Local Stock Markets*

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13 Oct 2025

PRELIMINARY DRAFT – COMMENTS WELCOME

Abstract

Europe's public equity markets have underperformed, new listings have declined, and an increasing number of firms are seeking listings in the United States. These developments have spurred debate on how to sustain local exchanges. We develop a theory of local stock markets to rationalize these trends and assess motives for policy intervention. In a two-country setting, firms choose entry and listing venues, and investors choose portfolios based on private signals whose precision depends on investor location and the firm's listing decision. These choices jointly determine the information environment and asset prices in a noisy rational-expectations equilibrium. Our main result establishes that local stock markets rely on a sufficiently large effective investor base – the risk-adjusted size of local informed capital – and that a contraction in the effective investor base can trigger increased foreign listings and falling domestic activity. In addition, our model provides a theory of joint home bias, capturing the tendency of international listing decisions to reflect investor home bias.

JEL Codes: G12, G14, G15

Keywords: stock markets, international listings, home bias, noisy rational expectations.

*We are thankful to Charles Brendon, Vasco Carvalho, Francesco Celentano, Jan Eeckhout, Alessandro Ferrari, Chryssi Giannitsarou, Vincent Glode, Jean Helwege, Felix Kübler, Karen Lewis, Lukas Nord, Sergio Salgado, Martin Souchier, and Luke Taylor as well as seminar participants at the Wharton Finance PhD Brown Bag and SFI PhD Workshop for their feedback. Igli Bajo gratefully acknowledges financial support from the Swiss National Science Foundation.

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There are no domestic equity investors here — everything else is a symptom. [...] Global investors look to domestic investors for the signal to validate the investment, and that local signal has simply flickered out.

— Michael Tory (Ondra Partners; Financial Times 2023) *on why UK firms are leaving the London exchange.*

1 Introduction

In recent years, a flurry of high-profile companies have shunned European stock markets in favour of blockbuster listings on US exchanges. Notable examples include the UK semiconductor company Arm Holdings – whose architecture underpins Apple's custom chips – and Sweden's Spotify, the global leader in music streaming. Beyond these headlines, European markets have experienced a dearth of new listings, numerous delistings, and modest investor returns.[1] These developments have prompted a raft of initiatives to revitalise domestic public markets in both the EU and UK.[2]

Standard theories of capital allocation in a world of free capital mobility imply that trading venue location should be irrelevant: firms can raise capital where it is cheapest, and investors can allocate capital across borders without frictions. The observed decline of European exchanges and policymakers' attempts to revive them suggest that these frameworks miss important features of how capital markets function.

This paper develops a theory of local stock markets to assess their role in capital allocation and study whether government efforts to revive lagging markets are warranted. We use "local" to mean domestic versus foreign, but the concept applies equally at the sub-national level.[3] In our model, entrepreneurs from two countries make endogenous entry decisions and raise capital by choosing where to list. Capital is supplied by investors that allocate portfolios based on noisy private signals about firm profitability, and asset prices are determined through a multi-asset noisy rational expectations equilibrium (NREE), as in Admati (1985). Stock markets shape the production and dissemination of information: signals are more precise when firms are located near the exchange (the local ecosystem of analysts generates richer information) and when investors are themselves close to the exchange (information travels more smoothly).

Our main result is that local stock markets contract and may ultimately close if the effective size of the local investor base becomes too small. The effective size adjusts for investor risk tolerance and so captures both the breadth and depth of local risk-bearing capacity. As the effective investor base shrinks, firms turn to foreign markets for capital and local economic activity contracts. As a special case, when the information channel is removed, our model produces a stock market irrelevance result, in line with standard intuition; yet, in general, local

[1] See New Financial (2025).

[2] Examples include the EU's Listing Act (part of the Capital Markets Union) and the UK's Edinburgh Reforms; governments have also engaged in high-profile venue-retention efforts (e.g. No. 10's outreach to Arm and the Swedish prime minister's public warnings about Europe-to-US listings).

[3] Prior to the 21st century, provincial stock markets were common in developed economies. Germany still hosts several regional exchanges.

stock markets matter for local outcomes. Beyond explaining the existence and fragility of local stock markets, our framework provides a theory of the tendency of international listing decisions to reflect investor home bias (Sarkissian and Schill, 2004).

Our focus on the role that local stock markets play in facilitating information production and dissemination reflects four strands of evidence. First, market participants repeatedly stress the importance of a deep domestic investor base for listings and valuations.[4] Second, historical work links the rise of national exchanges and the disappearance of provincial stock markets to improvements in communication technologies; for example, with Britain's regional exchanges losing ground and ultimately merging into London (Michie, 1985; Rogers et al., 2020). Third, despite improvements in communication technology, firms' international IPO and cross-listing choices remain tightly connected to the information environment. Firms with greater foreign sales are more likely to pursue a foreign IPO (Caglio et al., 2016) and cross-list (Pagano et al., 2002). Conversely, small firms and those producing non-tradable goods exhibit a stronger bias toward domestic or nearby markets (Sarkissian and Schill, 2004).[5] Finally, the home-bias literature indicates that local investors are most informed about the same types of firms—small, and non-tradable goods producers—that exhibit a stronger proximity preference and, thus, that arguably benefit from local stock markets' information-production role (Coval and Moskowitz, 1999, 2001; Kang and Stulz, 1997).

We incorporate the role of information through two channels. In our model, each investor receives a private signal, whose precision depends on: (i) the location of the firm vis-à-vis the stock market; and (ii) the location of the stock market vis-à-vis the investor. We take these channels as primitives, rather than microfounding them from optimal behaviour or institutional details. The first channel reflects the information production role of local stock markets, which can better collect information on local firms and make it available to a wide investor base (Klagge and Martin, 2005). Equity analysts facilitate this information production in modern markets.[6] They tend to organise around the host financial market rather than where the firm is headquartered, and produce better information about firms located near them (Malloy, 2005; Bae et al., 2008). The second channel captures the idea that, conditional on information production, local investors are better informed. For instance, Hau (2001) demonstrates that foreign investors perform worse than German traders when trading on the German stock market; Bauer et al. (2025) show that, in the context of European public firms exposed to extreme weather events, foreign investors are less informed than their local counterparts, as reflected in the reaction of stock prices; Lien and Hung (2023) find that, on the Taiwan Stock Exchange, domestic institutional investors contribute more to price discovery on a per-order basis than foreign institutions; and Portes and Rey (2005) establish that information is the key driver of international equity flows.[7]

[4]See the epigraph for one of the many recurrent statements in the financial press in this regard.

[5]For an early survey of the international cross-listing literature, see Karolyi (2006).

[6]For instance, when non-US firms list in the US, US analyst coverage increases (Lang et al., 2003).

[7]It is important for our story that information is channelled via stock market location. Existing literature has also highlighted that investors local to the firm have superior information, independent of listing location (see e.g. Grinblatt and Keloharju 2001; Van Nieuwerburgh and Veldkamp 2009; Mengoli et al. 2025). Although this channel is important empirically, it cannot explain why local stock markets matter for capital allocation – investor information depends on firm location, not listing location – and, therefore, we omit it from our setup.

Together, these forces shape how listing decisions affect the information set of investors and, as a consequence, their demands and firms' cost of capital. When a firm lists on its domestic stock market, its proximity to the market reduces the noise in the signal for all investors, with domestic investors enjoying an additional gain in precision due to their proximity to the market. Conversely, if a firm lists on the foreign stock market, the firm-to-market component is noisier, but foreign investors benefit relative to domestic investors by being located closer to the firm's listing venue. In choosing where to list, assuming identical noise trader variance across markets, the firm attempts to maximise the average level of information among all investors. However, it does not seek to maximise the raw average – weighting just by investor population size – but a weighted average, where weights combine the size *and* risk aversion of each country's investor base. By choosing the location that maximizes this weighted average, the firm increases the elasticity of demand for its stock and thereby minimizes its cost of capital. If noise trader variance differs across markets, the same logic applies, but the firm's choice also reflects the relative strength of price discovery across venues. The importance of risk aversion follows from classic results on the aggregation of information in financial markets (Hellwig, 1980). In particular, risk-averse agents are less responsive to their private signals and, therefore, their signal contributes less to the overall aggregation of information in the market.

This leads to our central result: local stock markets can only be sustained when the effective local investor base is sufficiently large. The strength of the firm-to-market and investor-to-market information channels shape the cutoff, which implies, for instance, that as the advantage of local markets in producing information diminishes, local stock markets may cease to exist. However, holding fixed the strength of each information channel, changes in investor risk aversion have real effects on economic activity. A sudden increase in investor risk aversion depresses domestic entry and can push the economy past a tipping point, at which point domestic firms prefer foreign listings. This new equilibrium is associated with lower firm entry and, therefore, provides a rationale for government attempts to mobilise their domestic investor bases.

Another central implication of our framework is that it rationalizes the empirical findings of Sarkissian and Schill (2004), namely that international listing decisions tend to mirror investor home bias. In our model, this link arises endogenously: when the effective local investor base is sufficiently large, firms choose to list at home; conditional on such domestic listings, local investors overweight home equities relative to the market portfolio, provided that the effective foreign base is not too dominant.[8] Joint home bias is not an assumption but an outcome of relative effective investor-base strength. As the firm-to-market and investor-to-market proximity channels become more pronounced, we obtain two effects: first, the range of investor-base configurations that generate home bias expands; and second, conditional on home bias being present, its magnitude grows because the informational advantage of local investors is amplified.

More generally, our model has various applications. First, beyond studying cross-country listing and capital raising activity, our model provides a toolkit to complement existing empirical work on the rise and decline of provincial stock markets (White, 2013; Lehmann-Hasemeyer and

[8]The market portfolio refers to the value-weighted portfolio containing all available assets in the economy, with each asset held in proportion to its outstanding market value.

Streb, 2016; Rogers et al., 2020), which could inform ongoing debates about European capital market integration. Second, the model could explain why stock markets exhibit clustering by sectors – for instance, with the Nasdaq favouring young technology companies, while the NYSE favours more established firms (Lowry et al., 2010). In this vein, introducing heterogeneity by firm type and its interaction with stock market specialisation – which may induce firm-to-market information heterogeneity – provides an interesting application of our theory. Finally, in our analysis to date, we consider a simple framework that abstracts from cross-asset correlation in productivity shocks and investor private signals. This has the advantage of permitting closed-form solutions, providing insights into underlying mechanisms; however, it comes at the cost of making firm listing decisions independent of one another and, therefore, abstracts from "listing externalities" that would otherwise arise in our framework. In ongoing work, we are exploring the role of these externalities and the implications for policymakers seeking to promote optimal capital allocation.

Related literature This paper is related to several strands of literature. First, a large literature stresses the role of public equity markets in facilitating economic development (Levine and Zervos, 1998; Beck and Levine, 2004; Brown et al., 2017), especially for innovative firms (Brown et al., 2013; Hsu et al., 2014; Acharya and Xu, 2017). Empirically, Loughran and Schultz (2005) find that co-location of economic activity and financial markets is important for liquidity, and Guiso et al. (2004) show that local finance boosts firm entry and growth, even in integrated capital markets. However, this literature lacks a theoretical framework that brings together investor information and endogenous firm dynamics to study the geography of stock exchanges. Our contribution is to develop such a model, allowing us to understand when local stock markets cease to exist, and to assess whether their disappearance matters for economic activity.

Second, an extensive empirical literature examines the determinants of firms' decisions to cross-list or to pursue a foreign listing, emphasizing motives such as higher disclosure standards and investor protection (Coffee, 2002; Reese Jr and Weisbach, 2002; Doidge et al., 2004; Hail and Leuz, 2009; Fernandes and Giannetti, 2013).[9] We focus on the role of information in shaping international listing decisions (Pagano et al., 2002; Sarkissian and Schill, 2004; Caglio et al., 2016).[10] Indeed, we view our model as applicable to settings where regulatory and disclosure requirements are similar.[11] This is the case, for example, between European and US markets (New Financial, 2025), as well as between historical provincial markets within countries.[12] Relative to this literature, we provide a model that allows us to study the interaction of investor information and firm listing decisions. In so doing, we also connect to the literature on investor home bias

[9]Empirical findings on the liquidity motive are inconclusive. Some studies, such as Foerster and Karolyi (1999), find liquidity improvements upon cross-listing, while others, including Noronha et al. (1996) and Berkman and Nguyen (2010), fail to detect liquidity gains.

[10]Pagano et al. (2002) test several hypotheses for firms' cross-listing decisions. They find that the main determinants are firm size and the share of foreign sales. Both factors are closely tied to information.

[11]Lins et al. (2005) point out that the motives for cross-listing differ structurally between emerging- and developed-market firms, suggesting that the two settings warrant separate treatment.

[12]For instance, legal rules underlying stock exchanges were identical across German provincial stock markets post-1897 (Baltzer, 2013).

(French and Poterba, 1991; Tesar and Werner, 1995; Kang and Stulz, 1997; Lewis, 1999; Coval and Moskowitz, 1999, 2001; Grinblatt and Keloharju, 2001; Covrig et al., 2005; Portes and Rey, 2005; Van Nieuwerburgh and Veldkamp, 2009) and, in particular, our model can account for the symmetry between firm listing and investor portfolio decisions (Sarkissian and Schill, 2004).

Third, two theoretical papers directly address the issue of exchange concentration (Pagano, 1989; Chemmanur and Fulghieri, 2006). Chemmanur and Fulghieri (2006) focuses on exchanges' choice of listing standards, providing a useful framework for settings with gaps in regulatory and disclosure requirements across countries, which is not the environment we study. Pagano (1989), in turn, analyzes investor trading decisions in isolation. By contrast, our framework integrates both sides of the market – firms' entry and listing choices together with investors' informed demand – and examines not only the number of markets, but also their geographic location.

Finally, from a methodological standpoint, our paper is related to the literature on noisy rational expectations models (Grossman, 1976; Grossman and Stiglitz, 1980; Hellwig, 1980). The asset pricing block of our model is drawn directly from Admati (1985), who extends the model of Hellwig (1980) to allow for multiple assets. Since these early papers, the literature has expanded to permit departures from CARA preferences (Malamud, 2015) and more general asset payoff structures (Breon-Drish, 2015; Chabakauri et al., 2022), among other extensions. However, a common feature of these models is that the set of assets, their supply, and the information structure are taken as exogenous.[13] Our innovation is to endogenize each of these objects: assets arise from entry, while both their supply and the information structure of the economy are shaped by firms' listing decisions.

The rest of the paper proceeds as follows. Section 2 outlines our full model. Then, section 3 analyses a tractable version of the model and derives the main results regarding the existence of local stock markets and joint home bias. Section 4 concludes.

2 Model

The economy comprises two countries, $c \in \{A, B\}$, and lasts two periods, t $= 0, 1$. There are two types of households:

(i) Investors, in measure one indexed by (a, c); investors $a \in [0, h_A]$ are from country A and $a \in (h_A, 1]$ are from country B.

(ii) Entrepreneurs, in a finite number $\widetilde{N}$ indexed by (e, c); entrepreneurs $e \in \{1, \ldots, \widetilde{N}_A\}$ are from country A, and $e \in \{\widetilde{N}_A + 1, \ldots, \widetilde{N}\}$ are from country B.

Investors have wealth but lack entrepreneurial ideas. In contrast, entrepreneurs possess ideas but have no wealth and cannot borrow against future profits.[14] In each country c, a subset

[13] In models with endogenous information acquisition, the information structure is fixed *ex ante*; investors choose how much to learn. Here, the listing choice shapes market primitives by (i) determining the signal technology and (ii) influencing asset supply via entry/financing.

[14] We focus on equity financing as the sole source of external finance in the economy. One could alternatively allow entrepreneurs to finance a fraction θ of the required investment through debt, raising only the remaining

$N_c \leq \widetilde{N}_c$ of potential entrepreneurs enter and become active.[15] Entrants raise equity by listing on one of the two stock markets, $m \in \{A, B\}$. Investors, in turn, allocate their portfolios between a risk-free asset in elastic supply and the $N_A + N_B$ risky assets, with their demands reflecting private information about firm profitability.

The model unfolds in two stages. In the first stage, entrepreneurs decide whether to enter and where to list, given the financing conditions prevailing in each market—the firm-dynamics block (FDB). In the second stage, investors post their demands for the assets, and prices are determined in the multi-asset noisy rational expectations equilibrium of Admati (1985)—the asset-pricing block (APB). The two blocks are jointly determined: firm decisions determine the supply of risky assets and the information environment faced by investors, and thus their demands and asset prices; asset prices feed back into firms' cost of capital, and thus their entry and listing decisions, through financial intermediaries that guarantee the expected market-clearing price.

From a timing perspective, all decisions are agreed upon at $t = 0$. Firms commit ex-ante to enter and to list in a particular market because underwriters guarantee expected prices. The expected prices depend on investors' expected demands, which in turn reflect the information environment determined by firms' listing choices. At $t = 1$, shocks are realized, entry and listings are executed as agreed, underwriters place the contracted shares, and investors trade.

The rest of the section proceeds as follows. First, we characterize the equilibrium in the APB, taking the entry and listing decisions in the FDB as given. Then, taking the equilibrium in the asset market as given, we characterize the optimal entry and listing decisions of entrepreneurs in the FDB. The subsequent subsections link the two blocks through equilibrium conditions. Finally, we define the equilibrium in our economy.

2.1 Asset Pricing Block (APB)

We begin by describing the asset pricing block, taking as given the set of firms that have entered and their listing choices. Conditional on these decisions, the asset market features a finite number of risky assets and a unit measure of investors trading in these assets.

Setup Each investor (a, c) starts with an initial endowment $W_{a,c,0}$ of the consumption good.[16] Investors allocate wealth between a risk-free asset, paying gross return R, and a vector of risky assets with random payoffs $\widetilde{F}$. Investors from country c have constant absolute risk aversion equal to $1/\rho_c$ and maximize the expected utility of terminal wealth

$$\mathbb{E}_{a,c}\big[-\exp\{-\widetilde{W}_{a,c,1}/\rho_c\}\big], \qquad \widetilde{W}_{a,c,1} = W_{a,c,0}R + \Phi'_{a,c}(\widetilde{F} - R\widetilde{P}),$$

where $\Phi_{a,c}$ denotes the risky-assets holdings vector and $\widetilde{P}$ the random equilibrium price vector.

share on the stock market. Our analysis corresponds to the special case $\theta = 0$, but the economic mechanisms we highlight carry through more generally.

[15] Entry preserves the within-country ordering, so that the first N_c firms are from country A.

[16] All prices, payoffs, and wealth levels are expressed in units of the single consumption good, which serves as the numeraire of the economy.

Each investor observes a private signal about asset payoffs,

$$\widetilde{Y}_{a,c} = \widetilde{F} + \widetilde{\varepsilon}_{a,c}, \qquad \widetilde{\varepsilon}_{a,c} \sim N(0, S_c), \tag{1}$$

where $\widetilde{F} \perp \widetilde{\varepsilon}_{a,c}$ and $\widetilde{\varepsilon}_{a,c}$ is independent across investors.[17] The matrix S_c is the variance–covariance matrix of investor (a,c)'s signal noise, summarizing the precision of information available to investors from country c. Relative to Admati (1985), we restrict this variance to depend only on investor domicile, c, rather than varying across individual investors.

In addition to informed investors, noise traders submit random demands $\widetilde{\upsilon}_n \sim N(0, U)$. Let $\bar{Z}$ denote the vector of asset supplies. The effective supply faced by investors is therefore

$$\widetilde{Z} = \bar{Z} - \widetilde{\upsilon}_n, \qquad \widetilde{Z} \sim N(\bar{Z}, U).$$

Asset Market Equilibrium Given that each investor's demand $\Phi_{a,c}(\widetilde{Y}_{a,c}, \widetilde{P})$ depends on private information, equilibrium prices, in addition to clearing markets, convey information. Following Admati (1985), an NREE in the asset market is defined as follows.

Definition 1 (Noisy Rational Expectation Equilibrium (NREE))**.** *A* noisy rational expectations equilibrium *consists of a price vector $\widetilde{P}$ and allocation functions $\Phi_{a,c}$ such that:*

(a) $\widetilde{P}$ is measurable with respect to $(\widetilde{F}, \widetilde{Z})$;

(b) each investor optimizes given their signal and $\widetilde{P}$; and

(c) markets clear: $\int_0^1 \Phi_{a,c}(\widetilde{Y}_{a,c}, \widetilde{P})\, da = \widetilde{Z}$ a.s.

Following Admati (1985), we focus on equilibria where prices are linear functions of payoffs and supplies, in which case the NREE is unique.[18]

The key object linking the asset pricing block to the firm dynamics block—as will be discussed in subsection 2.4—is the *expected equilibrium price*. This can be interpreted as the *equilibrium inverse demand schedule*.[19] In the multi-asset NREE of Admati (1985), it is given by

$$\mathbb{E}[\widetilde{P}] = \frac{1}{R}\Big(\bar{F} - \Lambda^{-1}\bar{Z}\Big), \qquad \Lambda \equiv \bar{\rho}V^{-1} + \bar{\rho}QU^{-1}Q + Q, \tag{2}$$

where $\bar{\rho} = h_A\rho_A + (1-h_A)\rho_B$ denotes the average risk tolerance across investors, and $Q = h_A\rho_A S_A^{-1} + (1-h_A)\rho_B S_B^{-1}$ is the risk–weighted average precision matrix. The matrix Λ represents the *posterior precision*—the inverse of the conditional variance–covariance matrix of asset payoffs in equilibrium. It embeds both risk and informational components. The risk component is captured by $\bar{\rho}V^{-1}$, whereas information enters through Q and $\bar{\rho}QU^{-1}Q$: the first term reflects the aggregate precision of investors' private signals, and the second term captures how this information is incorporated into prices, i.e., the degree of price informativeness. We refer to

[17] Allowing correlated signals would complicate the aggregation structure but not alter the basic intuition.

[18] See Admati (1985), Theorem 3.1.

[19] It gives the equilibrium price as a function of aggregate supply, because in equilibrium aggregate demand equals aggregate supply.

the term $h_c\rho_c$ as the *effective investor base* of country c, which measures the total risk-bearing capacity of investors located in c (since there is a unit measure of investors, $h_B = 1 - h_A$).

CAPM A useful benchmark for comparison is the standard CAPM. Under CAPM, investors have homogeneous information sets and no private signals beyond the common prior, so that $S_A^{-1} = S_B^{-1} = \mathbf{0}$ and therefore $Q = \mathbf{0}$, implying $\Lambda = \bar{\rho}V^{-1}$. This yields the following result.[20]

Remark 1 (Asset Pricing Block with CAPM)**.** *Under CAPM, the following properties hold:*

(i) The inverse-demand schedule depends only on exogenous parameters $(\bar{F}, V, \bar{\rho})$*:*

$$\mathbb{E}[\widetilde{P}] = \frac{1}{R}\big(\bar{F} - \bar{\rho}^{-1}V\bar{Z}\big).$$

(ii) Each investor holds the market portfolio in proportion to their individual risk tolerance:

$$\mathbb{E}[\Phi_{a,c}] = \frac{\rho_c}{\bar{\rho}}\,\bar{Z}.$$

Point (i) shows that, under CAPM, equilibrium prices depend solely on the exogenous primitives $(\bar{F}, V, \bar{\rho})$ that summarise expected payoffs, risk, and aggregate risk tolerance. Given homogeneous information, investors' location is irrelevant for the inverse-demand schedule.

Point (ii), first, establishes that portfolio *weights* are identical across investors and coincide with the market portfolio. Second, it shows that cross-sectional differences in portfolios arise only from heterogeneity in risk aversion, not from geography.

Take together, these properties highlight the location neutrality of the CAPM benchmark: the asset-pricing block depends exclusively on exogenous risk and preference parameters, while investors' domicile is irrelevant for equilibrium prices or portfolio composition.

As will be shown in later subsections, once the firm dynamics block is introduced, the CAPM benchmark yields a *listing-location irrelevance*: equilibrium demands and prices are independent of where firms list. Consequently, under CAPM as the asset-pricing block, local stock markets become irrelevant.

2.2 Firm Dynamics Block (FDB)

In this section, we describe the firm dynamics block, i.e., the entry and listing decisions of entrepreneurs, taking as given the equilibrium in the asset pricing block.

Setup Business creation requires effort on behalf of the entrepreneur and a fixed capital injection, k, which the entrepreneur seeks from financial markets because entrepreneurs have no wealth. The entrepreneur first decides whether to exert effort (i.e. whether to enter) and then seeks to raise equity financing from one of the two stock markets (i.e. where to list).

Entrepreneurs have a business idea, which yields profits

[20] All proofs are in the Online Appendix. Please contact the authors.

$$\pi_{e,c} = \bar{\pi}_c + \eta_e \tag{3}$$

in period $t = 1$ if the firm invests capital k in period $t = 0$. The term η_e represents a firm-level innovation to profits that is unknown to the entrepreneur until after the investment k is made. The shock η_e could have various interpretations, including a capital destruction shock or information about project potential that can only be learned once initial exploration (i.e. investment) is made.[21] We define by $\boldsymbol{\eta}$ the vector of innovations to firm-level profits, where

$$\boldsymbol{\eta} \sim N\big(\mathbf{0}, \Sigma_\eta\big), \tag{4}$$

which permits a general correlation structure between firm-level profits, both within and across countries.[22]

Entry Entrepreneurs have CARA preferences over terminal wealth, with risk aversion $1/\rho_c^E$.[23] Let $J_{e,c}$ denote the random payoff to entrepreneur e from country c at time $t = 1$. To enter, each entrepreneur must exert effort, which reduces utility by $e^{\widehat{f}_{e,c}}$, where $\widehat{f}_{e,c} = f_{e,c}/\rho_c^E$ is entrepreneur-specific, and $f_{e,c}$ denotes the disutility from effort. Given that $J_{e,c}$, defined below in the listing paragraph, is normally distributed, CARA preferences imply the following entry condition, which takes the form of a cutoff rule

$$\text{Enter if} \quad f_{e,c} \leq E[J_{e,c}] - \frac{1}{2\rho_E^c} Var[J_{e,c}]; \quad \text{otherwise, do not enter.} \tag{5}$$

Potential entrepreneurs differ in their idiosyncratic disutility from effort $f_{e,c}$. Disutilities are drawn from a CDF $F(\cdot)$, such that for each $e \in \{1, ..., \widetilde{N}_c\}$ in country c

$$f_{e,c} = F^{-1}\left(\frac{e}{\widetilde{N}_c}\right),$$

so that entrepreneur e's disutility is given by the $e/\widetilde{N}_c$-th quantile of $F(\cdot)$. In such an environment, the identities of entrants depend on the assumption about the ordering of entry decisions. We impose that entrepreneurs enter sequentially in increasing order of disutility, so that the lowest-disutility entrepreneur enters first. This ordering applies at the economy-wide level rather than within countries, and randomization is used only when two firms from different countries draw the same disutility.[24] If it is the turn of a firm from country c and that firm chooses not to enter, the next firm from the other country $c' \neq c$ is given the opportunity to

[21]The crucial assumption is that this is unknown to the entrepreneur at the time they make their listing decision, such that their listing decision does not convey information about their type. While the signalling role of international listing decisions is important (Leland and Pyle, 1977; Firth and Liau-Tan, 1997; Barzuza, 2012), the focus of this paper is the information producing capacity of stock markets.

[22]As discussed at the start of this section, entrepreneurs are indexed such that all firms from country A appear first, followed by those from country B. Within a country, firms are ordered from 1 to N_c. This ordering applies throughout whenever firm-level variables are collected into vectors or matrices.

[23]The superscript E distinguishes entrepreneurs' risk-tolerance parameter from that of investors, whose risk tolerance is denoted simply by ρ_c.

[24]Randomization is required only in this case, because disutilities are heterogeneous within each country.

enter. Given this setup, the number of entrants in each country, N_c, satisfies

$$\frac{N_c}{\widetilde{N}_c} \leq F\Big(E[J_{e,c}] - \frac{1}{2\rho_c^E} Var[J_{e,c}]\Big) < \frac{N_c + 1}{\widetilde{N}_c}. \tag{6}$$

We collect the number of active firms by country in the vector $N = (N_A, N_B)$.

Listing Following entry, each entrepreneur seeks to raise equity financing by selling a number of shares $z_{e,c}(m) \in (0, 1]$ on one of the two stock markets $m \in \{A, B\}$. Entrepreneurs are presented with a menu of equity prices, $\{p_{e,c}(A), p_{e,c}(B)\}$, corresponding to the price per share they would obtain if listing on market m.

The process of listing on a stock market entails a fixed cost that is specific to the firm's country of origin and its chosen destination market:

$$f_c(m) = \begin{cases} f_D & \text{if } c = m \ \ \text{(domestic listing)}, \\ f_F & \text{if } c \neq m \ \ \text{(foreign listing)}. \end{cases} \tag{7}$$

Since entrepreneurs have no wealth and cannot borrow against future profits, they must raise capital on the stock market to cover the listing fee. Therefore, they must raise $k + f_c(m)$ to make the investment k.

Firms receive net proceeds given by $(1 - \tau_c(m) p_{e,c}(m) z_{e,c}(m)$, where $\tau_c(m) \in [0, 1]$ denotes the percentage fee charged by financial intermediaries, which is motivated in section 2.4. This implies that, in order to secure the required investment k, the entrepreneur must sell

$$z_{e,c}(m) = \frac{k + f_c(m)}{(1 - \tau_c(m))} \frac{1}{p_{e,c}(m)} = \frac{\widetilde{k}_c(m)}{p_{e,c}(m)} \tag{8}$$

Equation (8) defines the *firm-level supply curve*: for any price $p_{e,c}(m)$, it gives the quantity of shares that the entrepreneur must issue to raise the required funds. $\widetilde{k}_c(m)$ should be interpreted as the effective amount of capital that the firm must raise in order to have k units of capital for investment.

The period $t = 1$ payoff to an entrepreneur e from country c that chooses to list on stock market m is given by

$$J_{e,c}(m) = (1 - z_{e,c}(m))\pi_{e,c} \tag{9}$$

Each entrepreneur chooses to list on the stock market that maximizes their expected utility. We impose the restriction that $\bar{\pi}_c \geq \sigma_\eta^2 / \rho_c^E$, where σ_η^2 is the variance of the entrepreneur's profit innovation.[25] This restriction ensures that, for a given project risk profile, expected utility is increasing in the equity share retained by the entrepreneur. Then, the entrepreneur simply chooses to list on the stock market where they forgo the least equity. Finally, we assume that in the case of indifference, the firm lists on its domestic market. Therefore, denoting by $d_{e,c} = 1$ the choice of firm e in country c to list on the domestic (home) market H and by $d_{e,c} = 0$ the

[25]The variance of profits, σ_η^2, may differ across entrepreneurs, but we suppress this for notational convenience.

decision to list on the foreign market F, the listing rule is given by

$$d_{e,c} = \begin{cases} 1 & \text{if } z_{e,c}(H) \leq z_{e,c}(F) \quad \text{(forgo less equity by listing domestically)}, \\ 0 & \text{if } z_{e,c}(H) > z_{e,c}(F) \quad \text{(forgo less equity by listing abroad)}. \end{cases} \tag{10}$$

To pin down entry, note that $J_{e,c} = d_{e,c}J_{e,c}(H) + (1 - d_{e,c})J_{e,c}(F)$. In addition, it is helpful to define the matrices $D_c = \text{diag}(d_{1,c}, \cdots, d_{N_c,c})'$, where the diagonal entries equal one if the respective firm from country c lists on its domestic stock market and zero otherwise. Then, we define the matrices

$$D = \begin{pmatrix} D_A & \mathbf{0} \\ \mathbf{0} & D_B \end{pmatrix}, \qquad M_A = \begin{pmatrix} D_A & \mathbf{0} \\ \mathbf{0} & I - D_B \end{pmatrix}, \qquad M_B = I - M_A, \tag{11}$$

where the diagonal entries of D record whether firms list domestically or abroad, and the diagonal entries of M_A (M_B) are equal to one if firm (e, c) lists on stock market A (B). Therefore, the number of firms that list on stock market m is given by $N(m) = \text{trace}(M_m)$. We denote by $N^{\text{tot}} = N_A + N_B = N(A) + N(B)$, the total number of risky assets in the economy.

2.3 The determinants of asset market primitives

In this section, we describe how the FDB feeds into the APB by determining the vector of tradeable assets (N), their supply ($\bar{Z}$) and payoffs ($\widetilde{F}$), and the information structure of the economy ($\widetilde{Y}_{a,c}$).

Asset supply From the optimal entry decisions in the FDB, we obtain the entry vector $N = (N_A, N_B)$. Each firm e from country c chooses its optimal listing location $d^{\star}_{e,c}$ according to equation (10) and issues equity $z_{e,c}(d^{\star}_{e,c})$. Therefore, the supply of assets in the economy is

$$\bar{\mathbf{Z}} = \boldsymbol{z}, \tag{12}$$

where $\boldsymbol{z}$ denotes the stacked vector collecting the quantities $z_{e,c}(d^{\star}_{e,c})$ issued by each firm. As previously mentioned, but worth reiterating for clarity, firms are ordered such that the first N_A entries correspond to firms from country A (indexed from 1 to N_A) and the remaining N_B entries correspond to firms from country B (indexed from 1 to N_B).

Asset payoffs The payoff of each risky asset e consists of the profits that the underlying firm generates, that is $\widetilde{F}_{e,c} = \pi_{e,c}$. Therefore, the asset payoff vector is

$$\widetilde{\mathbf{F}} = \bar{\boldsymbol{\pi}} + \boldsymbol{\eta}, \tag{13}$$

with

$$\widetilde{\mathbf{F}} \sim \mathcal{N}(\bar{\mathbf{F}}, V), \qquad \bar{\mathbf{F}} = \bar{\boldsymbol{\pi}}, \qquad V = \Sigma_\eta,$$

which follows directly from the definition of the vector of profit innovations $\boldsymbol{\eta}$ in equation (4).

Information structure In subsection 2.1, we defined $\widetilde{Y}_{a,c}$ as the signal that investor (a,c) receives about the payoff of risky assets. A key feature of the model is that these signals are endogenous to the entry and listing decisions of entrepreneurs.

We conceptualise public equity markets as engaging in information production and dissemination. We model this informational role of markets through two distinct channels that affect the precision of investors' private noisy signals: (i) how close the firm is to the market where it is listed (the *market–to–firm* channel); and (ii) how close the investor is to the market where information is produced (the *investor–to–market* channel). Entrepreneurs' listing choices determine which stock market produces information about each firm and, consequently, influence both channels. We treat these channels as primitives, rather than microfounding them from institutional detail, because they are well documented empirically. As discussed in the introduction, analysts cluster around the financial market where firms are listed and generate more accurate information about geographically proximate firms (Malloy, 2005; Bae et al., 2008), while local investors are better informed on their domestic exchanges (Hau, 2001; Lien and Hung, 2023; Bauer et al., 2025), suggesting that proximity facilitates more efficient information processing.

The first channel captures the information production role of stock markets. Markets generate more accurate information about firms located nearby. We capture this with the parameter $\delta_\chi \in (0,1]$: a lower δ_χ implies more precise information *for every investor* when the firm lists at home. The second channel reflects the information dissemination role of markets. Conditional on the information produced, *investors located in the same country as the exchange* can process that information more precisely. We capture this with the parameter $\delta_\xi \in (0,1]$: a lower δ_ξ indicates that investors located in the same country as the stock market observe less noisy signals relative to those trading from abroad.

Formally, each investor (a,c) receives a private noisy signal about the vector of firm-level payoffs, $\widetilde{\mathbf{F}}$, given by

$$\widetilde{\mathbf{Y}}_{a,c} = \widetilde{\mathbf{F}} + \boldsymbol{\chi}_{a,c} + \boldsymbol{\xi}_{a,c}, \tag{14}$$

with

$$\boldsymbol{\chi}_{a,c} \sim \mathcal{N}(\mathbf{0},\, \Delta_D \Sigma_\chi \Delta_D), \quad \boldsymbol{\xi}_{a,c} \sim \mathcal{N}(\mathbf{0},\, \Delta_{M_c} \Sigma_\xi \Delta_{M_c}), \quad \boldsymbol{\chi}_{a,c} \perp \boldsymbol{\xi}_{a,c}, \quad \widetilde{\mathbf{F}} \perp \{\boldsymbol{\chi}_{a,c}, \boldsymbol{\xi}_{a,c}\},$$

where $\boldsymbol{\chi}_{a,c}$ is the *market-to-firm* noise, $\boldsymbol{\xi}_{a,c}$ is the *investor–to–market* noise, and these noise terms are *iid* across investors (a,c). The matrices Δ_D and Δ_{M_c} implement the two location-based precision channels

$$\Delta_D = \sqrt{\delta_\chi}\, D + (I - D), \qquad \Delta_{M_c} = \sqrt{\delta_\xi}\, M_c + (I - M_c).$$

The diagonal matrix D identifies firms that list domestically, while M_c identifies the market location relevant for investors from country c. Hence, firms that list at home have their signal precision scaled by δ_χ, and investors trading on their local market have their signal precision scaled by δ_ξ.

Relative to the baseline signal structure in equation (1), we can now define the composite noise term $\widetilde{\boldsymbol{\varepsilon}}_{a,c} = \boldsymbol{\chi}_{a,c} + \boldsymbol{\xi}_{a,c} \sim \mathcal{N}(\mathbf{0}, S_c)$, where

$$S_c = \Delta_D \Sigma_\chi \Delta_D + \Delta_{M_c} \Sigma_\xi \Delta_{M_c}. \tag{15}$$

An example To elucidate the assumptions made here, consider an investor from country A, and suppose that there are four firms, $\{(1,A),(2,A),(1,B),(2,B)\}$. Firms $(1,A)$ and $(1,B)$ are listed on their domestic stock markets ($d_{1,A} = d_{1,B} = 1$), whereas $(2,A)$ and $(2,B)$ are listed abroad ($d_{2,A} = d_{2,B} = 0$). Then, we have

$$D = \begin{pmatrix} D_A & \mathbf{0} \\ \mathbf{0} & D_B \end{pmatrix} = \begin{pmatrix} 1 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 \end{pmatrix}, \quad M_A = \begin{pmatrix} D_A & \mathbf{0} \\ \mathbf{0} & I - D_B \end{pmatrix} = \begin{pmatrix} 1 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 \end{pmatrix} \tag{16}$$

and $M_B = I - M_A$. Suppose that the private signals are independent across firms, such that Σ_χ and Σ_ξ are diagonal. Then, for investors in country $c = A$, we have

$$S_A = \begin{pmatrix} \delta_\chi \sigma_\chi^2 + \delta_\xi \sigma_\xi^2 & 0 & 0 & 0 \\ 0 & \sigma_\chi^2 + \sigma_\xi^2 & 0 & 0 \\ 0 & 0 & \delta_\chi \sigma_\chi^2 + \sigma_\xi^2 & 0 \\ 0 & 0 & 0 & \sigma_\chi^2 + \delta_\xi \sigma_\xi^2 \end{pmatrix} \tag{17}$$

and for investors in country $c = B$, we have

$$S_B = \begin{pmatrix} \delta_\chi \sigma_\chi^2 + \sigma_\xi^2 & 0 & 0 & 0 \\ 0 & \sigma_\chi^2 + \delta_\xi \sigma_\xi^2 & 0 & 0 \\ 0 & 0 & \delta_\chi \sigma_\chi^2 + \delta_\xi \sigma_\xi^2 & 0 \\ 0 & 0 & 0 & \sigma_\chi^2 + \sigma_\xi^2 \end{pmatrix} \tag{18}$$

Among the four firms, investors in country A have the best information about firm $(1,A)$: it is listed on its domestic stock market, which is located close to investors from country A. Conversely, they are least informed about firm $(2,A)$: it is listed on the foreign exchange where information production is weaker, and the information is generated far from investors in country A, so their signal is more diluted.

Among firms from country B, $(2,B)$ is listed in country A, so the quality of information produced is lower than if it were listed on the exchange in country B; yet investors in country A are geographically close to the source of information production, resulting in less dilution. For firm $(1,B)$, the opposite is true. At this stage, we do not impose any restriction on the relative strength of the market–to–firm and investor–to–market noise components, and therefore cannot rank the precision of the information available to an investor from A about firms $(1,B)$ and $(2,B)$ in this case.

2.4 The menu of firm-level stock prices

In this section, we close the loop between the asset pricing and firm dynamics blocks by describing how the equilibrium of the APB feeds back into firms' cost of capital—and thereby their entry and listing decisions (FDB)—through financial intermediaries.

When a firm seeks to raise capital, it engages a financial intermediary, which we refer to as an underwriter, to facilitate the listing. The underwriter purchases the firm's shares and subsequently resells them to investors on the stock market. For this service, the underwriter charges a fee equal to a percentage $\tau_c(m)$ of the total proceeds.

The timing is as follows. Prior to entry, and thus before the realization of investors' private signals, underwriters announce a schedule of guaranteed offer prices corresponding to the expected market-clearing prices implied by the asset-pricing block:

$$p_{e,c}(m) = E[\widetilde{P}_{e,c}(m)],$$

for each potential listing location $m \in \{A, B\}$. Upon entry, the firm matches with an underwriter that commits to purchase the firm's shares at the corresponding offer price and to absorb any subsequent deviation between the realized market price $\widetilde{P}_{e,c}(m)$ and the expected price $E[\widetilde{P}_{e,c}(m)]$ when the shares are resold to investors after the signals are observed. The commitment implies that entrepreneurs raise funds under certainty, observing a deterministic menu of offer prices $\{p_{e,c}(A), p_{e,c}(B)\}$. Each firm then chooses the market that minimizes the equity fraction issued, in line with equation (10).

The firm's total proceeds net of fees are given by

$$(1 - \tau_c(m))E[\widetilde{P}_{e,c}(m)]z_{e,c}(m),$$

where $\tau_c(m)$ is the underwriter fee. The underwriter's ex-post profit is given by

$$\underbrace{\left(\widetilde{P}_{e,c}(m) - E[\widetilde{P}_{e,c}(m)]\right) z_{e,c}(m)}_{\text{Deviation from offer price}} + \underbrace{\tau_c(m)E[\widetilde{P}_{e,c}(m)]z_{e,c}(m)}_{\text{Service Fees}}.$$

Underwriters bear the short-term pricing risk associated with placing the issue; their fee $\tau_c(m)$ compensates for this service and any associated costs.[26]

2.5 Equilibrium

Now that we have described the two building blocks of the model and how they interact, we can define the equilibrium of the economy. To do so, we summarize the model compactly through the asset market clearing condition and the optimality problems on the firm side.

[26]Underwriters may be either risk neutral or risk averse; this distinction is immaterial for our analysis. In the latter case, the fee $\tau_c(m)$ embeds a risk-premium component that compensates for bearing short-term pricing risk. The firm's problem is unaffected, as entrepreneurs raise funds under certainty, a key feature that preserves tractability.

Asset market clearing For each active set N and listing configuration D, equilibrium in the asset market implies that, for every firm $(e,c) \in N$

$$\underbrace{\frac{1}{R}\Big(\bar{F}_{e,c} - [\Lambda(d_{e,c}; D_{-(e,c)}, N)^{-1} z]_{e,c}\Big)}_{\text{(inverse demand: Admati, 1985)}} = \underbrace{\frac{\widetilde{k}_{e,c}(d_{e,c})}{z_{e,c}}}_{\text{(inverse supply: financing constraint)}} . \tag{19}$$

This N–equation system implicitly defines, for each firm (e,c), the issuance level $z_{e,c} = z_{e,c}(d_{e,c}; D_{-(e,c)}, N)$ consistent with market clearing.

Remark 2 (Root selection)**.** *Each equation in* (19) *may admit multiple positive roots. When this occurs, we select the* smallest root *for each component, denoted* $z^{\min}_{e,c}(d_{e,c}; D_{-(e,c)}, N)$*. This rule is assumed throughout.*

The intuition behind Remark 2 is illustrated in Figure 1. The figure plots the inverse demand schedule and the inverse supply curve, which may intersect multiple times within the admissible range $(0,1]$ of share issuance (see the green line). In such cases, entrepreneurs naturally select the equilibrium associated with the lower level of issued shares, since this corresponds to giving up a smaller ownership stake for the same financing need. Hence, we focus on the smallest positive root of each equation in system (19).

Listing problem Taking as given the number of active firms and the listing choices of other firms, $(D_{-(e,c)}, N)$, firm (e,c) chooses its listing location to minimize its issuance, subject to the asset market clearing,

$$d^{\star}_{e,c} = \arg \min_{d_{e,c} \in \{0,1\}} \; z^{\min}_{e,c}(d_{e,c}; D_{-(e,c)}, N). \tag{20}$$

Figure 1 illustrates the listing problem. Given the listing choices of other firms, an individual firm faces an inverse demand schedule for each potential listing location. The corresponding market–clearing share issuances, $z^{\min}_{e,c}$, are shown by the blue and green dots for listing locations A and B, respectively. The listing decision consists of choosing the location that requires issuing fewer shares to finance the project. This corresponds to the market in which the posterior precision $\Lambda_{e,c}$ is highest, implying a flatter, and thus more elastic, investor demand schedule.

The matrix $D^{\star}$ is a *listing Nash equilibrium* if every entrepreneur's choice satisfies (20). The corresponding equilibrium issuance vector is $z^{\star} = z(D^{\star}; N)$.

Entry problem Given $D^{\star}$, and thus the equilibrium pairs $(z^{\star}_{e,c}, p^{\star}_{e,c})$ and (retained-equity) payoffs from entry $J_{e,c} = (1 - z^{\star}_{e,c})\pi_{e,c}$, the number of successful entrants $N^{\star}_c$ satisfies

$$\frac{N^{\star}_c}{\widetilde{N}_c} \leq F\Big(\mathbb{E}[J_{e,c}] - \tfrac{1}{2\rho^E_c}\operatorname{Var}[J_{e,c}]\Big) < \frac{N^{\star}_c + 1}{\widetilde{N}_c} \qquad \forall c. \tag{21}$$

It is clear from this compact representation of the model that the equilibrium amounts to a fixed point problem in (D, N).

Definition 2 (Equilibrium). *An equilibrium is a price vector $p^\star$ and allocations $(D^\star, N^\star, z^\star)$ such that the following holds.*

(i) ***Listing optimality:*** *The listing matrix $D^\star$ is a listing Nash equilibrium, i.e. every $d^\star_{e,c}$ satisfies (20) given $(D^\star_{-(e,c)}, N^\star)$.*

(ii) ***Entry optimality:*** *The vector $N^\star = (N^\star_A, N^\star_B)$ satisfies the entry condition (21) given $(p^\star_{e,c}, z^\star_{e,c})$ implied by $D^\star$.*

(iii) ***Asset market clearing:*** *$z^\star$ satisfies (19) under $(N^\star, D^\star)$ and $p^\star = \frac{1}{R}\big(\bar{F} - \Lambda^{-1} z^\star\big)$.*

(iv) ***Fixed point condition:*** *The pair $(N^\star, D^\star)$ constitutes a fixed point of the entry and listing problems: given $N^\star$, $D^\star$ solves the listing problem, and given $D^\star$, $N^\star$ solves the entry problem.*

We focus on symmetric equilibria*, in which all active firms of a given origin c choose the same listing location and issue the same number of shares, i.e. $d^\star_{e,c}$ and $z^\star_{e,c}$ are identical across* $(e, c) \in N^\star_c$.[27]

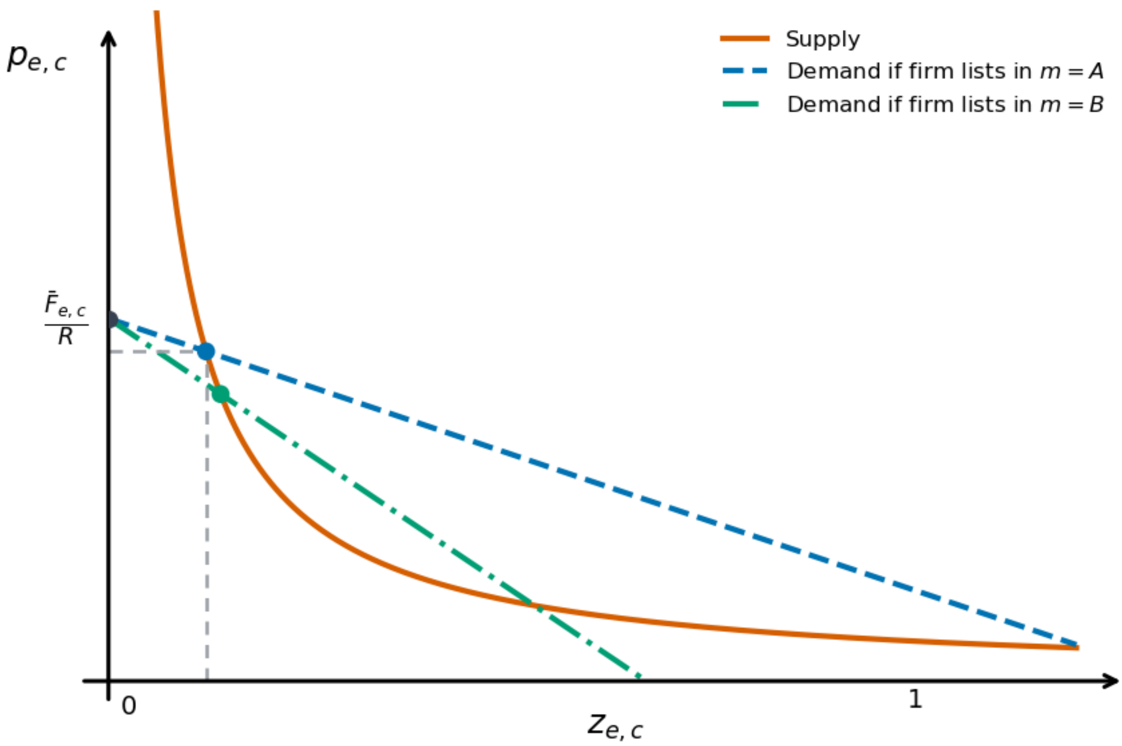


Figure 1: Listing market equilibrium. In the figure, underwriter fees and fixed costs of listing are identical across markets, i.e. $\widetilde{k}_{e,c}(m) = \widetilde{k}\ \ \forall m, (e, c)$.

[27]This assumption is without loss of generality for our purposes. Within-country heterogeneity could be accommodated by introducing firm types—e.g., differing in their potential informational gains from proximity to the market—and analyzing symmetric equilibria within each type.

CAPM. A natural benchmark is the equilibrium in which the asset pricing block is based on CAPM. Unlike our model—where firms' listing choices affect investors' information, hence their demands, and thereby the relevance of stock markets—under CAPM, we obtain an irrelevance result.

Remark 3 (Stock–market irrelevance under CAPM)**.** *Combining the firm dynamics and asset pricing blocks under CAPM yields the issuance system*

$$\underbrace{\frac{1}{R}\Big(\bar{F}_{e,c} - [\bar{\rho}^{-1}Vz]_{e,c}\Big)}_{\textit{(inverse demand: CAPM)}} = \underbrace{\frac{\widetilde{k}_{e,c}(d_{e,c})}{z_{e,c}}}_{\textit{(inverse supply: financing constraint)}}, \qquad (e,c) \in N. \tag{22}$$

When all firms face identical funding requirements, $\widetilde{k}_{e,c}(m) = \widetilde{k}$ for all m and (e,c), this system admits a unique solution $z^\star$ that is independent of the listing configuration D. In this case, the following holds.

(i) Listing–location irrelevance: *each firm raises the same amount of funds regardless of where it lists;*

(ii) Stock–market irrelevance: *whether there are two local exchanges or a single integrated market, equilibrium prices, issuances, and local economic activity (number of projects funded) remain the same;*

(iii) Market–portfolio irrelevance: *the market portfolio is unaffected by firms' listing choices.*

The full equilibrium under CAPM consists of the issuance vector $z^\star$ solving (22) and the entry levels $(N_c^\star)_c$ satisfying (21). There is no fixed point condition linking entry and listing: entry decisions do not feed back into firms' location choices.

When $\widetilde{k}_{e,c}(m) = \widetilde{k}\ \ \forall m, (e,c)$, under CAPM, the solution $z^\star$ to (22) is evidently independent of the listing configuration D. Listing location enters neither the inverse demand function nor the system determining equilibrium issuance: both depend solely on the exogenous parameters $(\bar{F}, V, \bar{\rho})$ and the common funding requirement $\widetilde{k}$. Intuitively, with CAPM, the information structure is invariant to listing, and investors' demands are identical across locations. As a result, equilibrium issuance, prices, entry, and the market portfolio are unchanged whether firms list domestically or abroad. Having two local stock markets or a single integrated market, therefore, yields identical equilibrium outcomes.

When funding requirements differ across listing locations, $\widetilde{k}_{e,c}(H) \neq \widetilde{k}_{e,c}(F)$, local stock markets acquire relevance even under CAPM, but only through a supply–side channel. Differences in fixed costs or fees that modify $\widetilde{k}$ shift the equilibrium of (22) by changing the effective asset supply. Listing thus affects firms' cost of capital solely through fixed costs and fees, not through informational or demand–based mechanisms. This is why the fixed point condition disappears under CAPM. Unlike in our model, CAPM does not generate an endogenous link between firms' listing decisions and investors' demands.[28] Any relevance of local stock markets in this benchmark arises exclusively from supply–side heterogeneity. The CAPM framework would therefore describe a world in which listing depends only on firm size—an environment inconsistent with empirical evidence.[29]

3 A tractable benchmark

As outlined in 2.5, in the general model the firm's listing problem depends on all other firms' choices through investors' demands. The resulting interdependence prevents analytical tractability, requiring numerical solution.

To obtain closed-form solutions and thereby build intuition, we focus on a *tractable benchmark* in which shocks to firm profits, investors' private signals, and noise trader demands are *uncorrelated across assets*, so that the variance–covariance matrices V, S_A, S_B, and U are diagonal. As a result, the matrix of posterior precisions, Λ, also becomes diagonal, so that each firm's equity price depends only on its own fundamentals and listing choice. This diagonal structure is *essential for analytical tractability.*[30] When cross-asset correlations are present, the shocks jointly determine investors' portfolio allocations, so that asset prices, issuance, and entry become interdependent. In this case, equilibrium can no longer be expressed in closed form and instead requires iterating over the fixed point in firms' entry, prices, and issuances.

In the diagonal benchmark, asset demands become *fully separable* across firms, implying that each entrepreneur's optimal listing decision is independent of other firms' choices.[31] This separability eliminates strategic interaction and the resulting listing externalities that are central for policy analysis. Nevertheless, this simplified environment remains useful because it *retains the endogenous feedback between investor information and firm listing*, thereby breaking the *irrelevance of listing location, and thus stock markets,* that arises under CAPM.

Given that our focus is on the endogenous feedback between investor information and firm listing, we fully isolate this channel by imposing three additional simplifying assumptions. First, shocks to firm profits, private signals, and noise trader demands have homogeneous variance across firms, $V = \sigma_\eta^2 I$, $\Sigma_\chi = \sigma_\chi^2 I$, and $\Sigma_\xi = \sigma_\xi^2 I$. Second, listing fees and fixed costs of listing are identical across markets, and profits are the same across firms. Third, noise trader demand shocks have homogeneous variance across markets, $U = \sigma_U^2 M_A + \sigma_U^2 M_B$.

Under these conditions, the price faced by a firm from country c when listing on market m

[28] In principle, listing could affect investor demand indirectly through entry decisions that alter the covariance matrix V, but this is a purely *indirect* effect: listing does not modify investor demands directly. Furthermore, it is important to note that this *indirect* effect via entry does not feed back into the firms' optimal listing choice, which remains solely determined by fixed costs and fees.

[29] See the empirical literature discussed in the introduction.

[30] We can generalise to within-type (here, country) correlation; strictly, the requirement is that the matrices are block diagonal. If instead cross-type correlations are allowed, the model ceases to admit analytical solutions.

[31] The fact that listing choices of other firms are irrelevant in this tractable benchmark is a result of CARA preferences. Under CARA, the level of background risk does not affect marginal capital allocation choices. This implies that changes to the riskiness of investor terminal wealth implied by the listing choices of other firms do not affect the way the market prices the stock of a given firm.

is

$$p_c(m) = \frac{1}{R}\left[\bar{F} - \frac{z_c(m)}{\lambda_c(m)}\right], \quad \text{where} \quad \lambda_c(m) := \frac{\bar{\rho}}{\sigma_\eta^2} + \frac{\bar{\rho} q_c(m)^2}{\sigma_U^2} + q_c(m) \tag{23}$$

with

$$q_c(m) = \underbrace{\frac{h_A \rho_A}{s_A^c(m)} + \frac{(1-h_A)\rho_B}{s_B^c(m)}}_{\text{aggregate precision of investors' private signals}}, \tag{24}$$

where $s_A^c(m)$ ($s_B^c(m)$) refers to the variance of the signal observed by investors from A (B) about a firm from c listed in stock market m.[32] Equation (23) is the *inverse–demand schedule* in our tractable benchmark, whereas the *inverse–supply schedule* becomes

$$p_c(m) = \frac{\widetilde{k}}{z_c(m)}. \tag{25}$$

It can clearly be seen that the endogenous feedback between investor information and firm listing operates through $\lambda_c(m)$, the aggregate posterior precision of asset payoffs. Higher aggregate posterior precision $\lambda_c(m)$—which reflects a more informed aggregate investor base—lowers the amount of equity that firms must issue to raise a given amount of capital, thereby increasing the incentive to list in market m. At the same time, $\lambda_c(m)$ depends on $q_c(m)$, highlighting that what ultimately matters is not only the precision of individual investors' signals but also the weight of investors from each country.

We characterize listing and entry decisions in subsections 3.1 and 3.2, respectively: listing shapes the cost of capital, and entry determines the level of economic activity, that is, the number of projects funded. Portfolio allocations, characterized in subsection 3.3, are not the core of the analysis but provide complementary insights that help rationalize Sarkissian and Schill (2004).

3.1 Listing

Before characterizing equilibrium listing outcomes, we must ensure that markets clear with feasible equity issuances. Market clearing corresponds to the intersection between the inverse demand of eq. (23) and inverse supply of eq. (25). For each potential listing market m, this intersection must yield a real solution for $z_c(m)$ that lies in $(0, 1]$. The following assumption guarantees that these requirements are satisfied and will be maintained throughout this section.

Assumption 1. *Market clearing admits a real solution $z_c(m) \in (0, 1]$ for firms from both countries c and for all listing markets m. This holds whenever*

$$\forall c: \widetilde{k} \leq \min_{m \in \{A,B\}} \begin{cases} \lambda^c(m)\, \bar{\pi}^2/4R, & \text{if } \lambda^c(m)\bar{\pi} \leq 2, \\ (\bar{\pi} - 1/\lambda^c(m))/R, & \text{if } \lambda^c(m)\bar{\pi} > 2, \end{cases}$$

[32] The paper's notation convention uses the country of origin as a subscript. When both the investor's and the firm's countries are relevant, the investor's country appears in the subscript and the firm's in the superscript.

where $\lambda^c(m)$ denotes the aggregate posterior precision defined in (23).

In this fully symmetric environment, the listing choice is non-trivial only if a *foreign listing* makes foreign investors' signals more precise than a *home listing*. The following remark formalizes this degenerate case.

Remark 4 (Degenerate Listing Outcome). *If even foreign investors obtain more precise signals when a firm lists in its home market than when it lists abroad, then all firms optimally list at home. Formally, if*

$$\delta_\chi \sigma_\chi^2 + \sigma_\xi^2 \;\leq\; \sigma_\chi^2 + \delta_\xi \sigma_\xi^2,$$

then all firms list domestically: $d_c^\star = 1 \;\; \forall c$.

To generate a meaningful trade-off in firms' listing decisions, we impose the following assumption, which will be maintained throughout this section.

Assumption 2. *Foreign investors obtain more precise signals when the firm lists in their market rather than when it lists in its home market*

$$\delta_\chi \sigma_\chi^2 + \sigma_\xi^2 \;>\; \sigma_\chi^2 + \delta_\xi \sigma_\xi^2,$$

which is equivalent to

$$\frac{\sigma_\xi^2}{\sigma_\chi^2} \;>\; \frac{1-\delta_\chi}{1-\delta_\xi}.$$

This restriction rules out the trivial outcome of Remark 4 and ensures that heterogeneous listing patterns can arise, thereby allowing us to study the interaction between investor composition and listing, via how the chosen venue reallocates information across investors.[33]

For the purpose of characterizing equilibrium listing outcomes, it is convenient to reparameterize investor composition. Rather than working directly with the home investor share $h_c \in (0,1)$, we define the relative investor share of country A as

$$\widetilde{h} \;:=\; \frac{h_A}{1-h_A}.$$

This one-dimensional measure of investor composition allows us to express listing equilibria as a function of a single variable.[34]

To capture the information advantage from proximity, we further define the relative unweighted informativeness premium of a domestic listing,

$$q_\delta \;:=\; \frac{\left(\delta_x \sigma_x^2 + \delta_\xi \sigma_\xi^2\right)^{-1} - \left(\sigma_x^2 + \sigma_\xi^2\right)^{-1}}{\left(\sigma_x^2 + \delta_\xi \sigma_\xi^2\right)^{-1} - \left(\delta_x \sigma_x^2 + \sigma_\xi^2\right)^{-1}},$$

[33]Formally, this restriction is only required in the symmetric environment we analyze here. Once cross-market heterogeneity in noise-trader variance is introduced, the assumption is no longer necessary, and the intuition underlying the determinants of the listing venue continues to hold.

[34]An alternative parameterization would be $\frac{h_A \rho_A}{(1-h_A)\rho_B}$, which directly incorporates risk tolerance. However, since in our motivating application changes in risk aversion—rather than investor population shares—represent the relevant shock (as in the case of the UK), it is more convenient to let risk aversion enter through the thresholds.

which satisfies $q_\delta > 1$. This object allows us to define the *listing thresholds* in terms of $\widetilde{h}$ as

$$\widetilde{L} := \frac{\rho_B}{\rho_A q_\delta}, \qquad \widetilde{U} := q_\delta \frac{\rho_B}{\rho_A},$$

Taken together, these thresholds reveal the three ingredients driving equilibrium listing patterns: (a) the *relative size of the local investor base* $\widetilde{h}$; (b) the *relative risk-bearing capacity* ρ_B/ρ_A; and (c) the *unweighted information gain* from the two proximity channels, summarized by q_δ. As shown in Proposition 1, these thresholds induce a partition of the space of investor compositions into distinct regions, each associated with a different listing equilibrium.

Proposition 1 (Existence of local stock markets)**.**

(i) A firm from country c lists domestically iff its effective investor base is sufficiently large

$$d_c^\star = 1 \iff \frac{h_H \rho_H}{(1-h_H)\rho_F} \geq \frac{1}{q_\delta}.$$

(ii) The listing equilibria partition the $\widetilde{h}$*–axis as*

$$(F,H)\colon\ [0,\widetilde{L}), \qquad (H,H)\colon\ [\widetilde{L},\widetilde{U}], \qquad (H,F)\colon\ (\widetilde{U},\infty),$$

where each tuple refers to $(d_A^\star, d_B^\star)$*.*

Therefore, local stock markets exist iff both countries' effective investor bases are large enough to sustain domestic listings, that is, when

$$\frac{1}{q_\delta} \leq \frac{h_A \rho_A}{(1-h_A)\rho_B} \leq q_\delta.$$

Proposition 1 is our main result. Its key insight lies in the role of the *effective investor base*, $h_c\rho_c$, which determines how individual signal precisions aggregate across investors. The parameters δ_x and δ_ξ capture the incremental informativeness that proximity confers on a single investor's signal—through firm–to–market and investor–to–market channels, respectively. Once investors are aggregated, these micro-level gains are weighted by the relative size of each effective investor base. Part (i) of the proposition makes this link transparent. A firm lists in the location that yields the highest aggregate precision of signals. In unweighted terms, a domestic listing improves average signal precision, as encoded by $q_\delta > 1$, but aggregate informativeness depends on the relative size of each effective investor base. If the foreign effective investor base is large, a home listing worsens the precision of the dominant investors' signals and can thus lower overall precision. In that case, the firm optimally lists where those investors are best informed. Hence, sustaining a domestic listing requires a sufficiently large home investor base. In this setting, we abstract from differences in noise-trader variance across markets; if such differences were allowed, the same exact logic would apply, except the firm's choice would also reflect the relative strength of price discovery across venues.

Part (ii) characterizes the listing equilibrium regions. When both effective investor bases are sufficiently large, each country sustains its own stock market, and the equilibrium is (H,H):

local markets exist. When one side's effective investor base dominates, firms from the other country find it optimal to list abroad: listings cluster at one exchange, and the other exchange effectively ceases to operate.

Having established the conditions for the existence of local stock markets, we now turn to *comparative statics*: how the home–listing regions of firms from each country respond to changes in key parameters. In particular, we study how the thresholds $(\widetilde{L}, \widetilde{U})$—which separate the regions where firms from A and B list domestically or abroad—shift with (i) *relative risk aversion* and (ii) the *proximity parameters* (δ_x, δ_ξ).

We first analyze the comparative statics in *relative risk aversion*. We express risk aversion in relative terms, as it allows for the comparative statics to be carried out with respect to a single parameter. Let

$$\widetilde{\rho}_B^A := \frac{\rho_B}{\rho_A},$$

so that a higher $\widetilde{\rho}_B^A$ indicates *greater risk aversion of investors from A relative to those from B*. The corollary below characterizes how the listing thresholds respond to changes in $\widetilde{\rho}_B^A$.

Corollary 1 (Comparative statics of the listing regions in relative risk aversion)**.**

(i) As investors from A become relatively more risk-averse, the home-listing region for firms from A shrinks:

$$\frac{\partial \widetilde{L}}{\partial \widetilde{\rho}_B^A} = \frac{1}{q_\delta} > 0.$$

(ii) Conversely, the home-listing region for firms from B expands:

$$\frac{\partial \widetilde{U}}{\partial \widetilde{\rho}_B^A} = q_\delta > 0.$$

Figure 2 illustrates the listing regions. As investors from A become relatively more risk-averse, their effective investor base $h_A \rho_A$ contracts relative to that of B. Both thresholds $\widetilde{L}$ and $\widetilde{U}$ therefore shift rightward, reducing (expanding) the range of $\widetilde{h}$ for which firms from A (B) list at home.

We next analyze the comparative statics with respect to the *proximity parameters* (δ_x, δ_ξ), which govern the informativeness of *private* signals through two channels: firm–to–market proximity (δ_x) and investor–to–market proximity (δ_ξ). Changes in (δ_x, δ_ξ) alter q_δ directly and, thus, shift the thresholds $(\widetilde{L}, \widetilde{U})$. The corollary below characterizes how the listing thresholds respond to changes in the proximity parameters.

Corollary 2 (Comparative statics of the listing regions in the proximity parameters)**.**

(i) As the firm–to–market proximity parameter δ_x decreases (stronger proximity), the home–listing region for both firms from A and B expands

$$\frac{\partial \widetilde{L}}{\partial \delta_x} > 0, \qquad \frac{\partial \widetilde{U}}{\partial \delta_x} < 0.$$

(ii) The effect of investor–to–market proximity δ_ξ depends on its level and on the ratio $t = \sigma_x^2/\sigma_\xi^2$:

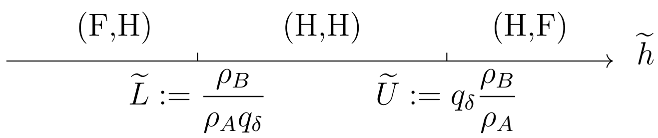
$$\left(\frac{\partial\widetilde{L}}{\partial\delta_\xi}, \frac{\partial\widetilde{U}}{\partial\delta_\xi}\right) = \begin{cases} (<0, >0) & \textit{if } \delta_\xi \geq \sqrt{2}-1 \textit{ or } \left[\delta_\xi < \sqrt{2}-1 \ \&\ t^\star < t \leq t_{\max}\right], \\ (>0, <0) & \textit{if } \delta_\xi < \sqrt{2}-1 \ \&\ 0 < t < \min\{t^\star, t_{\max}\}, \end{cases}$$

where $t_{\max} := \frac{1-\delta_\xi}{1-\delta_x}$, $t^\star = \frac{-(1+\delta_x)\,\delta_\xi + \sqrt{(1+\delta_x)^2\delta_\xi^2 + (1+\delta_x^2)[1-\delta_\xi(2+\delta_\xi)]}}{1+\delta_x^2} > 0.$

Corollary 2 shows that a decline in the firm–to–market proximity parameter δ_x unambiguously expands both home–listing regions. Stronger firm–to–market proximity enhances the precision of domestic investors' firm–specific signals and, at the same time, reduces the precision advantage that foreign investors obtain when the firm lists in their market. As a result, a lower δ_x increases the relative informativeness of a domestic listing for both sides, raising aggregate precision under home listing and expanding both home–listing regions.

The effects of investor–to–market proximity δ_ξ are more nuanced. A lower δ_ξ increases the precision of home investors' signals when the firms list domestically, but it also raises the precision of foreign investors' signals when the firms list abroad. These two forces pull in opposite directions. When δ_ξ is low, the domestic investors' gain from a home listing dominates, and both home–listing regions expand. When δ_ξ is high, the foreign side's advantage prevails, and stronger investor–to–market proximity instead promotes foreign listing, shrinking the home–listing regions.

Figure 2: Listing equilibrium regions



3.2 Entry and local economic activity

Entry determines the level of local economic activity—the number of projects financed in each country. We now examine how the key forces analyzed in subsection 3.1—the benefits from informational proximity and the relative risk tolerance of investor groups, which determine whether local stock markets are sustained—translate into differences in entry and domestic project funding. Proposition 2 characterizes these comparative statics.

Proposition 2 (Local economic activity)**.**

The following holds for equilibrium entry, and thus the number of projects which are funded.

(i) If the firm–to–market proximity benefit decreases then entry weakly decreases:

$$\forall c: \quad \delta_x' > \delta_x \implies N_c(\delta_x') \leq N_c(\delta_x).$$

(ii) If the investor–to–market proximity benefit decreases then entry weakly decreases:

$$\forall c: \quad \delta'_\xi > \delta_\xi \implies N_c(\delta'_\xi) \ \leq \ N_c(\delta_\xi).$$

(iii) If the investor group in country i becomes more risk averse, then entry by firms from both countries c weakly decreases:

$$\forall i, \ \forall c: \quad \rho'_i < \rho_i \implies N_c(\rho'_i) \ \leq \ N_c(\rho_i).$$

Proposition 2 shows that local economic activity—measured by the number of domestic projects financed—declines as the informational and risk-bearing environment worsens. When the benefits of proximity deteriorate (that is, when δ_x or δ_ξ increase), investors' signals about firm fundamentals become noisier, reducing overall information precision. Aggregate informativeness therefore falls, making investor demand less elastic: investors require higher compensation to hold risky assets, firms face higher issuance costs, and entry declines.

When an investor group becomes more risk averse, its effective contribution to information aggregation and risk bearing diminishes. The resulting contraction in global risk-bearing capacity lowers aggregate precision, leading to a decline in entry for firms from both countries. However, the effect on listing decisions is asymmetric (see Corollary 1). As the risk aversion of investors in one country—for instance, in A—increases, their domestic market loses informed and risk-tolerant capital, making foreign listing relatively more attractive for A-firms. By contrast, firms from the foreign country B strengthen their incentive to list at home, as the relative weight of their domestic investors rises. The model's predictions align with observed outcomes in the UK, where a large increase in investor risk aversion has been accompanied by firms seeking foreign listings and by a marked contraction in domestic real activity.

3.3 Portfolio holdings

Firstly, to characterize equilibrium portfolio weights, we impose a mild restriction on firms' financing needs such that, for all admissible equilibria, investor holdings are increasing in q, mirroring their responsiveness to individual signal precision s^{-1}. This ensures that the effect of information on holdings operates in the same direction across both channels.[35]

Assumption 3. *Investor holdings are increasing in the aggregate precision of private signals, q. This holds whenever the required funding satisfies*

$$\forall c: \quad \widetilde{k} \ \leq \ \frac{\underline{\lambda}^c \, \bar{\pi}^2}{8R}, \qquad \textit{where } \underline{\lambda}^c := \min_{q \in \mathcal{Q}^c} \lambda^c(q).$$

Secondly, we introduce the key objects required for the characterization of equilibrium portfolio weights in Proposition 3. We start by defining the *market portfolio* as the value-weighted

[35] Total issuance at the firm level, $z^\star$, is strictly decreasing in λ, and hence in the aggregate precision of private signals q. The sign $\partial z^\star / \partial q < 0$ holds independently of the small-funding bound of assumption 3 which applies at the investor level.

portfolio containing all available assets in the economy, with each asset held in proportion to its outstanding market value. Therefore, its value is $\sum_c N_c p_c s_c$. The *market-portfolio weight* of country c is then

$$w^c_{\text{mkt}} \;=\; \frac{N_c p_c z_c}{N_A p_A z_A + N_B p_B z_B} = \frac{N_c}{N_A + N_B}.$$

Next, the *weight of country c in the portfolio of an investor from i* is defined as

$$w^c_i \;=\; \frac{N_c p_c \phi^c_i}{N_A p_A \phi^A_i + N_B p_B \phi^B_i} = \frac{N_c \phi^c_i / z_c}{N_A \phi^A_i / z_A + N_B \phi^B_i / z_B},$$

which uses $p_c z_c = \widetilde{k}\ \forall c$ and where ϕ^c_i denotes the holdings of investor from i of a firm from country c. Equivalently, w^c_i is the relative exposure of the risky portfolio of an investor from i to country c. Finally, we define the *market-portfolio tilt* towards country c as

$$\Upsilon^c \;:=\; w^c_{\text{mkt}} - w^{c'}_{\text{mkt}}, \quad c' \neq c,$$

and the investor's *home-bias gap* as

$$\Gamma^c_c \;:=\; w^c_c - w^c_{\text{mkt}}.$$

A positive Υ^c means the market portfolio tilts toward country c (relative to c'); a positive Γ^c_c means an investor overweights her own country relative to the market portfolio.

With these definitions in place, Proposition 3 characterizes the aggregate bias of the market portfolio and provides a theoretical foundation for the empirical findings of Sarkissian and Schill (2004) on the *joint home bias*.

Proposition 3 (Joint home bias)**.**

Suppose Assumption 3 holds. Then:

(i) The market portfolio tilts toward the country with the larger effective investor base. Formally,

$$h_c \rho_c > (1 - h_c)\rho_{c'} \quad \Longrightarrow \quad \Upsilon^c \geq 0.$$

(ii) There is home bias in investors' portfolios whenever firms list domestically and the effective local investor base is not relatively too small. Specifically,

$$\Gamma^c_c = \begin{cases} > 0, & \textit{if } d^\star_c = 1 \textit{ and } \dfrac{h_c \rho_c}{(1 - h_c)\rho_{c'}} > \overline{M}, \\ = 0, & \textit{if } d^\star_c = 1 \textit{ and } \dfrac{h_c \rho_c}{(1 - h_c)\rho_{c'}} = \overline{M}, \\ < 0, & \textit{if } d^\star_c = 1 \textit{ and } \dfrac{h_c \rho_c}{(1 - h_c)\rho_{c'}} < \overline{M} \textit{ or } d^\star_c = 0, \end{cases}$$

where $0 < \overline{M} < 1$ is the unique threshold in $\frac{h_c \rho_c}{(1 - h_c)\rho_{c'}}$ such that $\Gamma^c = 0$ when $d^\star_c = 1$.

Part (i) of Proposition 3 shows that the market-portfolio tilt toward one country arises endogenously from the information environment. Firms from c, the country with the larger effective investor base $h_c\rho_c$, can attain a higher aggregate precision than firms from c'. Consequently, their equities attract greater investor demand, allowing them to raise capital at lower cost. More firms therefore enter in c, and the market portfolio allocates a larger share to them.

Part (ii) establishes the presence of *joint home bias*. In our model, investors exhibit home bias whenever domestic firms list at home and their effective investor base is sufficiently large. This result rationalizes the empirical evidence of Sarkissian and Schill (2004), who document that international listing choices mirror investor home bias. In our model, that link emerges endogenously: a strong domestic investor base induces firms to list at home, and conditional on such listings, local investors overweight home equities relative to the market portfolio, provided that the foreign base is not too dominant. Joint home bias thus arises as an equilibrium outcome of relative effective investor-base strength.

Having characterized equilibrium portfolio weights, we now ask how the *proximity parameters* shape these weights, and thus the market-portfolio tilt and investor home bias. The next corollary formalizes these comparative statics.

Corollary 3 (Comparative statics of portfolio allocations in the proximity parameters). *Suppose Assumption 3 holds. Let δ collect the proximity parameters, with $\delta' < \delta$ indicating a reduction in at least one of them.*

(i) Market-portfolio tilt. Let $h_c\rho_c > (1-h_c)\rho_{c'}$ so that a market-portfolio tilt toward firms from c is present. The tilt is stronger the greater are the gains from proximity; formally,

$$\delta' < \delta \quad \Rightarrow \quad \Upsilon^c(\delta') \;\geq\; \Upsilon^c(\delta).$$

(ii) Investor home bias. If domestic listing prevails at both parameter values ($d_c^\star = 1$ at δ and at δ'), stronger gains from proximity increase investor home bias and make it harder to overturn (as $\overline{M}$ decreases); formally,

$$\delta' < \delta \quad \Rightarrow \quad \Gamma_c^c(\delta') \;>\; \Gamma_c^c(\delta), \qquad \overline{M}(\delta') \;<\; \overline{M}(\delta).$$

The intuition behind Corollary 3 is as follows. As proximity improves—through either the firm-to-market or investor-to-market channels—the market-portfolio tilt toward the country with the larger effective investor base becomes more pronounced. Moreover, when firms list domestically ($d_c^\star = 1$), stronger gains from proximity both broaden the range of investor-effective-base configurations that generate home bias and raise Γ_c^c; if investors already exhibit home bias, the bias intensifies, whereas if not, portfolios shift toward home, making home bias less negative.

4 Conclusion

We develop a theory of local stock markets in which listing location shapes the information environment and, through it, the cost of capital. The core insight is a threshold result: a domestic exchange is sustained only when the effective local investor base—the risk-weighted depth of local risk-bearing capacity—is large enough. When it contracts, investor demand becomes less elastic, firms tilt toward foreign listings, domestic activity falls, and the local market contracts and may ultimately close. In contrast to a CAPM benchmark—where venue is irrelevant—location matters here precisely because markets produce and aggregate information.

The model speaks directly to current policy debates in Europe. For example, UK pension funds have systematically rebalanced away from equities towards bonds over the past two decades, following accounting reforms that constrained defined-benefit schemes. This shift reduced effective risk appetite, left UK quoted shares majority foreign-owned, and coincided with a decline in domestic listing activity and stock market performance.[36] Seen through our model, reforms to reinvigorate pension fund participation may be justified, especially to the extent that they reflect institutional constraints, rather than underlying preferences for risk-exposure.

Accordingly, our model yields testable implications: (i) measures of domestic risk-bearing capacity predict listing venue, liquidity, and entry; and (ii) shocks that reduce that capacity trigger foreign listings and lower local IPO intensity. We see these as promising directions for empirical work and for calibrating policy to revitalise local markets.

[36] See New Financial (2024) for a discussion of UK pension fund reallocation. UK individuals and institutions now hold less than 50% of UK quoted shares (Office for National Statistics, 2023). The shift in UK pension fund holdings reflects a transition to liability-driven investment (LDI), following accounting reforms (Amir et al., 2010). New Financial (2025) discusses recent trends in UK listing and market performance.

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