$\sigma_{i,t-4}$	-0.653***	-0.193	-11.77***	-3.127	0.0669	-0.639	-3.285	-0.573
	(0.227)	(0.267)	(3.193)	(2.681)	(0.315)	(0.476)	(4.381)	(2.992)
$R_{i,t-4}$	0.0425	0.0974	-0.189	0.657	-0.0708	-0.0948	0.825	2.176
	(0.196)	(0.134)	(1.327)	(0.889)	(0.150)	(0.172)	(1.881)	(1.650)
$TurnOver_{i,t-4}$	-0.107	0.631***	-0.923	3.367***	-0.0709	0.747***	0.215	2.130***
	(0.139)	(0.222)	(1.396)	(1.212)	(0.190)	(0.257)	(1.826)	(0.579)
$\Delta GDP_{c,t-4}$	1.645**	1.163***	5.900*	3.904	1.061	1.074***	1.534	7.063*
	(0.720)	(0.295)	(3.223)	(2.623)	(1.278)	(0.310)	(5.437)	(3.977)
$\Delta CPI_{c,t-4}$	-0.470	-0.717	14.35	-16.29	0.479	4.826	4.512	21.30
	(3.613)	(1.189)	(20.55)	(14.99)	(4.899)	(2.873)	(19.62)	(23.70)
$FD^{Index}_{c,t-4}$	0.842	2.314	9.864	30.66***	0.261	1.037	3.671	11.53
	(0.862)	(1.588)	(9.750)	(10.40)	(1.322)	(2.053)	(10.34)	(9.711)
Fixed Effect:								
Exchange:	✓	✓	✓	✓	✓	✓	✓	✓
Region × Time:	×	×	×	×	✓	✓	✓	✓
Observations	1,616	2,102	1,560	2,024	1,598	2,073	1,541	1,992
R-squared	0.199	0.319	0.379	0.437	0.426	0.516	0.600	0.653

This table compares the effects of exchange-level market factors and country-level macroeconomic conditions on IPO activity in advanced and emerging markets. Columns (1) to (4) exclude region-time fixed effect while column (5) to (8) include that. Odd-numbered columns present results for advanced markets, and even-numbered columns for emerging markets. All specifications include exchange fixed effects. All variables are winsorized at the 1st and 99th percentiles, and control variables are lagged by one year. Robust standard errors are reported in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

activity between the two groups. Market returns are not statistically significant for either IPO frequency or IPO size within AEs or EMDEs, in contrast to the full sample, where returns are positively associated with IPO frequency. This discrepancy suggests that the observed return effect may be driven primarily by cross-sectional variation across exchanges rather than within-group dynamics. When the sample is split, the reduced heterogeneity and smaller sample sizes likely diminish statistical power, attenuating the estimated relationship between returns and IPO activity. In short, while strong equity performance may encourage listings in broader global comparisons, its predictive power weakens when isolating within-region dynamics.

Market volatility exerts a strong and negative effect on IPO frequency and size in AEs, reinforcing its role as a deterrent to listing under conditions of market uncertainty. However, this effect vanishes once region-time fixed effects are included, indicating that volatility's influence in AEs is closely tied to broader regional or cyclical dynamics. In EMDEs, volatility

is statistically insignificant across all specifications, suggesting a weaker or more diffuse relationship with IPO activity in these contexts. Market liquidity is a robust and significant driver of both IPO frequency and average offering size in EMDEs across all specifications, reflecting the importance of secondary market depth in attracting listings and enabling firms to raise capital in less mature markets. In contrast, liquidity is not statistically significant for IPO activity in AEs, likely reflecting the saturation and stability of liquidity in more developed markets where its marginal effect is less pronounced.

GDP growth is positively associated with IPO frequency in both AEs and EMDEs, and with IPO size in AEs, though only in the specification without region-time fixed effects. When region-time fixed effects are included, GDP growth becomes statistically significant for IPO size in EMDEs but loses significance for both IPO activity measures in AEs. These shifts may imply that economic expansion supports IPO activity in both groups, but the form and robustness of this support differ depending on regional dynamics and stage of market development.

Financial development significantly associated with IPO size in EMDEs in the baseline model specification (mirroring the full-sample results). This relationship, however, disappears once regional shocks are control for, suggesting that its influence is partly driven by broader macro-financial trends. In emerging markets, where access to capital and institutional capacity are still evolving, improvements in financial development, such as deeper markets and more effective intermediation, can meaningfully enhance firms' ability to raise funds through public offerings. These findings reflect broader structural asymmetries: while advanced economies already exhibit high and relatively uniform levels of financial development, limiting the marginal impact of further improvements, emerging markets remain more heterogeneous, making even incremental gains in financial development notably influential for IPO outcomes.

In summary, IPO activity in EMDEs is more vulnerable and responsive to improvements in market liquidity, financial development, and economic growth, especially in terms of the capital raised. In contrast, AEs are more sensitive to market volatility and economic growth in supporting IPO frequency, though these effects diminish once shared regional conditions are controlled for. These differences reflect deeper institutional and structural asymmetries,

reinforcing the importance of context-specific policy approaches to developing IPO markets.

4.4 Listing requirements and IPO activities

In this section, we examine the impact of listing requirements on IPO activities by introducing a measure, the Listing Stringency Index (LSI), to capture the regulatory framework of various exchanges. The LSI is constructed using data derived from a comprehensive survey distributed to a broad range of stock exchanges globally, with responses received from 40 exchanges. The survey covered an extensive range of listing criteria, including financial thresholds, shareholder voting rights, IPO-related costs, share pricing and distribution conditions, corporate governance standards, disclosure obligations, operational requirements, regulatory approval processes, and tax incentives or obligations.[5] Table 5 presents the summary statistics of aggregate LSI and subcomponents.

Table 5: Summary Statistics of IPO Survey Results

Criterion	Mean	Std. Dev.	Median	Min	Max	N
LSI	58.67	15.19	59.26	33.33	88.89	40
Financial	31.25	26.20	33.33	0	100	40
Voting Rights	25.00	43.85	0	0	100	40
IPO Costs	92.50	26.67	100	0.00	100	40
Share Price	60.00	29.43	66.67	0	100	40
Corporate Governance	64.38	41.56	87.50	0	100	40
Disclosure	81.25	19.31	83.33	33.33	100	40
Operational	58.75	35.60	50.00	0	100	40
Regulatory Approvals	65.83	28.73	66.67	0	100	40
Tax Incentives	35.90	48.60	0	0	100	39

This table presents the summary statistics of the IPO survey responses. The Listing Stringency Index (LSI) represents the average score across nine criteria: financial requirements, voting rights, IPO costs, share price and distribution, corporate governance, disclosure obligations, operational requirements, regulatory approvals, and tax incentives or obligations. For each criterion, exchanges provided a binary response indicating whether the criterion is applied. Data source: WFE Survey.

For each exchange, the LSI is calculated as the percentage of affirmative responses across these criteria. The LSI ranges from 0 to 100%, where 0 indicates the complete absence of formal listing requirements, and 100% signifies the presence of all queried requirements. A higher LSI suggests that an exchange enforces a broader set of listing requirements, thereby serving

[5]See the full list requirements and their corresponding survey questions in the Appendix Table A.2.

as a proxy for the overall comprehensiveness of its regulatory framework. It is important to emphasize that the LSI captures the mere presence of these requirements rather than their specific threshold levels or qualitative stringency. Consequently, the index reflects the scope or breadth of regulatory oversight, not its depth or intensity.

The aggregate LSI has a mean of 58.67% and ranges from 33.33% to 88.89%, indicating substantial variation in the breadth of listing requirements across exchanges. Among the subcategories, IPO Costs (mean = 92.50%) and Disclosure Requirements (mean = 81.25%) exhibit the highest average presence, suggesting these criteria are widely adopted. Notably, Disclosure Requirements stands out with a minimum value of 33.33%, whereas all other subcategories have a minimum of 0, suggesting a baseline level of disclosure regulation is present in all responding exchanges. In contrast, Voting Rights (mean = 25.00%) and Financial Requirements (mean = 31.25%) are less commonly enforced.

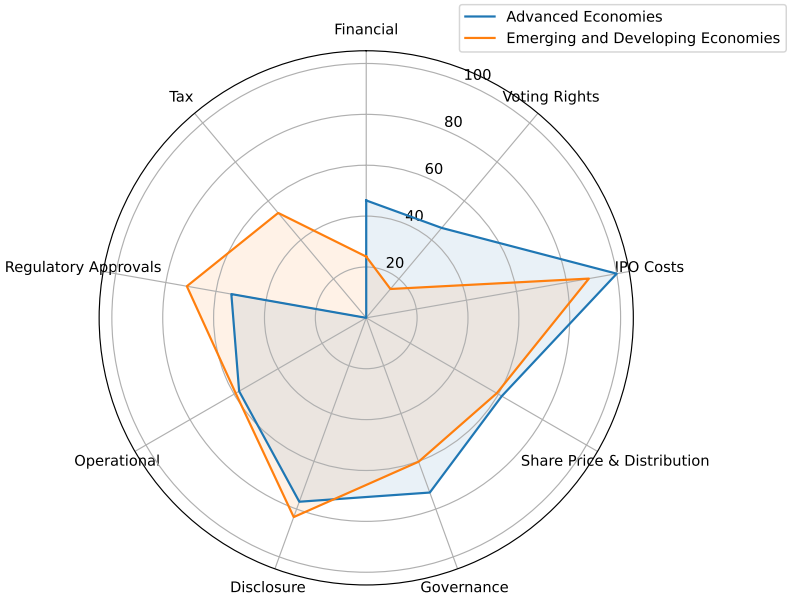
When we look at the variation in LSI scores by economy level further insights emerge on how regulatory priorities diverge across jurisdictions. Figure 2 illustrates average LSI scores across nine regulatory dimensions, offering a comparative view by economy level. Disclosure requirements and IPO-related costs are the most universally applied criteria across all classifications, underscoring their central role in transparency and market readiness. In contrast, Financial Requirements and shareholder Voting Rights are among the least commonly mandated, particularly in EMDEs, suggesting a deliberate policy approach aimed at maximizing issuer accessibility and easing market entry for smaller or younger firms.

These observed shifts in listing requirements over time and across regions raise important questions about the underlying drivers of listing behaviour. We empirically investigate how listing requirements shape IPO dynamics across exchanges and over time.

Our empirical analysis indicates that the aggregate LSI, which captures the number of distinct listing requirements adopted by an exchange, is positively and significantly associated with certain aspects of IPO activity (Table 6).[6] In particular, a higher LSI is linked to larger IPOs in terms of average capital raised per IPO, suggesting that firms listing on exchanges

[6]While this association is statistically significant in the cross-sectional regression, it does not imply a causal relationship. Additional evidence from within-exchange changes, presented in Table 7, provides stronger evidence on the effects of changes in listing requirements.

Figure 2: Average LSI score across 9 IPO dimensions



This figure compares average LSI scores for 9 IPO listing requirements across exchanges classified by the IMF economy level. Data source: WFE Survey.

with a broader array of formal requirements may benefit from greater investor confidence, possibly due to perceptions of higher listing quality or because only larger firms can meet these standards. While we also observe a positive relationship between the LSI and the ratio of new IPOs to the total number of listed firms, this association is not statistically significant when region fixed effect is included. These results imply that although the adoption of more listing requirements may not directly increase the frequency of IPOs, it can serve as a credible signal of market quality, attracting larger and potentially more established firms to the public market.

In addition to the static measure of the LSI, we also investigate whether changes in listing requirements over the past 15 years are associated with shifts in IPO activity (Table 7). Participated exchanges that reported modifications to their IPO listing rules were asked to provide

Table 6: Estimation results for the aggregate LSI

Dep. Variable:	$\frac{N_{i,t}^{IPO}}{N_{i,t-1}^{Listed}}$		$log(K_{i,t}^{IPO}/N_{i,t}^{IPO})$	
	(1)	(2)	(3)	(4)
LSI_i	0.961**	0.582	19.33***	7.908**
	(0.359)	(0.484)	(3.082)	(3.532)
Controls:	✓	✓	✓	✓
Fixed Effect:				
Exchange:	×	×	×	×
Region × Time:	×	✓	×	✓
Observations	2,190	2,022	2,122	1,955
R-squared	0.068	0.302	0.264	0.609

This table examines the effects of the Listing Stringency Index (LSI) on IPO activity. Columns (1) and (2) use the ratio of IPOs to listed firms as the dependent variable, while columns (3) and (4) use the log of capital raised per IPO. All specifications control for exchange-level market factors, including market volatility, market return, and turnover velocity. Columns (2) and (4) additionally include region-time fixed effects, with regions defined according to the World Bank classification (seven regions). Exchange fixed effect is excluded because LSI is time invariant for each exchange. All variables are winsorized at the 1st and 99th percentiles, and control variables are lagged by one year. Robust standard errors are reported in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

detailed descriptions of the specific changes implemented. Based on these narratives, we classified the changes as either more stringent or more relaxed and introduced corresponding dummy variables into the regression framework to assess how regulatory adjustments within each exchange influence IPO activity. The results show that relaxing listing requirements has a statistically significant and positive impact on IPO activity, both in terms of the number of listings and the capital raised. In contrast, making listing requirements more stringent has no significant effect on the number of IPOs, though there is a positive association with IPO size. These findings suggest that loosening the rules lowers barriers to entry and encourages more firms to go public, whereas tightening them does not discourage IPO activity but also does not stimulate it. In short, loosening the rules invites firms into the public markets, but tightening them doesn't scare many away, yet doesn't boost IPO activity either.

Comparing the results in Tables 6 and 7 yields important insights into how listing requirements relate to IPO activity. Table 6 presents a cross-sectional analysis, showing that exchanges with stricter listing standards tend to exhibit higher IPO activity, particularly in terms of capital raised. However, this association may reflect both signalling effects (e.g.,

Table 7: Estimation result for the changes in LSI

Dep. Variable:	$\frac{N_{i,t}^{IPO}}{N_{i,t-1}^{Listed}}$		$log(K_{i,t}^{IPO}/N_{i,t}^{IPO})$	
	(1)	(2)	(3)	(4)
$d_{i,t-4}^{StringentReg}$	0.0482	0.163	0.447	0.442
	(0.0946)	(0.123)	(0.702)	(0.938)
$d_{i,t-4}^{RelaxedReg}$	0.753***	0.615***	4.082***	1.465**
	(0.216)	(0.203)	(1.176)	(0.616)
Controls:	✓	✓	✓	✓
Fixed Effect:				
Exchange:	✓	✓	✓	✓
Region × Time:	×	✓	×	✓
Observations	1,602	1,509	1,556	1,456
R-squared	0.280	0.551	0.457	0.755

This table examines the effects of regulatory changes on IPO activity using speciciation $Y_{i,t} = \beta_1 d_{i,t-4}^{StringentReg} + \beta_2 d_{i,t-4}^{RelaxedReg} + \Gamma \mathbf{X}_{i,t-4} + \Lambda \mathbf{Z}_{c,t-4} + F_i + G_{r,t} + \epsilon_{i,t}$. Columns (1) and (2) use the ratio of IPOs to listed firms as the dependent variable, while columns (3) and (4) use the log of capital raised per IPO. All specifications include exchange fixed effects and control for exchange-level market factors, including market volatility, market return, and turnover velocity. Columns (2) and (4) additionally include region-time fixed effects, with regions defined according to the World Bank classification (seven regions). All variables are winsorized at the 1st and 99th percentiles, and control variables are lagged by one year. Robust standard errors are reported in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

investor confidence in higher-regulation environments) and selection mechanisms (i.e., only larger firms can meet more stringent criteria), rather than a direct causal effect of regulation on IPO size. Since this specification does not include exchange fixed effects, it does not account for time-invariant characteristics that differ across exchanges. In contrast, Table 7 incorporates exchange fixed effects, enabling a within-exchange analysis of how changes in listing requirements over time influence IPO activity. These results show that relaxing listing standards is associated with an increase in both the number and size of IPOs, suggesting a more direct link between rule changes and firm listing behaviours.[7]

Taken together, these findings highlight the nuanced role that listing frameworks play in shaping IPO markets. While the overall breadth of requirements across exchanges may serve as a quality signal that influences the size and composition of IPOs, changes in regulatory stance within individual exchanges, particularly towards relaxation, appear to have a more

[7]It is worth emphasizing that the specification with exchange fixed effects captures the impact of changes in listing requirements within each exchange over time, by controlling for any time-invariant exchange-specific characteristics.

direct effect on firms' decisions to list. Future research would benefit from incorporating data on the specific thresholds or levels of listing requirements in order to more precisely evaluate their impact on IPO activity.

4.5 Covid recovery period and IPO surge

An important empirical pattern visible in our data is the sharp increase in IPO activity between 2020Q3 and 2022Q1 (see Figure 1). This period stands out in terms of both the number and scale of listings across exchanges, following a brief contraction during the initial COVID-19 outbreak in early 2020. While our empirical model does not isolate the precise drivers of this increase, the timing and magnitude suggest it may reflect a combination of temporary and exceptional conditions rather than a structural shift.

This surge coincided with the broader reopening of financial markets after initial pandemic disruptions. During this phase, many economies experienced supportive monetary and fiscal policy environments, including historically low interest rates, large-scale liquidity injections, and government stimulus programs. These conditions may have contributed to improved financing conditions and investor sentiment, encouraging firms to proceed with delayed or planned IPOs. Additionally, the increased visibility of certain sectors (e.g., technology, healthcare) and elevated equity valuations may have made public markets more attractive, particularly for growth-oriented companies.

Retail investor participation also grew during this time, facilitated by digital trading platforms and a broader search for returns in a low-yield environment (see Gurrola Perez et al. (2022)). These factors, although not directly observable in our data, may have contributed to the distinctive dynamics of this period.

To account for this, we include a time dummy variable for the 2020Q3–2022Q1 window in selected robustness checks. As shown in Table 8, the dummy captures a statistically significant shift in IPO activity, suggesting that this period represents a temporary deviation from typical IPO behavior patterns. However, we do not attribute this effect to any single factor. Rather, we treat it as a period influenced by a confluence of overlapping global and domestic developments that are not fully reflected in standard macro or market controls.

Table 8: Impact of Covid Recovery

Dep. Variable:	$\frac{N_{i,t}^{IPO}}{N_{i,t-1}^{Listed}}$		$log(K_{i,t}^{IPO}/N_{i,t}^{IPO})$	
	(1)	(2)	(3)	(4)
d_t^{Covid}	0.266***	0.285***	1.999***	1.662**
	(0.0884)	(0.0987)	(0.555)	(0.647)
Controls:				
Exchange-Level:	✓	✓	✓	✓
Country-Level:	×	✓	×	✓
Fixed Effect:				
Exchange:	✓	✓	✓	✓
Region × Time:	×	×	×	×
Observations	4,495	3,718	4,348	3,584
R-squared	0.240	0.266	0.415	0.405

This table examines the effects of COVID-19 recovery on IPO activity. Columns (1) and (2) use the ratio of IPOs to listed firms as the dependent variable, while columns (3) and (4) use the log of capital raised per IPO. The main explanatory variable is a COVID-19 recovery indicator, which equals 1 for the period between 2020Q3 and 2022Q1. All specifications include exchange fixed effects and control for exchange-level market factors, including market volatility, market return, and turnover velocity. Columns (2) and (4) additionally control for country-level factors. All variables are winsorized at the 1st and 99th percentiles, and control variables are lagged by one year. Robust standard errors are reported in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

In summary, the post-COVID IPO surge appears to reflect an exceptional but temporary phase in global capital markets, shaped by policy responses, investor dynamics, and delayed issuance. While the post-COVID IPO surge is a temporary deviation, it should be viewed as distinct from long-term IPO trends, which are more closely linked to fundamental factors like market liquidity and economic growth.

5 Robustness Checks

To validate the reliability of our main findings, we conduct a series of robustness checks. To ensure that our results are not driven by the choice of IPO activity measure, we test alternative measures for IPO activity. Specifically, we include a binary indicator for IPO occurrence to capture the extensive margin of IPO activity, that is, whether or not any IPOs took place in each quarter. This is particularly relevant given the high heterogeneity in IPO counts across exchanges and the frequent occurrence of zero listings in certain quarters as shown in summary statistics in Table 1. The binary approach helps mitigate distortions caused by excess

zeros and ensures that the model can meaningfully distinguish between active and inactive IPO periods. We also use the log of total capital raised through new listings to measure the intensive margin, focusing on the overall scale of IPO financing. These alternative specifications help assess the robustness of our findings across both dimensions of IPO activity and yield results consistent with our baseline estimates. These alternative specifications yield results consistent with our baseline findings, reinforcing the robustness of the relationships identified. The estimation results using an alternative dependent variable specification are presented in Table B.3 in Appendix B.

We also estimate the model with a lagged dependent variable to capture the temporal persistence and gradual adjustment in IPO activity.[8] The significant and positive coefficient on the lagged term indicates that markets with more IPOs in the prior period are more likely to see continued issuance, consistent with momentum effects documented in the literature (e.g., Lowry (2003)). This dynamic may reflect a gradual adjustment process in firms' timing to go public, where information spillovers, clustering of underwriting expertise, and ongoing investor attention create momentum in issuance over successive quarters. This approach also helps account for unobserved factors such as investor sentiment and regulatory inertia, enhancing model explanatory power. We find that market liquidity and GDP growth remain significant drivers of IPO frequency even after accounting for persistence, while the effect of market returns becomes less robust. For IPO size, financial development continues to be a significant determinant. The estimation results of specifications that control for lagged dependent variables are presented in Table B.4 in Appendix B.

We further test the sensitivity of our results to the lag structure of the independent variables. The use of a 4-quarter lag in the baseline model reflects the typical decision lag in IPO preparation, as the process from initial planning to public offering often spans between 6-18 months. [9] However, to confirm that our conclusions are not dependent on this specific temporal assumption, we re-estimate the model using alternative lag lengths (e.g., 1 and 2 quarters).

[8] By comparing models with and without the lagged dependent variable, we can distinguish between immediate and dynamic effects. The lagged specification captures gradual adjustments and inertia in IPO decisions, while the contemporaneous model isolates short-run responsiveness to current conditions. While fixed effects control for time-invariant exchange characteristics, the lagged dependent variable captures short-run path dependence.

[9] See PwC (2022) and DFIN (2024) for IPO roadmap discussion.

The core results remain stable across these variations, suggesting that our main results are not sensitive to the chosen lag. The estimation results of specifications that control for alternative lags of control variables are presented in Tables B.6 and B.5 in in Appendix B.

These series of checks reinforce the robustness of the baseline model and suggests that our core explanatory variables, especially liquidity and macro-financial fundamentals, remain the primary drivers of IPO activity.

6 Policy implications

The findings of this paper offer several key implications for policymakers, regulators, and market operators aiming to foster deeper and more accessible public equity markets.

First, the consistent influence of market liquidity, especially in EMDEs, highlights the value of strengthening secondary market infrastructure, enhancing transparency, and supporting investor participation. Liquid markets not only reduce transaction costs but also foster the confidence needed to stimulate IPO activity, particularly for smaller and growth-oriented firms.

Second, the role of GDP growth as a primary driver of IPO frequency suggests that stable and pro-growth macroeconomic policies are foundational for sustained listing activity. Policymakers should view capital market development as closely tied to broader economic management.

Third, the introduction and application of the Listing Stringency Index (LSI) provides a new, actionable tool for benchmarking regulatory frameworks across jurisdictions. The LSI analysis indicates that more extensive listing requirements are associated with larger IPO sizes, likely due to a combination of signalling stronger firm quality and investor protection, and a selection effect whereby only larger firms can meet higher thresholds, but do not necessarily increase IPO frequency. When we examine the direction of changes within exchanges over the past five years, relaxing listing requirements has been associated with an increase in IPO participation and capital raised per IPO. These findings suggest that easing access can enhance both scale and inclusion in IPO markets, though maintaining investor confidence may

still require careful balancing of flexibility with transparency and governance safeguards.

Moreover, the LSI enables self-assessment and policy benchmarking, offering regulators and exchanges a structured framework for evaluating the impact of past reforms and identifying areas for improvement. It promotes cross-market learning and transparency without prescribing uniform standards, encouraging informed dialogue about how regulatory thresholds influence capital access, market depth, and issuer diversity.

Finally, the observed divergence between advanced and emerging and developing economies in responsiveness to market and institutional conditions underscores the need for tailored policy frameworks. A one-size-fits-all approach is unlikely to be effective; instead, IPO market reforms should account for domestic market maturity, institutional capacity, and investor profiles.

7 Conclusion

This paper examines the factors that shape IPO activity across 79 global stock exchanges from 2002 to 2024, using a rich panel dataset and a range of exchange- and country-level variables. By distinguishing between advanced economies (AEs) and emerging and developing economies (EMDEs), the analysis offers a broad view of IPO activities across diverse financial markets.

The findings confirm that market liquidity and GDP growth are the most consistent and robust predictors of IPO frequency across models and market contexts. In contrast, market returns, volatility, and financial development show less stable effects, with their significance weakening when regional and temporal dynamics are controlled for. Notably, liquidity and financial development are especially important for EMDEs, where even incremental improvements in market infrastructure can meaningfully influence firms' ability to go public and raise capital. In AEs, IPO activity is more closely tied to volatility and macroeconomic conditions, though these relationships diminish when controlling for regional shocks.

The analysis also highlights structural asymmetries: EMDEs remain more sensitive to improvements in financial access and institutional development, while AEs benefit from base-

line financial maturity. These differences support the case for tailored policy approaches, especially in facilitating SME access to capital markets in developing regions.

A unique contribution of the paper is the introduction of the Listing Stringency Index (LSI), which shows that stricter listing standards are associated with larger IPO sizes, likely reflecting both quality signalling and a selection effect, rather than a direct causal impact of regulation on IPO size, but do not necessarily increase IPO frequency. However, when examining within-exchange reforms, we find that relaxing listing standards increases both the number of IPOs and the average capital raised, highlighting the potential for well-designed regulatory changes to broaden participation and support larger offerings.

These findings suggest that reducing barriers can broaden market access and deepen capital formation, though sustaining these gains may depend on maintaining investor protections and market confidence.

The study also captures the temporary IPO surge during the COVID-19 period, reflecting how extraordinary policy and market conditions can temporarily boost IPO activity.

Overall, the results emphasize the importance of market liquidity, economic growth, institutional development, and regulatory frameworks in shaping IPO activity globally. These insights are important for policymakers, exchanges, and market participants aiming to expand capital access, enhance listing environments, and strengthen the depth and resilience of public equity markets.

Future research could build on our analysis by exploring additional factors affecting IPO activity beyond those considered in this study. A key area for further investigation is the growing role of private equity, as the rise of private markets may alter firms' incentives to go public, potentially reducing the frequency of IPOs and changing the overall IPO landscape. Additionally, a more focused examination of how firms' valuations impact their decisions to list could provide deeper insights. As firms' valuations play a critical role in IPO pricing and success, understanding the factors that drive these valuations will be crucial in explaining the dynamics of public offerings. By broadening the analysis to include these dimensions, future research could offer a more complete understanding of the evolving landscape of IPO markets.

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A Appendix A:

Data coverage and LSI survey details

Table A.1: List of exchanges

Exchange Name	Included in Regression Sample	Participated in LSI Survey
Abu Dhabi Securities Exchange	Yes	Yes
Amman Stock Exchange	Yes	Yes
Astana International Exchange	No	Yes
ASX Australian Securities Exchange	Yes	Yes
Athens Stock Exchange	Yes	No
B3 - Brasil Bolsa Balcão	Yes	Yes
Belarusian Currency and Stock Exchange	Yes	No
Bermuda Stock Exchange	Yes	No
BME Spanish Exchanges	Yes	No
Boerse Stuttgart	Yes	No
Bolsa de Comercio de Santiago	Yes	Yes
Bolsa de Valores de Colombia	Yes	Yes
Bolsa de Valores de Lima	Yes	Yes

Continued on next page

Exchange Name	Included in Regression Sample	Participated in LSI Survey
Bolsa Latinoamericana de Valores (Latinex)	Yes	Yes
Bolsa Mexicana de Valores	Yes	Yes
Bolsa Nacional de Valores	Yes	No
Bolsa y Mercados Argentinos	Yes	No
Borsa Istanbul	Yes	Yes
Botswana Stock Exchange	No	Yes
Bourse de Casablanca	Yes	Yes
Bourse de Casablanca	No	Yes
BRVM	Yes	Yes
BSE India Limited	Yes	No
Bucharest Stock Exchange	Yes	No
Budapest Stock Exchange	Yes	No
Bulgarian Stock Exchange	Yes	No
Bursa Malaysia	Yes	Yes
Canadian Securities Exchange	No	Yes
Cboe Canada	No	Yes
Chittagong Stock Exchange	No	Yes
Colombo Stock Exchange	Yes	No
Cyprus Stock Exchange	Yes	Yes
Deutsche Boerse AG	Yes	Yes

Continued on next page

Exchange Name	Included in Regression Sample	Participated in LSI Survey
Dhaka Stock Exchange	Yes	No
Dubai Financial Market	Yes	No
Euronext	Yes	No
Euronext Amsterdam	Yes	No
Euronext Brussels	Yes	No
Euronext Dublin	Yes	No
Euronext Lisbon	Yes	No
Euronext Oslo	Yes	No
Euronext Paris	Yes	No
Ghana Stock Exchange	No	Yes
Hochiminh Stock Exchange	Yes	No
Hong Kong Exchanges and Clearing	Yes	Yes
Indonesia Stock Exchange	Yes	Yes
Jamaica Stock Exchange	Yes	No
Japan Exchange Group	Yes	Yes
Japan Exchange Group Tokyo	Yes	No
Johannesburg Stock Exchange	Yes	No
Kazakhstan Stock Exchange	Yes	Yes
Korea Exchange	Yes	Yes

Continued on next page

Exchange Name	Included in Regression Sample	Participated in LSI Survey
Ljubljana Stock Exchange	Yes	No
LSE Group	Yes	No
Luxembourg Stock Exchange	Yes	No
Malta Stock Exchange	Yes	Yes
MERJ Exchange Limited	Yes	No
Moscow Exchange	Yes	No
Muscat Stock Exchange	Yes	No
Namibian Stock Exchange	Yes	No
Nasdaq - US	Yes	No
Nasdaq Nordic and Baltics	Yes	No
National Stock Exchange of India	Yes	Yes
NYSE	Yes	No
NZX Limited	Yes	No
Palestine Exchange	Yes	Yes
Philippine Stock Exchange	Yes	Yes
Prague Stock Exchange	Yes	No
Qatar Stock Exchange	Yes	No
Saudi Exchange (Tadawul)	Yes	Yes
Shanghai Stock Exchange	Yes	No
Shenzhen Stock Exchange	Yes	No
Singapore Exchange	Yes	No

Continued on next page

Exchange Name	Included in Regression Sample	Participated in LSI Survey
SIX Swiss Exchange	Yes	Yes
Stock Exchange of Mauritius	Yes	Yes
Taipei Exchange	Yes	Yes
Taiwan Stock Exchange	Yes	Yes
Tehran Stock Exchange	Yes	No
Tel-Aviv Stock Exchange	Yes	No
The Egyptian Exchange	Yes	Yes
The Stock Exchange of Thailand	Yes	Yes
TMX Group	Yes	Yes
Tunis Stock Exchange	Yes	Yes
Vienna Stock Exchange	Yes	No
Warsaw Stock Exchange	Yes	No
Zagreb Stock Exchange	Yes	No

Table A.2: Survey questions

IPO criteria	Requirement	Main Question
Financial Requirements	Minimum Revenue Requirements	Is there a minimum revenue requirement for listing on the mainboard?
	Minimum Net Income Requirements	Is there a minimum net income requirement for listing on the mainboard?
	Minimum Market Capitalization Requirements	Is there a minimum market capitalization requirement for listing on the mainboard?
	Cash Flow Requirements	Are there specific cash flow requirements for listing on the mainboard?
	Minimum Profitability Requirements	Is there a minimum profitability requirement for listing on the mainboard?
	Minimum Working Capital	Is there a minimum working capital requirement for listing on the mainboard?
Voting Rights	Voting Rights	Are there specific voting rights requirements that affect the control of the firm on the mainboard?
IPO Costs	IPO Costs	Is there any typical costs associated with an IPO charged by your exchange?
Share Price and Distribution	Minimum Share Price	Is there a minimum share price requirement for listing on the mainboard?
	Minimum Free Float Requirements	Is there a minimum free float requirement for listing on the mainboard?
	Minimum Number of Shareholders	Is there a minimum number of shareholders required for listing on the mainboard?
Corporate Governance	Board of Directors	Are there specific requirements regarding the structure of the Board of Directors for listing on the mainboard?
	Independent Directors	Are there specific requirements for independent directors on the mainboard?
	Audit Committee	Are there specific requirements for the Audit Committee on the mainboard?
	Corporate Governance Practices	Are there specific corporate governance practices required for listing on the mainboard?
Disclosure Requirements	Non-Financial Reports	Are non-financial reports required for listing on the mainboard?
	Quarterly/Monthly Financial Reports	Are quarterly or monthly financial reports required for listing on the mainboard?
	Material Information Disclosure	Is there a protocol for disclosing material information affecting the company on the mainboard?
	Significant Changes or Events	Are there requirements for notifying when ownership thresholds are crossed on the mainboard?
	Disclosure of Transactions by Management	Are there requirements for disclosing transactions made by management on the mainboard?
	Disclosure of ESG Information	Are companies listed on your exchange required to disclose ESG information?
Operational Requirements	Business Continuity and Operational Stability	Are there requirements for business continuity and operational stability for listing on the mainboard?
	Legal Compliance	Are there specific legal compliance requirements for listing on the mainboard?
Regulatory Approvals	Prospectus Approval	Is a prospectus approval by a regulatory body required for listing on the mainboard?
	Securities Law Compliance	Are there specific securities laws that must be complied with for listing on the mainboard?
	Regulatory Visa/Authorization	Is a regulatory visa or special authorization required for listing on your exchange?
Tax Incentives or Obligations	Tax Incentives or Obligations	Are there any tax incentives or obligations that affect the decision to go public on the mainboard?

This table presents the survey questions related to listing requirements in the survey. The first column outlines nine key IPO criteria. Each criterion may encompass multiple specific requirements, listed in the second column, with corresponding survey questions shown in the third column.

B Appendix B:

Robustness checks

Table B.3: Robustness check for alternative dependent variables

Dep. Variable:	$d_{i,t}^{IPO}$				$log(K_{i,t}^{IPO})$			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$\sigma_{i,t-4}$	-0.571***	-0.629***	-0.414***	0.00340	-11.33***	-12.51***	-9.108***	-1.344
	(0.118)	(0.115)	(0.111)	(0.134)	(2.257)	(2.309)	(2.679)	(3.053)
$R_{i,t-4}$	0.0400	0.0159	0.0674	0.148***	0.861	0.297	0.931	1.861
	(0.0474)	(0.0476)	(0.0449)	(0.0530)	(0.922)	(0.876)	(0.861)	(1.351)
$TurnOver_{i,t-4}$		0.0881	0.0472	0.0378		2.724	2.559*	2.081***
		(0.0786)	(0.0730)	(0.0406)		(1.691)	(1.419)	(0.783)
$\Delta GDP_{c,t-4}$			0.203	0.100			5.721***	4.098*
			(0.128)	(0.166)			(1.956)	(2.326)
$\Delta CPI_{c,t-4}$			0.236	2.012**			0.631	22.67
			(0.824)	(0.821)			(14.32)	(15.52)
$FD_{c,t-4}^{Index}$			1.487***	0.365			26.28***	5.166
			(0.386)	(0.319)			(8.875)	(8.821)
Fixed Effect:								
Exchange:	✓	✓	✓	✓	✓	✓	✓	✓
Region × Time:	×	×	×	✓	×	×	×	✓
Observations	4,845	4,523	3,743	3,710	4,843	4,522	3,742	3,710
R-squared	0.421	0.427	0.424	0.609	0.420	0.417	0.417	0.604

This table presents a robustness check for the baseline results, assessing the impact of exchange-level market factors and country-level macroeconomic conditions on IPO activity. Columns (1)–(4) use a dummy variable equal to 1 if there is any IPO activity and 0 otherwise as the dependent variable, while columns (5)–(8) use the log of capital raised. All specifications include exchange fixed effects, with columns (4) and (8) additionally controlling for region–time fixed effects. Regions follow the World Bank's seven-region classification. All variables are winsorized at the 1st and 99th percentiles, and control variables are lagged by one year. Robust standard errors are reported in parentheses. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

Table B.4: Robustness Check: Alternative Specification with Lagged Dependent Variable

Dep. Variable:	$\frac{N^{IPO}_{i,t}}{N^{Listed}_{i,t-1}}$				$log(K^{IPO}_{i,t}/N^{IPO}_{i,t})$			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$\sigma_{i,t-4}$	-0.109	-0.244**	-0.238**	-0.0572	-2.222***	-3.619***	-3.445***	-0.477
	(0.122)	(0.0963)	(0.0931)	(0.111)	(0.809)	(0.839)	(0.981)	(1.601)
$R_{i,t-4}$	0.0723	0.0339	-0.0424	-0.0188	0.824	0.212	0.220	0.824
	(0.103)	(0.102)	(0.112)	(0.133)	(0.700)	(0.724)	(0.750)	(1.081)
$TurnOver_{i,t-4}$		0.159***	0.178***	0.153***		1.826***	1.584***	1.313***
		(0.0368)	(0.0433)	(0.0421)		(0.278)	(0.297)	(0.353)
$\Delta GDP_{c,t-4}$			1.857***	1.292*			6.484**	2.744
			(0.563)	(0.656)			(3.189)	(3.578)
$\Delta CPI_{c,t-4}$			-1.083	-1.423			8.482	14.98
			(0.988)	(1.398)			(9.510)	(12.46)
$FD^{Index}_{c,t-4}$			-0.0132	-0.0890			2.297*	3.530**
			(0.143)	(0.206)			(1.176)	(1.670)
$\frac{N^{IPO}_{i,t-1}}{N^{Listed}_{i,t-2}}$	0.583***	0.552***	0.559***	0.553***				
	(0.0609)	(0.0637)	(0.0689)	(0.0717)				
$log(K^{IPO}_{i,t-1}/N^{IPO}_{i,t-1})$					0.719***	0.653***	0.640***	0.509***
					(0.0324)	(0.0381)	(0.0407)	(0.0410)
Fixed Effect:								
Exchange:	×	×	×	×	×	×	×	×
Region × Time:	×	×	×	✓	×	×	×	✓
Observations	4,743	4,487	3,712	3,679	4,518	4,246	3,492	3,457
R-squared	0.342	0.353	0.362	0.468	0.519	0.518	0.498	0.616

This table reports a robustness check of the baseline results, examining the effects of exchange-level market factors and country-level macroeconomic conditions on IPO activity while controlling for the lagged dependent variable. Columns (1)–(4) use the ratio of IPOs to listed firms as the dependent variable, and columns (5)–(8) use the log of capital raised per IPO. Exchange fixed effects are excluded to avoid Nickell bias. Columns (4) and (8) additionally include region-time fixed effects, with regions defined according to the World Bank's seven-region classification. All variables are winsorized at the 1st and 99th percentiles, and control variables are lagged by one year. Robust standard errors are shown in parentheses. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

Table B.5: Robustness check with alternative lagged control variables — 1 Quarter Lag

Dep. Variable:	$\frac{N_{i,t}^{IPO}}{N_{i,t-1}^{Listed}}$				$log(K_{i,t}^{IPO}/N_{i,t}^{IPO})$			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$\sigma_{i,t-1}$	-0.735***	-0.834***	-0.598***	-0.358	-10.15***	-10.82***	-7.002***	-0.872
	(0.165)	(0.165)	(0.164)	(0.332)	(1.732)	(1.779)	(1.842)	(2.127)
$R_{i,t-1}$	0.214**	0.123	0.282**	-0.0430	-1.074	-1.392	0.462	-0.558
	(0.0974)	(0.0995)	(0.126)	(0.193)	(1.059)	(1.220)	(1.222)	(1.415)
$TurnOver_{i,t-1}$		0.313**	0.228*	0.260*		1.148	-0.0822	0.473
		(0.152)	(0.133)	(0.137)		(1.407)	(1.143)	(0.597)
$\Delta GDP_{c,t-1}$			-0.616*	-0.235			-5.837**	-4.032
			(0.363)	(0.442)			(2.346)	(3.328)
$\Delta CPI_{c,t-1}$			0.359	2.600			-1.900	22.25
			(1.353)	(2.136)			(13.35)	(17.43)
$FD_{c,t-1}^{Index}$			2.928***	0.779			34.57***	10.89
			(0.895)	(0.963)			(8.697)	(6.831)
Fixed Effect:								
Exchange:	✓	✓	✓	✓	✓	✓	✓	✓
Region × Time:	×	×	×	✓	×	×	×	✓
Observations	4,927	4,715	3,756	3,723	4,805	4,562	3,617	3,583
R-squared	0.211	0.221	0.253	0.393	0.395	0.390	0.391	0.596

This table presents a robustness check for the baseline results, assessing the impact of exchange-level market factors and country-level macroeconomic conditions on IPO activity using 1 quarter lag of control variables. Columns (1) to (4) use the ratio of IPOs to listed firms as the dependent variable, while columns (5) to (8) use the log of capital raised per IPO. All specifications include exchange fixed effects, with columns (4) and (8) additionally controlling for region-time fixed effects. Regions are defined based on the World Bank classification (seven regions). All variables are winsorized at the 1st and 99th percentiles, and control variables are lagged by one year. Robust standard errors are reported in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Table B.6: Robustness check with alternative lagged control variables — 2 Quarters Lags

Dep. Variable:	$\frac{N_{i,t}^{IPO}}{N_{i,t-1}^{Listed}}$				$log(K_{i,t}^{IPO}/N_{i,t}^{IPO})$			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$\sigma_{i,t-2}$	-0.690***	-0.838***	-0.643***	-0.459	-10.11***	-11.00***	-7.559***	-1.103
	(0.170)	(0.150)	(0.159)	(0.315)	(1.798)	(1.821)	(1.969)	(2.299)
$R_{i,t-2}$	0.354***	0.242**	0.376***	0.163	0.564	0.0465	1.009	1.913
	(0.108)	(0.0914)	(0.115)	(0.151)	(0.811)	(0.845)	(0.878)	(1.184)
$TurnOver_{i,t-2}$		0.365**	0.325*	0.351**		1.731	0.959	1.205*
		(0.158)	(0.166)	(0.163)		(1.435)	(1.185)	(0.621)
$\Delta GDP_{c,t-2}$			0.596	0.0269			4.589**	2.350
			(0.395)	(0.384)			(1.909)	(2.379)
$\Delta CPI_{c,t-2}$			3.307*	3.587			3.162	1.846
			(1.883)	(2.516)			(14.71)	(18.20)
$FD_{c,t-2}^{Index}$			2.466**	0.444			30.04***	7.209
			(0.967)	(1.120)			(8.478)	(6.855)
Fixed Effect:								
Exchange:	✓	✓	✓	✓	✓	✓	✓	✓
Region × Time:	×	×	×	✓	×	×	×	✓
Observations	4,876	4,640	3,743	3,710	4,755	4,489	3,606	3,572
R-squared	0.214	0.228	0.256	0.393	0.401	0.395	0.391	0.593

This table presents a robustness check for the baseline results, assessing the impact of exchange-level market factors and country-level macroeconomic conditions on IPO activity using 2 quarters lags of control variables. Columns (1) to (4) use the ratio of IPOs to listed firms as the dependent variable, while columns (5) to (8) use the log of capital raised per IPO. All specifications include exchange fixed effects, with columns (4) and (8) additionally controlling for region-time fixed effects. Regions are defined based on the World Bank classification (seven regions). All variables are winsorized at the 1st and 99th percentiles, and control variables are lagged by one year. Robust standard errors are reported in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.