CHAPTER 3

Expansion of Capital Markets across Firms

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Key Messages

- The expansion of capital markets in low- and middle-income countries was mirrored by an influx of newly issuing firms.
- Since the late 1990s, the number of nonfinancial firms that raised capital annually in those markets increased fourfold in middle-income countries and fivefold in low-income countries, far surpassing the roughly 40 percent increase in high-income countries.
- As a result, a cohort of around 14,000 firms in low- and middle-income countries became new participants—firms that accessed capital markets for the first time between 2000 and 2022.
- These new participants have played a pivotal role in the growth of capital market financing for firms in low- and middle-income countries. By 2022, they accounted for the majority of cumulative net capital issuance (CNI) in low- and middle-income countries, a trend not mirrored in high-income countries.
- New participants were, on average, 21 years younger, had less than one-fifth of the assets, and issued less than half the amount of capital compared to "1990s participants"—firms that accessed capital markets at least once in the 1990s.
- Furthermore, both new and 1990s participants in low- and middle-income countries increasingly relied on domestic markets for their issuances. The average size of domestic bond issuances by first-time capital market participants was about 30 percent lower in 2010–22 than in 2000–09, suggesting improved access to domestic capital markets for smaller firms.
- The concentration of capital market activity—measured by the share of total issuance by each firm—declined in low- and middle-income countries due to the influx of new participants, although it remains higher than in high-income countries.

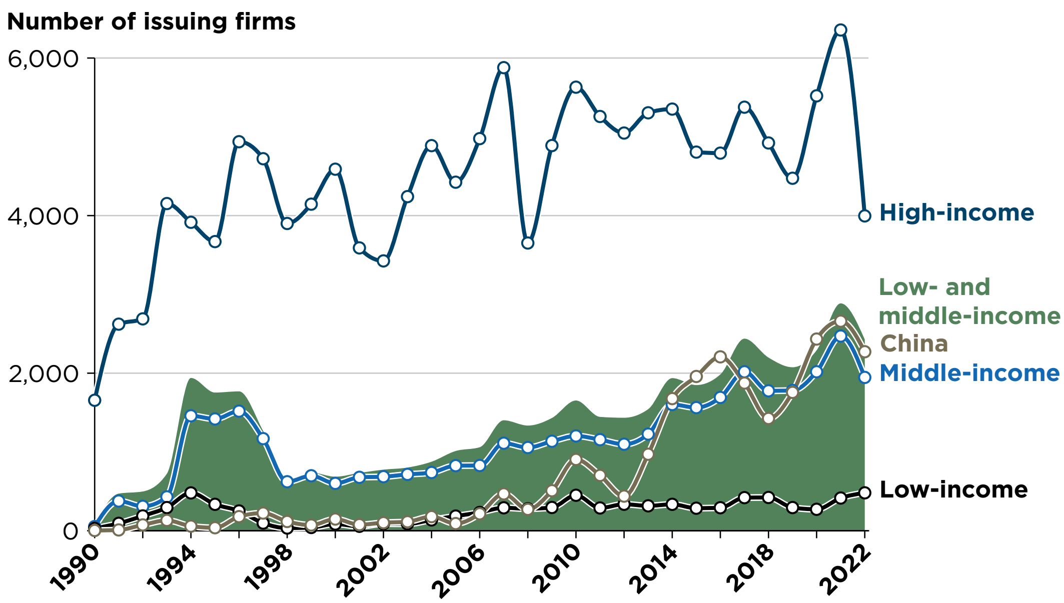
More Firms Are Raising Financing in Capital Markets

In addition to examining capital market growth across countries as in the previous chapter, it is also important to investigate how encompassing the expansion has been across firms within countries. The growth of capital markets in low- and middle-income countries has been accompanied by a rise in the number of firms tapping these markets. By 2022, these new participants accounted for the majority of CNI, unlike in high-income countries.

The number of nonfinancial firms issuing in a given year has risen in countries at all income levels, growing fivefold in low-income countries and fourfold in middle-income countries, but only 40 percent in high-income countries from the late 1990s to the peak in 2021 (figure 3.1).[1] This finding suggests that the expansion of capital markets may be attributed not solely to increased issuances from a few established firms but also to broader access for more firms.

FIGURE 3.1

More Firms Are Issuing Capital in All Income Groups



Source: Calculations using issuance data from the Securities Data Company Platinum database from LSEG.

Note: This figure presents the number of issuing firms in a given year for high-income countries and low- and middle-income countries (shaded area) as well as for subgroups within low- and middle-income countries and China. For each year, only the firms that issued equity or bonds during that year are counted. Appendix B provides the list of countries, grouped by income category.

The number of firms issuing annually rose to nearly 1,500 firms in middle-income countries and nearly 500 firms in low-income countries by the mid-1990s. The number fell in the late 1990–99 period before resuming growth after 2000. For China, the number of issuing firms remained broadly stable until 2010 and surged thereafter, reaching levels on par with the middle-income group of countries. During 1990–2022, about 20,000 firms in low- and middle-income countries participated in capital markets compared with 50,000 firms in high-income countries.

"1990s Participants" and "New Participants"

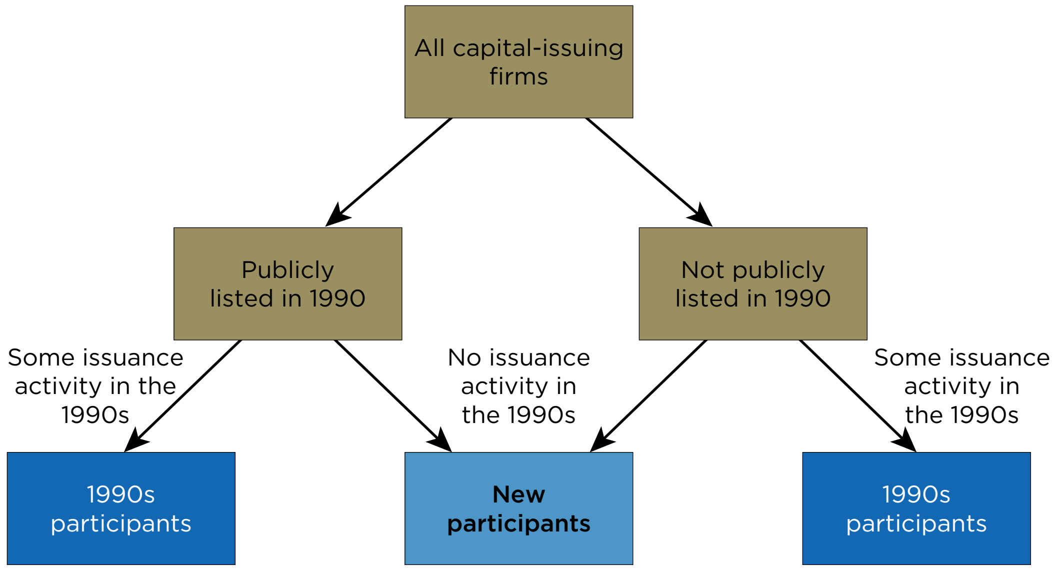
For this book's analysis, firms that issued stocks or bonds at some point during 1990–2022 are split into two groups: "1990s participants" refers to firms that issued in the 1990s (not necessarily exclusively), and "new participants" refers to firms that did not issue during the 1990s but did so subsequently (figure 3.2).[2] Firms are separated in this manner as a way of exploring the behavior of firms that had previously not tapped capital markets in the sample period, possibly because of constraints on their ability to do so, relative to the more established firms that were already active in capital markets in the 1990s.[3]

Among the total number of 20,000 firms in low- and middle-income countries and 50,000 firms in high-income countries that participated in capital markets between 1990 and 2022, approximately 6,000 firms in low- and middle-income countries and 21,000 firms in high-income countries are classified as "1990s participants." Meanwhile, 14,000 firms in low- and middle-income countries and 29,000 firms in high-income countries are classified as new participants between this period (table 3.1).[4]

As may be expected, new participants and 1990s participants differ significantly by age (measured as the number of years since a firm was founded), assets, and size of issuance during 2000–22 (table 3.2). On average, new participants are 21 years younger than 1990s participants. Firm size (proxied by assets held) and amounts issued are both larger for 1990s participants than for new participants.

FIGURE 3.2

Various Types of Firms Are Active in Capital Markets



Sources: International Finance Corporation and World Bank.
Note: This figure presents the breakdown of capital-issuing firms based on whether they were publicly listed in 1990 and when they issued during 1990–2022.

TABLE 3.1

New Participants Constitute the Majority of Participants in Capital Markets, Regardless of Country Income Level

Type of participant	Low-income countries	Middle-income countries	China	High-income countries
1990s participants	1,684	4,324	802	20,881
New participants	3,645	10,722	8,982	28,994
Total	5,329	15,046	9,784	49,875

Source: Calculations using issuance data from the Securities Data Company Platinum database from LSEG.
Note: This table reports the number of 1990s and new participants for low-, middle-, and high-income countries, as well as China, during 1990–2022. Firms are considered 1990s participants if they issued at least once during the 1990s and new participants if they issued for the first time from 2000 onward.

TABLE 3.2

New Participants Were Younger and Smaller and Issued Smaller Amounts Than 1990s Participants during 2000–22

	1990s Participants					New Participants				
Characteristic	**Number of firms**	**Mean**	**Median**	**P75**	**P90**	**Number of firms**	**Mean**	**Median**	**P75**	**P90**
Age (years)	7,749	41	33	57	85	38,708	20	16	25	40
Assets (constant US$, millions)	9,159	16,854	2,438	13,582	42,702	34,984	2,978	73	543	4,084
Issuance (constant US$, millions)	10,545	361	117	363	837	53,885	141	24	132	342

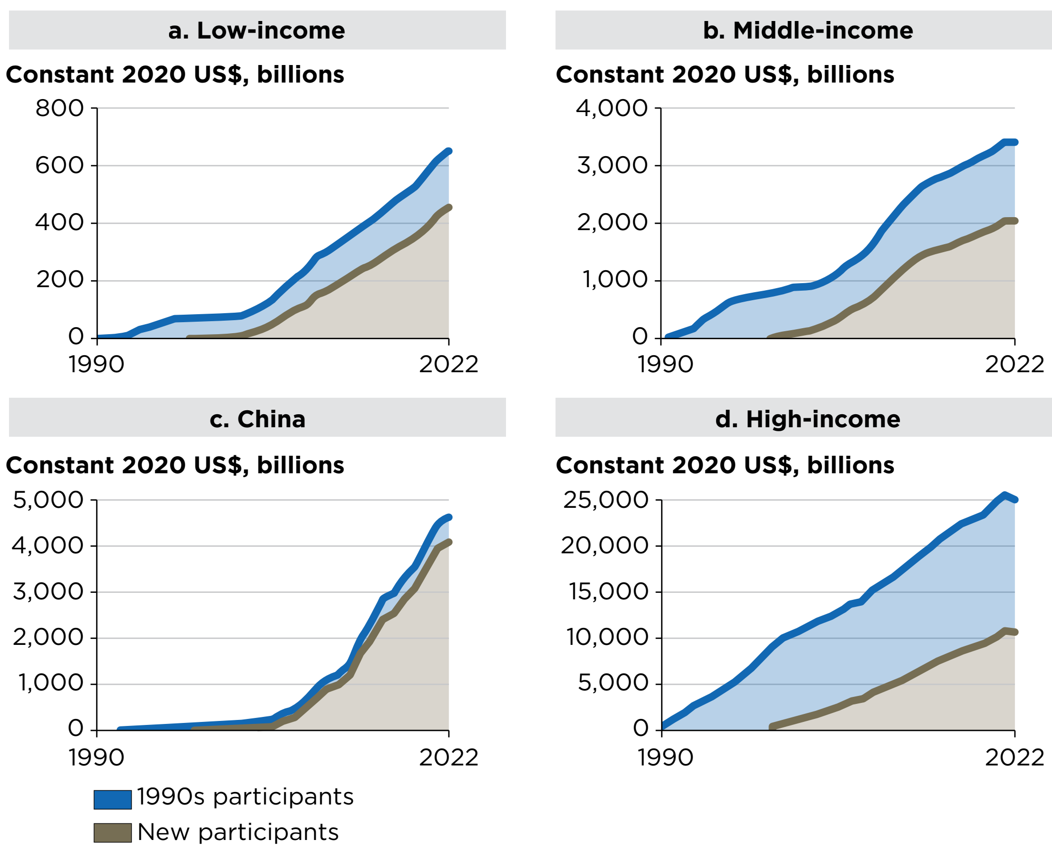
Source: Calculations using issuance, assets, and age data from the Securities Data Company Platinum database from LSEG.
Note: This table presents several statistics for 1990s and new participants. Firms are considered 1990s participants if they issued at least once during the 1990s and new participants if they issued for the first time from 2000 onward. It reports descriptive statistics at the firm level for age, assets, and issuance. The first column provides the number of unique firms with nonmissing values for these characteristics in the Securities Data Company Platinum database. All the moments (the mean, median, 75th percentile [P75], and 90th percentile [P90] are computed using the pool of firms and years after 2000. Age is the number of years since a firm was founded. Assets and issuance are in millions of constant 2020 US dollars.

New Participants Account for a Large Share of Cumulative Net Capital Issuance in Low- and Middle-Income Countries

CNI in low-income countries, middle-income countries, and China experienced a significant uptick following the middle to late 2000s, increasing nearly threefold since then.[5] New participants contributed significantly to this expansion (figure 3.3). By 2022, CNI for new

FIGURE 3.3

New Participants Accounted for a Large Proportion of CNI in Low- and Middle-Income Countries



Source: Calculations using issuance data from the Securities Data Company Platinum database from LSEG.
Note: This figure shows the CNI for new and 1990s participants for the 1990–2022 period in billions of constant 2020 US dollars. CNI for year *Y* is computed as the sum of equity issuance and bond issuance (minus bonds that matured) between 1990 and year *Y*. Firms are considered 1990s participants if they issued at least once during the 1990s and new participants if they issued for the first time from 2000 onward. Appendix B provides the list of countries, grouped by income category. CNI = cumulative net capital issuance.

participants accounted for 61 percent of the total in low- and middle-income countries, with low- and middle-income countries at 70 percent and 60 percent, respectively—much higher than in high-income countries, where it was around 42 percent. In China, the share of new participants in CNI is particularly notable—at 88 percent by 2022.

Consistent with previous observations, there has been a significant increase in the share of CNI for new participants in low- and middle-income countries and China over time (figure 3.4, panel a). By 2010–22, the CNI for new participants in low- and middle-income countries had outgrown that of 1990s participants, while in China, CNI for new participants was almost six times that of 1990s participants. Although 1990s participants have always held the majority share in high-income countries, new participants' share has increased over time as well, growing from around 22 percent in 2000–09 to approximately 37 percent in 2010–22.

FIGURE 3.4

New Participants' Share of CNI Rose Substantially, Making Up the Majority of CNI across Most Regions in Low- and Middle-Income Countries

a. By income group

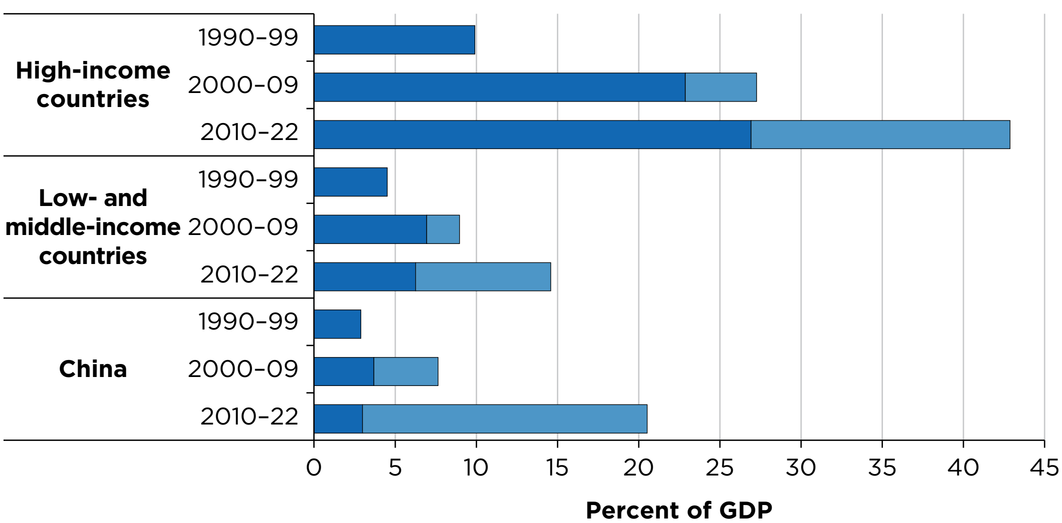


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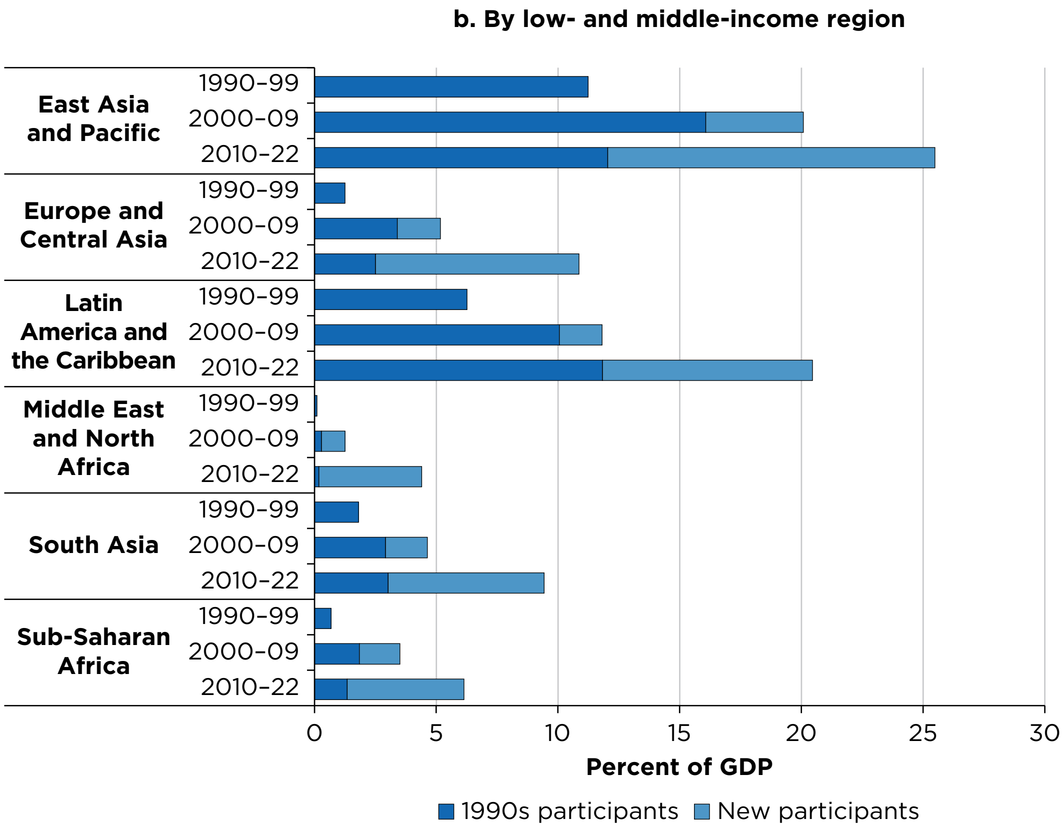
FIGURE 3.4 *(Continued)*



Sources: Calculations using issuance data from the Securities Data Company Platinum database from LSEG and GDP data from the World Bank's World Development Indicators.
Note: This figure shows the CNI (as a percentage of GDP) by new participants and 1990s participants by income group and by region (for low- and middle-income countries only). China is excluded from the East Asia and Pacific region (panel b). CNI as a ratio to GDP for year *Y* is computed as the sum of equity issuance and bond issuance (minus bonds that matured) between 1990 and year *Y*, divided by GDP in year *Y*. The figure reports decade averages for such ratios. Firms are considered 1990s participants if they issued at least once during the 1990s and new participants if they issued for the first time from 2000 onward. Appendix B provides the list of countries, grouped by income category. CNI = cumulative net capital issuance; GDP = gross domestic product.

The expansion of capital issuance by new participants is evident across all low- and middle-income regions (figure 3.4, panel b).[6] Particularly striking is the remarkable expansion of new participants in East Asia and Pacific. In 2010–22, their CNI surged, surpassing the issuance of 1990s participants.

In the Middle East and North Africa, where capital market activity was initially limited, new participants accounted for nearly all CNI during both 2000–09 and

2010–22. Similar patterns were observed in the remaining regions, with an increase in CNI for new participants and their share rising from 2000–09 to 2010–22.

Publicly Listed and Private New Participants Have Similar Characteristics

In the next chapter, the analysis compares new participants with 1990s participants, but owing to data limitations, this comparison is confined to publicly listed firms only. However, the following analysis shows that publicly listed new participants are similar to new participants that are not publicly listed, suggesting that the results in chapter 4 may apply to both types of firms.

As mentioned, the publicly listed status of a firm does not affect whether it is classified as a 1990s participant or a new participant. However, new participant firms that were publicly listed when they first issued between 2000 and 2022 have, by definition, previously issued equity (even if not observed in this sample).

The new participants that were publicly listed in the 1990s are an important cohort because, despite remaining inactive for several years, they have already paid the entry cost to be listed. These firms are crucial in the following chapter, which examines the effect of issuance on the aggregate stock of physical capital and employment.

With respect to age, amount of assets, and issuance size, new participants that were publicly listed in the 1990s are similar to new participants that were private in the 1990s and issued capital for the first time after the 1990s (table 3.3). The two groups account for a similar amount of capital raised after 2000.

In 2000–22, firms that were publicly listed in the 1990s were marginally older, averaging 22 years compared with 19 years for firms that were private during the same period. In terms of size, the two types of firms held nearly the same amount of assets on average. However, firms that were publicly listed in the 1990s issued slightly more capital (1.1 times). The values in table 3.3 are similar to those in table 3.2, where these two types of firms are aggregated, meaning that both groups of firms are much younger and smaller than 1990s participants.

Publicly listed and private new participants contribute comparably to total CNI in both middle-income and high-income countries (figure 3.5). In low-income countries, publicly listed new participants held the majority of CNI, accounting for approximately 46 percent of total CNI by 2022, while private new participants accounted for only 24 percent. The total includes values for 1990s participants. Conversely, in China, private new participants held the majority share, accounting for approximately 67 percent of total CNI by 2022, while publicly listed new participants accounted for only about 22 percent.

TABLE 3.3

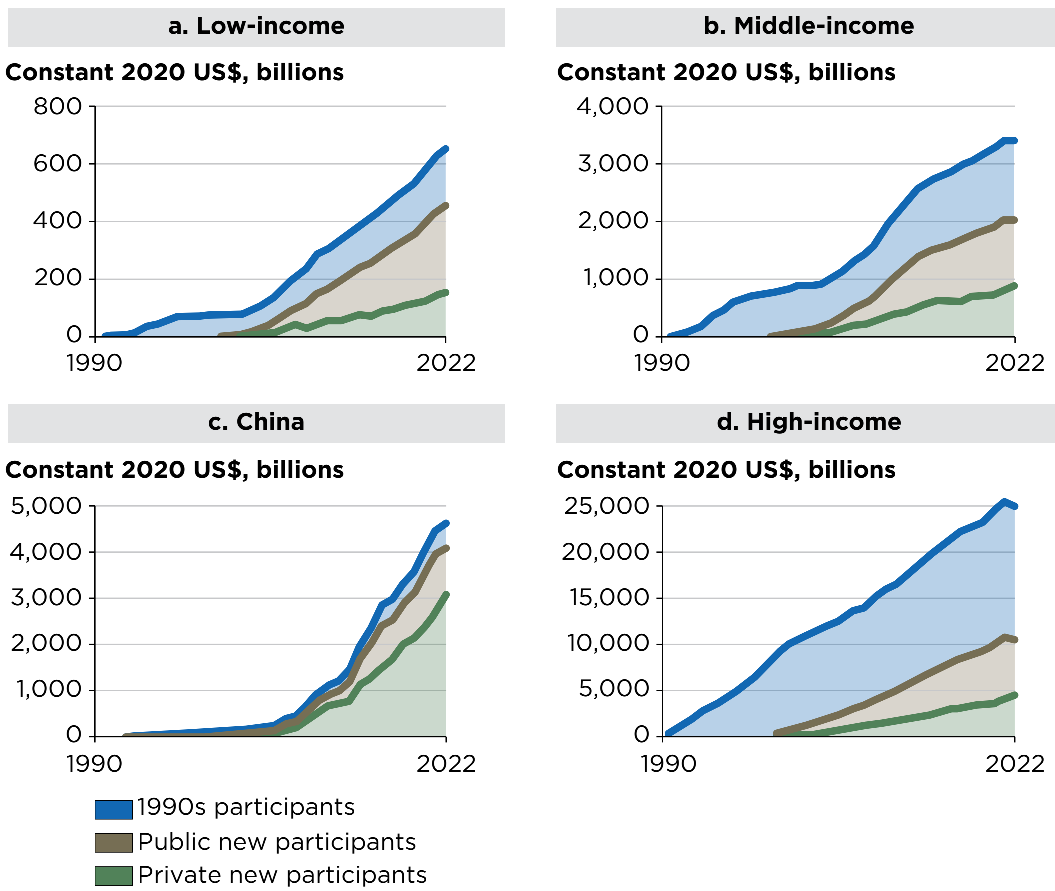
Both Types of New Participants Were Similar with Regard to Age, Amount of Assets, and Issuance Size in 2000–22

	Public in the 1990s					Private in the 1990s				
Characteristic	**Number of firms**	**Mean**	**Median**	**P75**	**P90**	**Number of firms**	**Mean**	**Median**	**P75**	**P90**
Age (years)	14,571	22	16	29	49	24,137	19	15	23	35
Assets (constant US$, millions)	14,771	3,077	60	664	5,111	20,213	2,896	83	478	3,239
Issuance (constant US$, millions)	20,266	152	12	101	380	33,619	134	38	144	324

Source: Calculations using issuance, assets, and age data from the Securities Data Company Platinum database from LSEG.
Note: This table presents several statistics for new participants in 2000–22. Firms are considered new participants if they issued for the first time from 2000 onward. New participants are divided into firms that were publicly listed in the 1990s and those that were private in the 1990s. It reports descriptive statistics at the firm level for age, assets, and issuance. The first column provides the number of unique firms with nonmissing values for these characteristics in the database. All the moments (the mean, median, 75th percentile [P75], and 90th percentile [P90]) are computed using the pool of firms and years after 2000. Age is the number of years since a firm was founded. Assets and issuance are in millions of constant 2020 US dollars.

FIGURE 3.5

Publicly Listed and Private New Participants Accounted for Similar Shares of CNI in Countries at All Income Levels



Source: Calculations using issuance data from the Securities Data Company Platinum database from LSEG.

Note: This figure shows the CNI for new and 1990s participants for the 1990–2022 period in billions of constant 2020 US dollars. CNI for year *Y* is computed as the sum of equity issuance and bond issuance (minus bonds that matured) between 1990 and year *Y*. Firms are considered 1990s participants if they issued at least once during the 1990s and new participants if they issued for the first time from 2000 onward. New participants are divided into firms that were publicly listed in the 1990s and those that were private in the 1990s. Appendix B provides the list of countries, grouped by income category. CNI = cumulative net capital issuance.

Capital Market Concentration Declined in Low- and Middle-Income Countries

Market concentration across regions is assessed by constructing a normalized Herfindahl-Hirschman Index (HHI).[7] The HHI measures the size of gross capital issuance by firms relative to the size of total gross issuance of the country where they operate.[8] The HHI reflects the level of market concentration, with higher values indicating greater concentration. For instance, in a scenario where only one firm in a country issues capital, that firm would hold a 100 percent market share, resulting in an HHI of 1. As more firms tap capital markets, the HHI decreases.

Although the amount of CNI for new participants increased in low- and middle-income countries, China, and high-income countries, market concentration decreased in low- and middle-income countries and China, while remaining relatively stable in high-income countries over the past three decades (figure 3.6, panel a). The reduction has been significant in low- and middle-income countries, where market concentration dropped by about 31 percent, from 0.172 in 1990–99 to 0.118 in 2010–22. Despite this decline, market concentration of low- and middle-income countries has yet to reach the level of high-income countries. In China, market concentration fell below the level observed in high-income countries.

FIGURE 3.6

Market Concentration Declined in Low- and Middle-Income Countries between 1990 and 2022

a. By income group

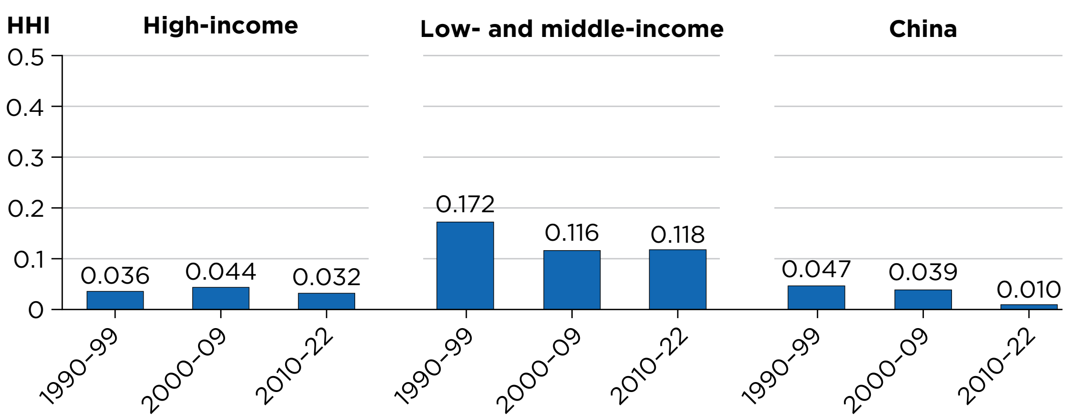


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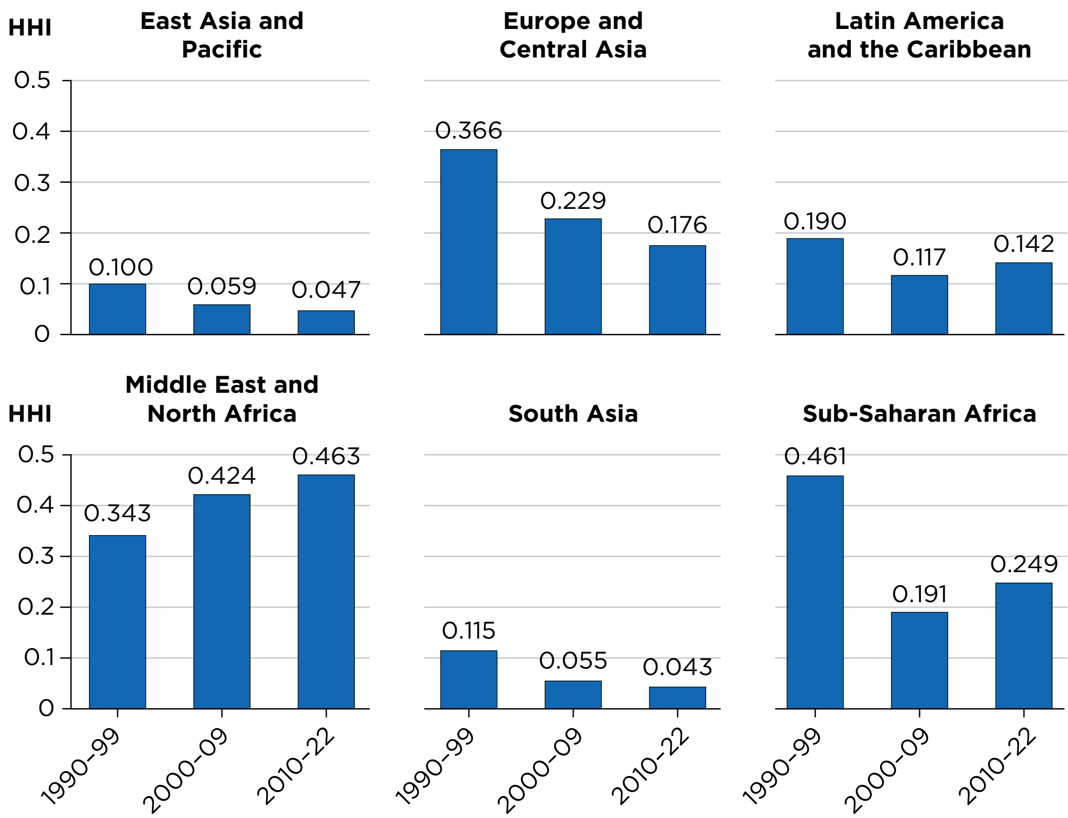
FIGURE 3.6 *(Continued)*

b. By Low- and middle-income regions



Source: Calculations using issuance data from the Securities Data Company Platinum database from LSEG.

Note: This figure presents the Herfindahl-Hirschman Index (HHI), first by income group and then by region (for low- and middle-income countries only). To calculate the HHI, a firm's share of total capital issued is calculated at the country-year level. Then, the HHI is calculated by squaring the market share of each issuing firm within a specific country and year, followed by the summation of these squared values. To obtain an income group or regional weighted average, the country index is weighted by the annual amount issued by a country in the overall group. Lastly, the average is calculated by decade. Appendix B provides the list of countries, grouped by income category. China is excluded from the East Asia and Pacific region.

Regions with initially larger capital markets, such as East Asia and Pacific and Latin America and the Caribbean, began with relatively small market concentrations in the 1990s (figure 3.6, panel b). As capital markets expanded in these regions over time, their market concentration declined even further. Europe and Central Asia and Sub-Saharan Africa, which started with smaller capital markets and have not yet reached the level of either East Asia and Pacific or Latin America and the Caribbean in 1990–99, also experienced a decline in their market concentration. In the Middle East and North Africa, despite the growth of capital markets over time and having the majority of new issuance in 2010–22 attributed to new participants, market concentration increased over time. This change occurred because, in many of the countries in the Middle East and North Africa, firms only entered capital markets after 2000. Even though firms in more countries were participating in capital markets, many of these previously nonissuing countries still only had a small number of firms issuing, leading to a higher average market concentration in the region.

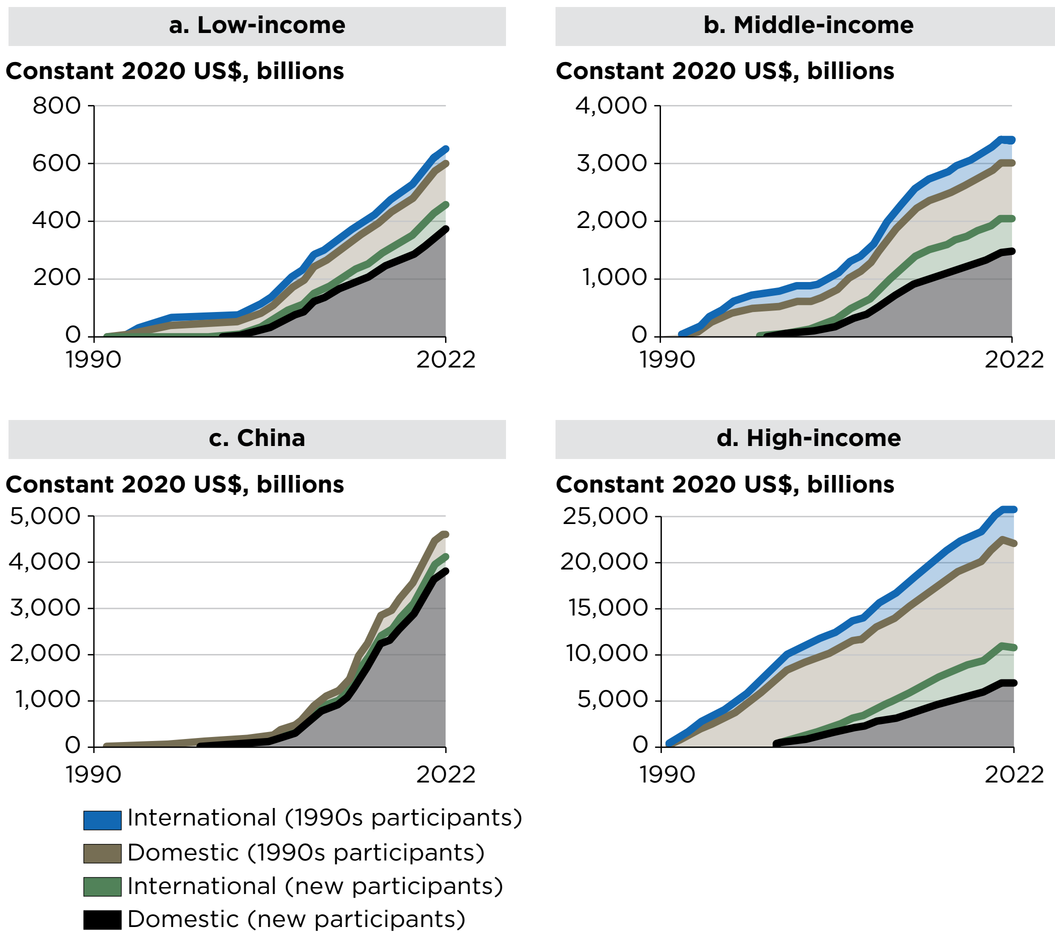
Domestic Capital Markets Dominate for All Firms

In all income groups, most of the capital raised by both types of firms in 1990–2022 was issued in domestic markets (figure 3.7). In low- and middle-income countries, the average share of domestic CNI was 68 percent and 66 percent, respectively, for 1990s participants and 79 percent and 69 percent, respectively, for new participants in 1990–2022.[9] In China, the average share of domestic issuance for both types of firms was around 90 percent. In high-income countries, the average share of domestic issuance was 77 percent for 1990s participants and 67 percent for new participants in 1990–2022.

The crucial role of domestic capital markets in facilitating access for new participants in low- and middle-income countries warrants examining factors that can promote these markets. As the next chapter shows, such issuances also lead to significant aggregate economic outcomes, further motivating policy makers to develop domestic capital markets. Chapter 5 discusses potential drivers of growth of domestic capital markets in low- and middle-income countries.

FIGURE 3.7

Domestic Capital Markets Accounted for Most of CNI



Source: Calculations using issuance data from the Securities Data Company Platinum database from LSEG.

Note: This figure presents the amount of CNI for 1990s and new participants in domestic and international markets for 1990–2022 in billions of constant 2020 US dollars. CNI for year *Y* is computed as the sum of equity issuance and bond issuance (minus bonds that matured) between 1990 and year *Y*. Firms are considered 1990s participants if they issued at least once during the 1990s and new participants if they issued for the first time from 2000 onward. Bonds are categorized as domestic or international by comparing the market location of issuance with the residence of the issuing firm. Equity is classified as domestic or international by comparing the location of the primary exchange where a firm's stock trades with the residence of the issuing firm. Appendix B provides the list of countries, grouped by income category. CNI = cumulative net capital issuance.

Domestic Markets Are Important for First-Time Bond Issuers

Since bonds constitute the largest component of gross capital issuance, average bond size for first-time issuers across markets serves as an indicator of how new firms enter capital markets.[10] The average size of issuance can be used as a proxy for firm size.[11]

Across decades, international issuance has always been more sizable than domestic issuance. This is consistent with the view that larger firms, which have greater capacity to disclose information to foreign investors, are better able to access international capital markets. In addition, larger firms often require more capital to fund their projects. In international markets, the average amount issued by first-time bond issuers increased from US$473 million in 2000–09 to US$503 million in 2010–22. In contrast, the average amount issued in domestic markets has declined: first-time bond issuers issued, on average, US$211 million in 2000–09 and US$154 million in 2010–22, down about 30 percent (table 3.4). The findings suggest that smaller firms, which are typically younger, are gaining access to capital through domestic bond markets. Meanwhile, larger firms appear to issue their first bond in international markets. Notably, the decline in the size of domestic bond issuance drives an overall decline in the average size of first bond issuance, even after accounting for country dynamics.

TABLE 3.4

The Size of Domestic Bond Issuance Decreased, and the Size of International Bond Issuance Increased for First-Time Bond Issuers

	2000–09		
	All Markets	**Domestic**	**International**
Mean	285.1	211.5	473.3
Std. Dev.	490.0	309.7	748.8
P25	60.9	45.1	156.0
P50	170.3	132.5	272.0
P75	320.3	260.7	506.5
P95	891.5	661.5	1,536.3

continued

TABLE 3.4 *(Continued)*

	2010–22		
	All Markets	Domestic	International
Mean	249.6	154.6	503.2
Std. Dev.	402.3	212.8	620.4
P25	58.5	49.1	182.9
P50	134.7	94.7	345.2
P75	292.7	175.9	589.1
P95	808.7	472.8	1,479.5

Source: Calculations using issuance data from the Securities Data Company Platinum database from LSEG.
Note: This table presents descriptive statistics for the amount issued for first-time bond issuers in domestic and international markets. The sample only includes firms that were not publicly listed on a stock exchange before issuing a bond and includes firms from all the countries. Bonds are categorized as domestic or international by comparing the market location of issuance with the residence of the issuing firm. The amount issued is in millions of constant 2020 US dollars. P25 = 25th percentile; P50 = 50th percentile (median); P75 = 75th percentile; P95 = 95th percentile; Std. Dev. = standard deviation.

Notes

1. For low- and middle-income countries, the number of nonfinancial firms issuing capital annually increased fourfold during the same period.
2. These criteria apply regardless of whether a firm was already publicly listed as of 1990. For instance, if a publicly listed firm did not issue any bonds or stocks during the 1990s, and did thereafter, it would be classified as a new participant. New participants may have issued prior to 1990 (before the start of the sample period). For the book's analyses, new participants refer to firms that only issued in the year 2000 onward during the 1990–2022 period.
3. The analysis is conducted by decades, with the 1990s chosen as the baseline decade. The results are robust to using other years as cutoffs for new participants. Appendix H presents the results using an alternate cutoff between the different groups (2010 instead of 2000).
4. On average, low- and middle-income countries have 194 firms per country (of which 57 are 1990s participants and 137 are new participants). High-income countries have 1,247 firms per country, on average (of which 522 are 1990s participants and 725 are new participants).
5. For low- and middle-income countries, capital increased in the mid-1990s. However, capital growth slowed by the end of the decade.
6. Expansion of capital issuance by new participants took place across all sectors (appendix I).

7. A normalized Herfindahl-Hirschman Index adjusts the standard HHI to a scale from 0 to 1 by accounting for the number of firms in a country in a particular year. This normalization standardizes the measure of market concentration, making it easier to compare across different income groups and regions.
8. The unnormalized Herfindahl-Hirschman Index (H) is calculated as $H = \sum_{i=1}^{N} s_i^2$, where s_i is the share of gross issuance by firm i in a given country, and N is the total number of issuing firms in that country. The normalized HHI is calculated as $HHI = \frac{(H - 1/N)}{1 - 1/N}$ *for* $N > 1$, and $HHI = 1$ *for* $N = 1$.
9. As appendix J shows, the domestic market share has been increasing in low- and middle-income countries over time.
10. Appendix F provides more details on gross capital issuances.
11. Data for firm-level assets are not well populated in the Securities Data Company Platinum database. Therefore, issuance is used as a proxy for size (Gozzi et al. 2015).

Reference

Gozzi, J. C., R. Levine, M. S. Martinez Peria, and S. L. Schmukler. 2015. "How Firms Use Corporate Bond Markets under Financial Globalization." *Journal of Banking and Finance* 58 (September): 532–51. https://doi.org/10.1016/j.jbankfin.2015.03.017.