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Empirical Study on the Impact of U.S. Listings of Chinese Firms

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This report was prepared by Hal Scott, Chairman and President of PIFS, John Gulliver, Executive Director of PIFS, and Brian Johnson, Chief Economist of PIFS.

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Introduction

Over the past twenty-five years, U.S. stock exchanges have been an important destination for Chinese companies raising capital through public equity markets, but the landscape has shifted dramatically in recent years as geopolitical and regulatory tensions between the United States and China have intensified. Heightened scrutiny over accounting transparency and divergent regulatory regimes—exemplified by the U.S. Holding Foreign Companies Accountable Act (HFCAA) and Beijing's restrictions on offshore listings following high-profile cases like Didi's 2021 IPO—have created significant uncertainty for both issuers and investors.[1] These frictions have led to delistings, reduced cross-border capital flows, and a recalibration of listing strategies, with many Chinese firms opting for Hong Kong or mainland exchanges instead of U.S. markets. The potential consequences of this changing dynamic could have significant impacts on Chinese firms as well as U.S. equity markets and investors. Therefore, a comprehensive study of the prevalence and overall impact of U.S. listings of Chinese firms is critical as both U.S. and Chinese regulators continue to develop policy on this issue.

The Committee on Capital Markets Regulation released such a comprehensive study, focusing on the role of Chinese companies in public U.S. equity markets from 1991 through 2021 (the "**CCMR Report**").[2] The CCMR Report documented an increasing role of U.S.-listed Chinese companies in the U.S. and an overall intertwining of U.S. and Chinese capital markets over the prior three decades. In addition, the report identified several benefits associated with Chinese listings in the U.S., both for Chinese companies and U.S. investors—benefits that would diminish or disappear if Chinese companies were decoupled from U.S. capital markets.

The past few years have been marked by continued geopolitical tensions between the U.S. and China that could affect U.S. listings of Chinese companies. This study, conducted by the Program on International Financial Systems, provides an updated analysis of how the geopolitical tensions of 2022–2024 have influenced U.S. listings of Chinese companies and their associated benefits. The key takeaway from our study is that while the relationship between Chinese firms and U.S. capital markets continues to confer important benefits, the recent tensions have significantly reduced those benefits.

This report proceeds as follows. Part I provides a broad overview of U.S. listings by Chinese companies, including recent trends in IPOs of Chinese firms in the U.S., the share of U.S.-listed Chinese companies held by institutional investors, and a comparison of listings across U.S., mainland China, and Hong Kong markets. Part II examines the benefits to Chinese companies from listing in the U.S., including analyses of IPO underpricing, cost of capital, and firm performance. Part III examines the benefits to U.S. investors from the presence of Chinese companies listed in U.S. equity markets, including operating performance and stock returns of U.S.-listed Chinese companies.

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[1] For an overview of the HFCAA issue, *see* COMMITTEE ON CAPITAL MARKETS REGULATION ("**CCMR**"), *The Appropriate Legal Process for the Potential Delistings of Chinese Companies* (May 2, 2025), https://capmktsreg.org/wp-content/uploads/2025/05/CCMR-Statement-on-Potential-Delisting-of-Chinese-Companies-05.02.25.pdf.

[2] CCMR, *U.S. Listings by Chinese Companies: Assessing the Benefits to U.S. Investors and Chinese Companies* (Jan. 2023), https://capmktsreg.org/wp-content/uploads/2023/01/CCMR-Assessing-the-Benefits-of-US-Listings-by-Chinese-Companies.pdf

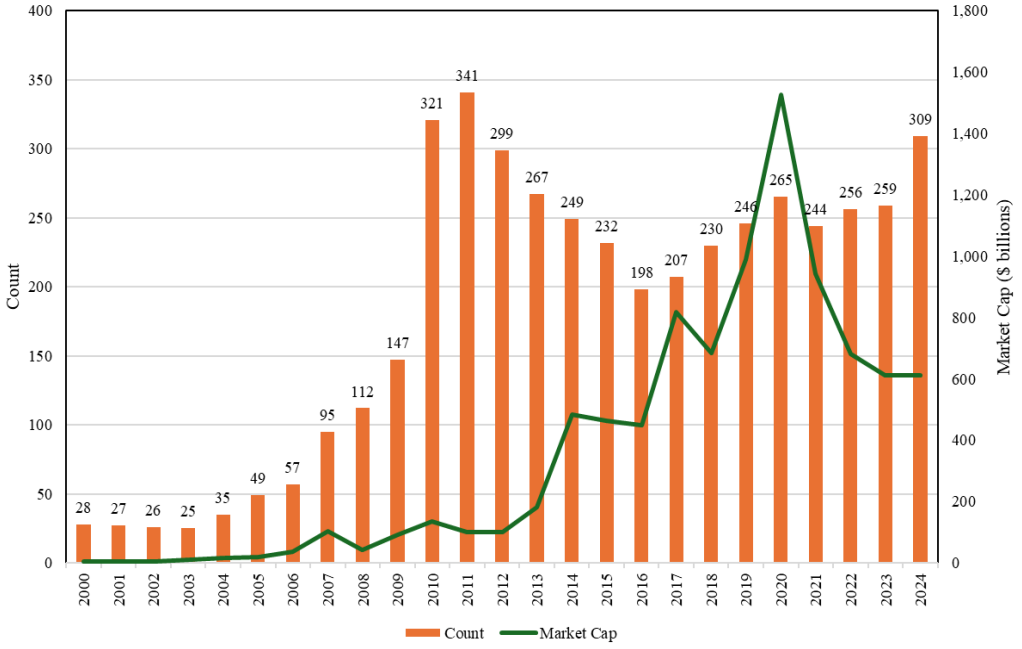
I. Overview of U.S. Listings by Chinese Companies

This section begins with a concise review of the history of Chinese companies listing on U.S. exchanges. We then analyze the share of total U.S. trading volume accounted for by these firms, the trends in U.S. institutional investor holdings of their securities, and the underwriting revenues earned by U.S. investment banks from facilitating their public offerings. The discussion then turns to a comparison of U.S. listings with those in mainland China and Hong Kong to assess the relative importance of U.S. market access for Chinese firms. The section concludes with a breakdown of the industry composition of Chinese companies that list in the United States.

Figure 1 shows the total number of Chinese firms listed on U.S. exchanges since 2000, as well as the aggregate market capitalization of all U.S.-listed Chinese firms. A surge of listings occurred in 2010, with a peak of 341 firms in 2011. The number of listed firms subsequently declined through 2016, dropping to 198 before rebounding steadily until 2020. After an initial decline in 2021, the number of U.S.-listed Chinese firms rose again to 309 by 2024.

Despite the fluctuations in the number of listed Chinese firms, total market capitalization rose steadily until a peak in 2020. However, after 2020, the total market capitalization of U.S.-listed Chinese firms declined significantly through 2024.

Figure 1: Chinese Companies Listed on U.S. Exchanges (2000-2024)[3]



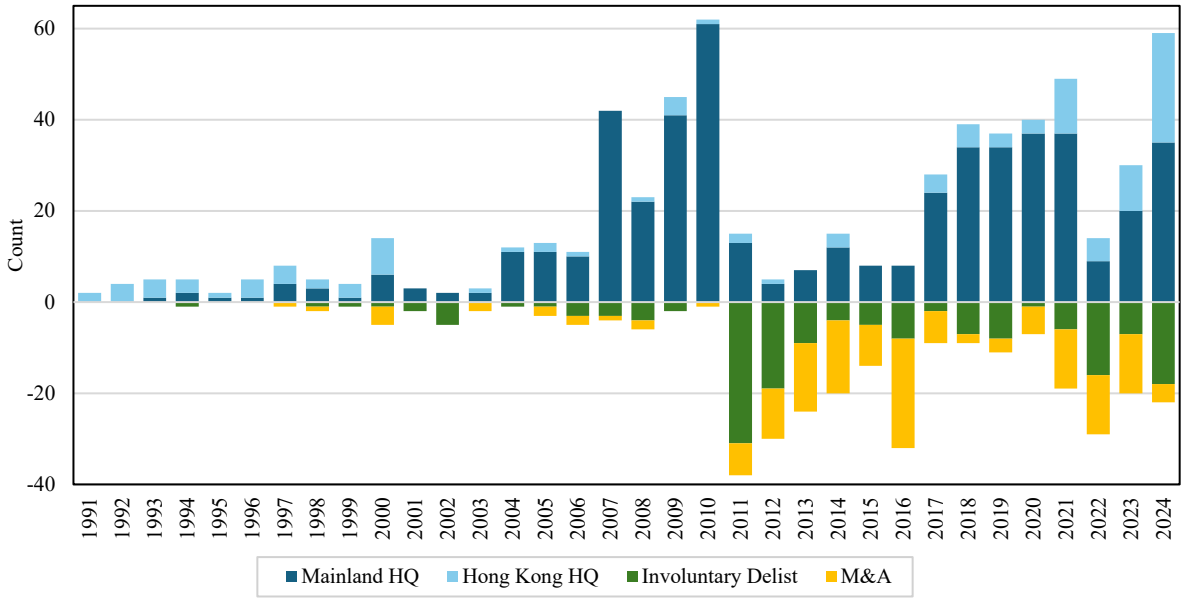
The total number of U.S.-listed Chinese firms represents the net result of new listings through U.S. IPOs of Chinese firms minus subsequent delistings. **Figure 2** illustrates the annual number of U.S.-listed IPOs of Chinese firms and subsequent delistings. Hong Kong-headquartered companies

[3] Data sourced from Bloomberg and includes all firms listed on U.S. exchanges with headquarters in mainland China or Hong Kong (firms must have non-zero market capitalization and not deemed "OTC" per Bloomberg).

constituted most of the U.S. listings by Chinese firms throughout the 1990s. This pattern shifted in 2000, as mainland-headquartered companies increasingly chose to list on U.S. exchanges, peaking in 2010 with over 60 new U.S. listings by mainland Chinese firms. However, U.S. listing activity then dampened as the SEC announced heightened scrutiny of foreign listings, leading to several delistings over the following seven years, spanning 2011-2017.

From 2017 through 2021, U.S. listing activity rebounded substantially, reaching more than 50 new listings in 2021. However, the rebound was fleeting, as listings dropped significantly in 2022, primarily due to the Chinese regulatory response to the $4.4 billion IPO of Didi in June 2021.[4] Didi ultimately delisted voluntarily in June 2022.[5] Chinese regulators subsequently imposed additional restrictions on offshore listings of mainland companies, particularly technology firms.[6] By 2024, U.S. listings of Chinese firms rebounded to levels seen prior to 2022. While voluntary delistings have dropped over the past few years, involuntary delistings remain elevated.

Figure 2: New U.S. Listings and Delistings by Chinese Companies[7]



[4] *See* Corrie Driebusch, *Didi Stock Rises on First Day, Though Rally Fades Into the Close,* THE WALL STREET JOURNAL (Jun. 30, 2021), https://www.wsj.com/finance/stocks/didi-stock-soars-on-first-day-notching-80-billion-market-value-11625073284; *see also* Liyan Qi and Trefor Moss, *Chinese Regulators Target Ride-Hailing Company Didi Just Days After IPO*, THE WALL STREET JOURNAL (Jul. 2, 2021), https://www.wsj.com/tech/china-s-internet-regulator-reviewing-cybersecurity-of-ride-hailing-business-didi-chuxing-11625231216.

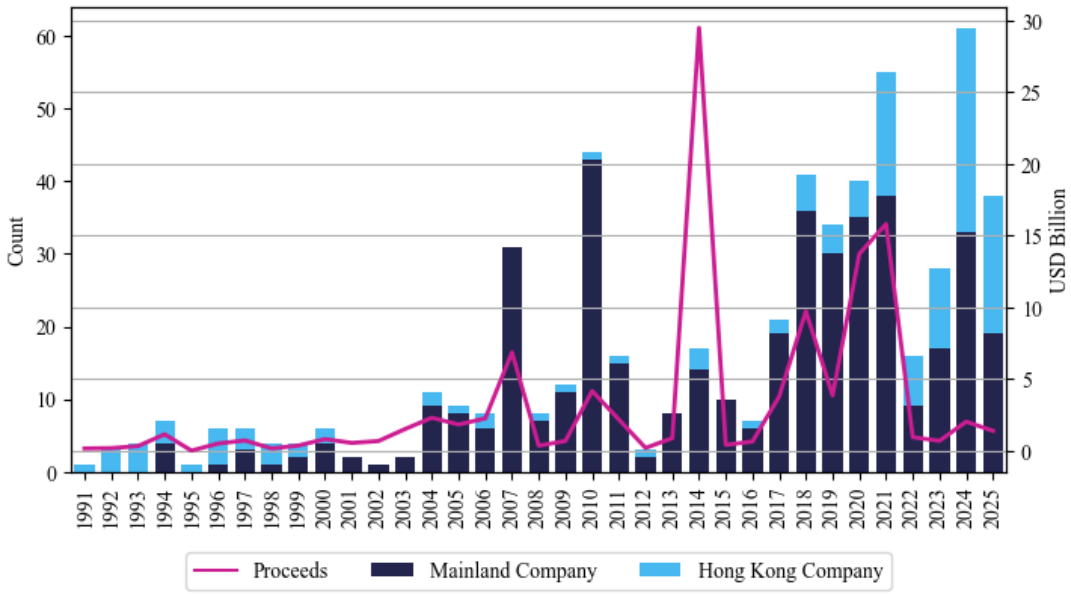
[5] REUTERS, *Majority Shareholders Vote in Favor of Delisting Didi from New York* (May 23, 2022),https://www.reuters.com/markets/europe/majority-shareholders-vote-favor-delisting-didi-new-york-2022-05-23/.

[6] Keith Zhai and Jing Yang, *China Targets Firms Listed Overseas After Launching Didi Probe*, THE WALL STREET JOURNAL (Jul. 6, 2021), https://www.wsj.com/world/china/china-to-revise-rules-and-strengthen-supervision-of-overseas-listings-11625572533.

[7] A Chinese company listing is a new listing in the intersection of CRSP and Compustat, where the company's headquarters are located in Hong Kong or mainland China *on the listing date*. This method excludes listing techniques like reverse mergers, which can be identified by a change-in-headquarters by a previously listed firm. This method

The number of IPOs is an imperfect indicator of capital raising, since transaction size can vary significantly. To account for IPO size, **Figure 3** illustrates total IPO proceeds raised by Chinese firms on U.S. stock exchanges from 1991 through mid-2025 in addition to the total number of Chinese IPOs on U.S. stock exchanges. Similar to the trend in IPO count, total IPO proceeds dropped significantly in 2022. However, unlike IPO counts, which rebounded in 2023 and 2024, total proceeds have not returned to the levels seen in 2017-2021, suggesting that average deal size has contracted significantly over the past three years. Moreover, Hong Kong-headquartered companies have accounted for a growing share of Chinese IPO activity on U.S. exchanges since 2021.

Figure 3: Proceeds Raised from U.S. IPOs by Chinese Companies[8]



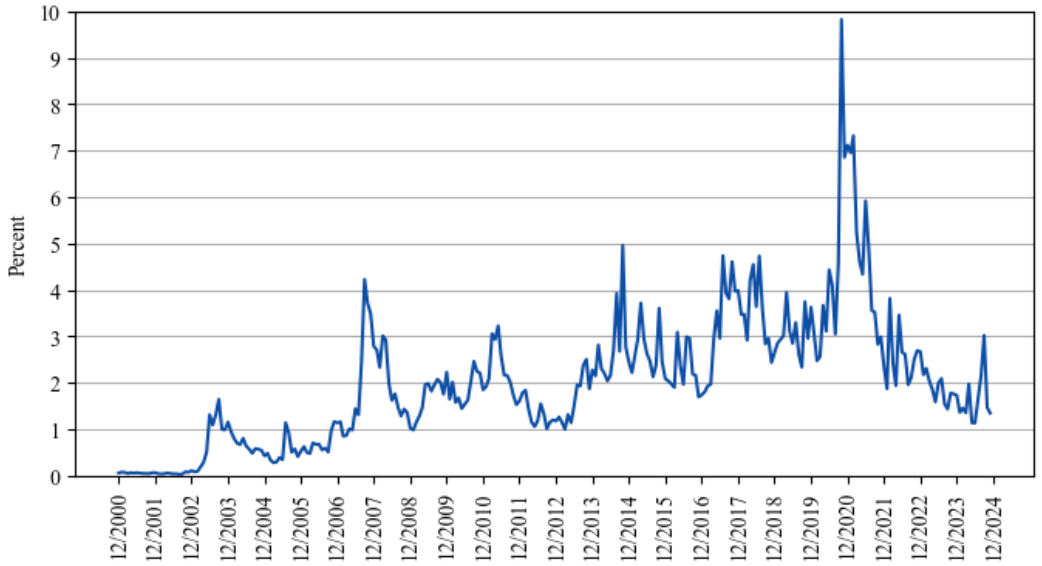
Trading volume in U.S.-listed Chinese companies as a percentage of total trading volume in U.S.-listed companies has also declined significantly over the past few years. **Figure 4** demonstrates that trading volume in U.S.-listed Chinese companies as a share of total dollar volume in U.S. common shares has increased steadily beginning in 2012 from approximately 1% to a peak of nearly 10% in 2020, primarily due to a surge in short-selling of Chinese companies' shares during the COVID-19 pandemic.[9] However, while 2021-2022 saw trading volumes at 2-4% of total U.S. volume, more recent activity has averaged between 1-3%.

also excludes Chinese companies with headquarters outside China on the listing date, but that subsequently transitioned. The M&A category includes all voluntary delistings.

[8] IPOs targeting the U.S. market are recorded in Refinitiv SDC Platinum New Issues.

[9] Sinead Carew, *Some U.S.-listed China Firms See Shorting Spike, Others See Short-Covering* Jump, FINANCIAL REVIEW (Feb. 14, 2020), https://www.afr.com/markets/equity-markets/some-us-listed-china-firms-see-short-selling-spike-20200214-p540rh.

Figure 4: U.S.-Listed Chinese Firm Dollar Volume as a Percentage of Total Dollar Volume in U.S. Common Shares[10]



U.S. institutional holdings of U.S.-listed Chinese firms have grown substantially over the past twenty-five years, albeit declining from the peak in 2020, largely mirroring the incidence of U.S. listings by Chinese firms. **Figure 5** shows U.S. institutional holdings of U.S.-listed Chinese firms, as reported on Form 13F. Institutional investment managers with more than $100 million in assets under management must disclose their holdings on a quarterly basis by filing Form 13F with the SEC.[11] The value of U.S. institutional holdings of U.S.-listed Chinese firms reported on Form 13F grew from less than $100 billion in 2010 to more than $600 billion in 2020. Subsequently, holdings fell by almost two thirds by 2022 but then rebounded moderately again to nearly $300 billion by the end of 2024.

[10] **Figure 4** illustrates monthly average dollar volumes. The set of U.S.-listed firms includes all common shares in the CRSP database, excluding U.S.-listed Chinese firms. The set of U.S.-listed Chinese firms includes all securities in the intersection of CRSP and Compustat for which the issuer has a mainland China or Hong Kong headquarters on the listing date.

[11] 17 C.F.R. § 240.13f-1.

Figure 5: Value of U.S.-Listed Chinese Firms in Institutional 13F Assets[12]

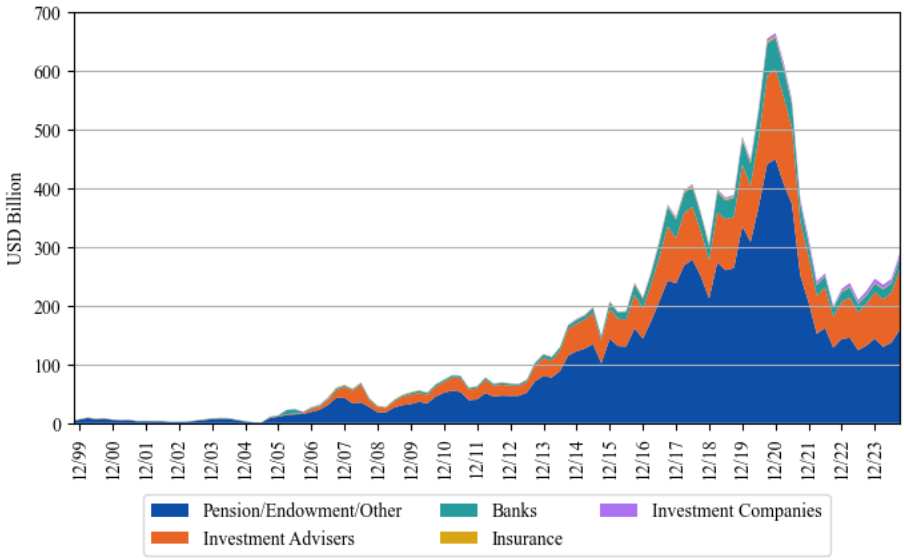
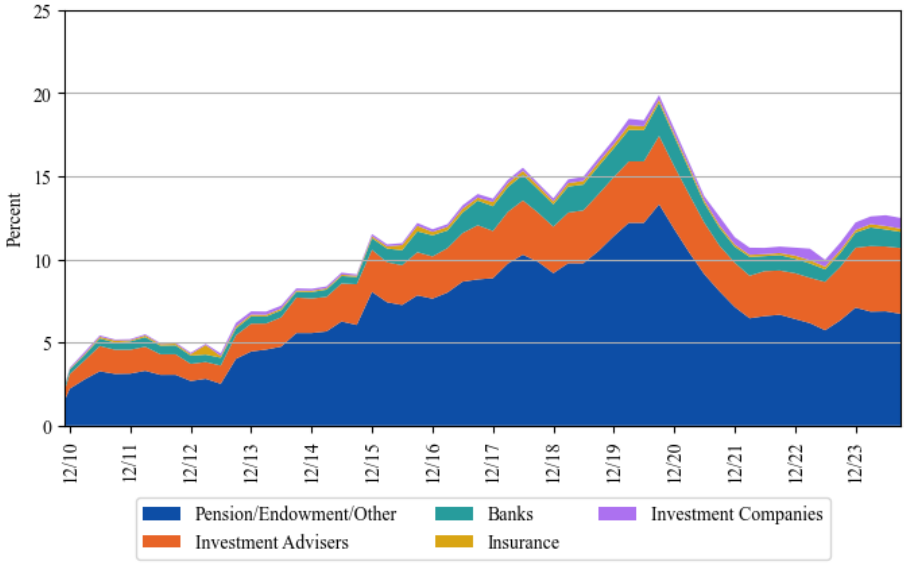


Figure 6 further demonstrates that U.S. institutional investors own a significant share of U.S.-listed Chinese companies. U.S. institutional holdings grew from less than 5% of total capitalization of U.S.-listed Chinese firms in 2010 to a peak of 20% in 2020. While the percentage dropped significantly over the following year, falling to approximately 10%, it has rebounded modestly more recently, reaching 12% by the end of 2024.

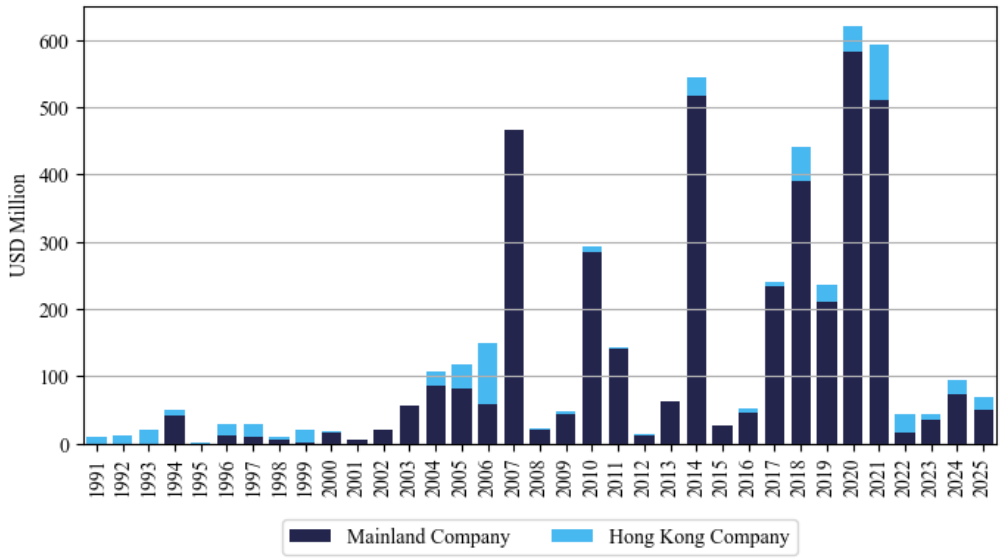
Figure 6: Fraction of U.S.-Listed Chinese Firm Capitalization Held in Institutional 13F Assets



[12] Institutional holdings are based on Thomson 13F data. The data include all firms in Compustat with a Hong Kong or mainland headquarters *at any point*. Unlike other sections, this group may contain firms that listed via reverse merger.

Underwriting fees have also experienced volatile swings over the past decade. As illustrated in **Figure 7**, underwriting fees from U.S. IPOs of Chinese companies increased significantly during the years 2017-2021 with total fees exceeding $200 million in each of the five years and reaching over $600 million in 2020. However, the substantial decline in proceeds of U.S. IPOs of Chinese companies in the years following 2021[13] was also reflected in dramatic drops in underwriting fees, totaling less than $50 million in 2022 and 2023. Total fees in 2024 experienced a modest uptick, nearly reaching $100 million, while 2025 is on pace to slightly exceed $100 million.

Figure 7: Underwriting Fees from U.S. IPOs of Chinese Companies[14]

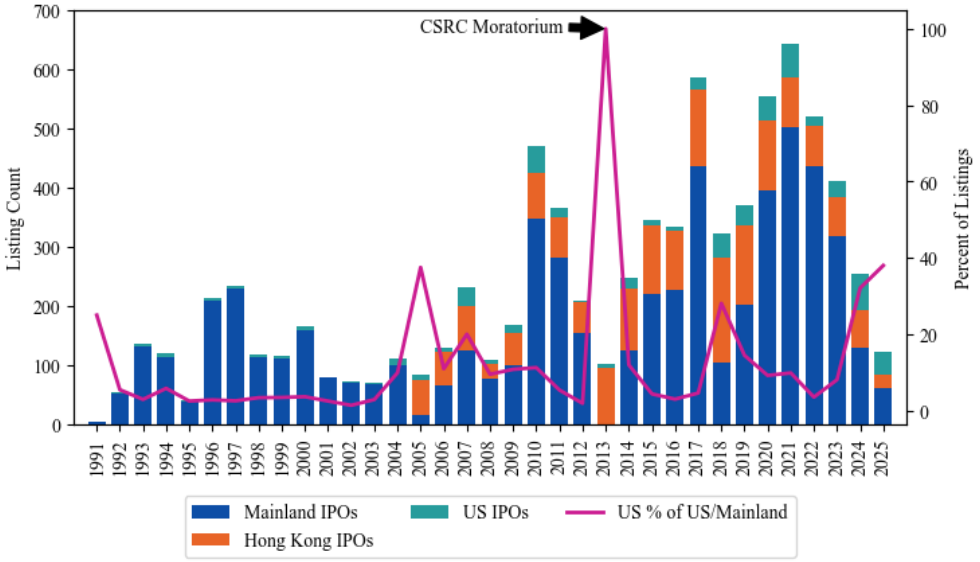


The importance of access to U.S. capital markets for Chinese companies is underscored by comparing their IPO activity across U.S., Hong Kong, and mainland Chinese exchanges. **Figure 8** illustrates the number of Chinese company IPOs in each market. Notably, while U.S. IPOs of Chinese companies dropped significantly in 2022 (also see **Figure 3** above), IPO activity in mainland China and Hong Kong also fell during the same period. However, unlike the U.S.—where listings by Chinese companies have experienced a rebound over the past three years—IPO activity in mainland China has continued on a downward trajectory. By contrast, Hong Kong has maintained relatively stable levels of listing activity throughout this period.

[13] *See supra* **Figure 3**.

[14] IPOs targeting the U.S. market are recorded in Refinitiv SDC Platinum New Issues. The data includes fees paid to lead and co-managers, as well as management fees and underwriting fees.

Figure 8: Number of Chinese Company IPOs in the U.S., Hong Kong, and Mainland China[15]



As illustrated in **Table 1**, U.S. IPOs by Chinese companies are larger on average than IPOs in mainland China. Since 1996, the average proceeds of a U.S. IPO of a Chinese company have been approximately $226 million versus $92 million for mainland China IPOs.[16] However, the percentage of proceeds raised in the U.S. by Chinese companies has declined over the past 15 years. While U.S. listings accounted for 18.6% of total IPO proceeds raised by Chinese companies over the period 2011-2015, that percentage dropped to 8.9% during 2021-2025.

Table 1 also highlights the relative significance of Hong Kong with respect to IPOs of Chinese companies. From 2006-2025 there were 1,695 IPOs of Chinese companies in Hong Kong versus 498 in the U.S. The average proceeds of Hong Kong IPOs over that period were also slightly higher than those of U.S. IPOs ($219 million in Hong Kong versus $202 million in the U.S.).[17]

[15] U.S. IPOs are based on Refinitiv SDC Platinum New Issues database. Data on mainland China IPOs are from the CSMAR database and Bloomberg. Data on Hong Kong IPOs come from the Capital IQ Transaction Offerings database, beginning in 2005.
[16] Average proceeds are calculated by dividing total IPO proceeds for 1996-2025 by total IPO count for 1996-2025 (i.e., $499.4 billion/5,451 for Chinese listings and $124.2/549 for U.S. listings).
[17] Average proceeds are calculated by dividing total IPO proceeds for 2006-2025 by total IPO count for 2006-2025 (i.e., $372 billion/1,695 for Hong Kong listings and $100.4 billion/498 for U.S. listings).

Table 1: Summary of Chinese Company IPOs in the U.S., Hong Kong, and Mainland China[18]

	Number of Chinese Company IPOs				IPO Proceeds of Chinese Companies ($B)			
Year	China	Hong Kong	U.S.	U.S.%	China	Hong Kong	U.S.	U.S.%
1996-2000	821	-	26	3.1	27.7	-	10.8	28.1
2001-2005	331	-	25	7.0	20.7	-	13.0	38.5
2006-2010	711	292	103	9.3	112.1	128.0	14.3	5.6
2011-2015	779	437	54	4.3	60.4	84.8	33.1	18.6
2016-2020	1361	663	143	6.6	107.0	112.6	31.8	12.6
2021-2025	1448	303	198	10.2	171.5	46.6	21.2	8.9
Total	5451	1695	549	7.1	499.4	372	124.2	12.2

It is also important to consider whether certain types of Chinese companies are more dependent on U.S. capital markets than others when assessing the potential impact of a decoupling of U.S. and Chinese capital markets.

As demonstrated by **Figure 9**, since 1991 nearly 60% of U.S. listings by Chinese companies have come from the Technology and Consumer sectors. Moreover, **Figure 10** shows that Technology and Consumer sectors constitute nearly 77% of U.S. listings based on the total market capitalization of the companies. Technology-oriented firms may be even more prominent than these figures suggest, since the Standard & Poor's Global Industry Classification Standard codes do not always align with the industry typically associated with a given firm. As noted in the CCMR Report, Didi Chuxing, for example, is classified as a transportation company rather than a technology company despite operating a ride-share technology similar to Uber.[19]

[18] U.S. IPOs of Chinese firms include all IPOs on a U.S. exchange by a mainland- or Hong Kong-headquartered company in the Refinitiv SDC Platinum New Issues database. Mainland IPOs include all IPOs in the CSMAR database. Hong Kong IPOs include all IPOs on the Hong Kong Stock Exchange with shares denominated in HKD and a corporate headquarters in mainland China or Hong Kong from the Capital IQ Transaction Offerings database. Capital IQ Transaction Offering data are available in Asian markets beginning in 2005.

[19] CCMR Report at 8. *See also* MSCI, *The Global Industry Classification Standard*, https://www.msci.com/indexes/index-resources/gics.

Figure 9: Industry Composition of New Chinese Listings on U.S. Exchanges (by Issuer Count)[20]

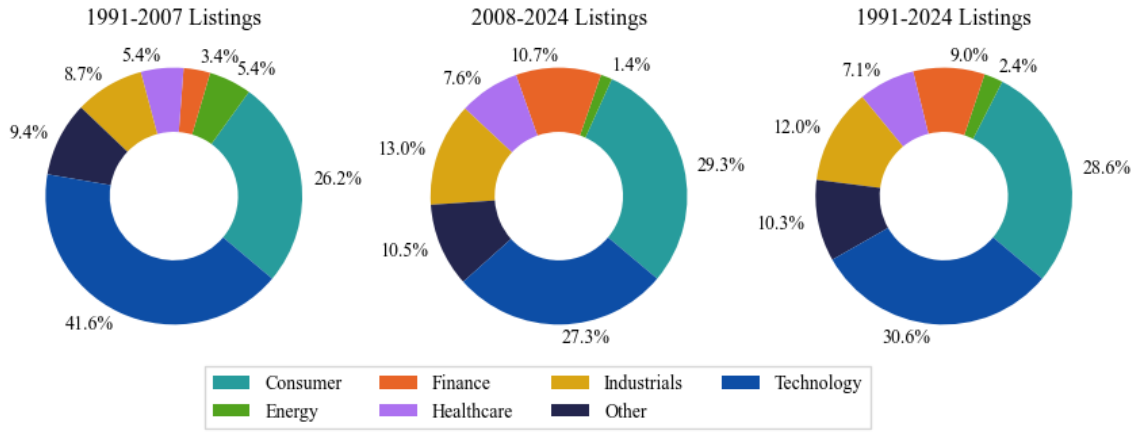
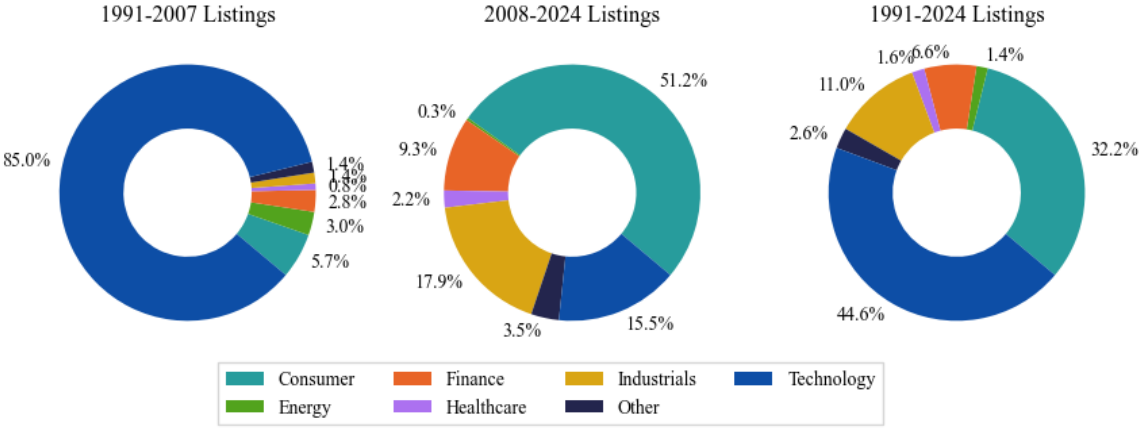


Figure 10: Industry Composition of New Chinese Listings on U.S. Exchanges (by Cap at Listing)



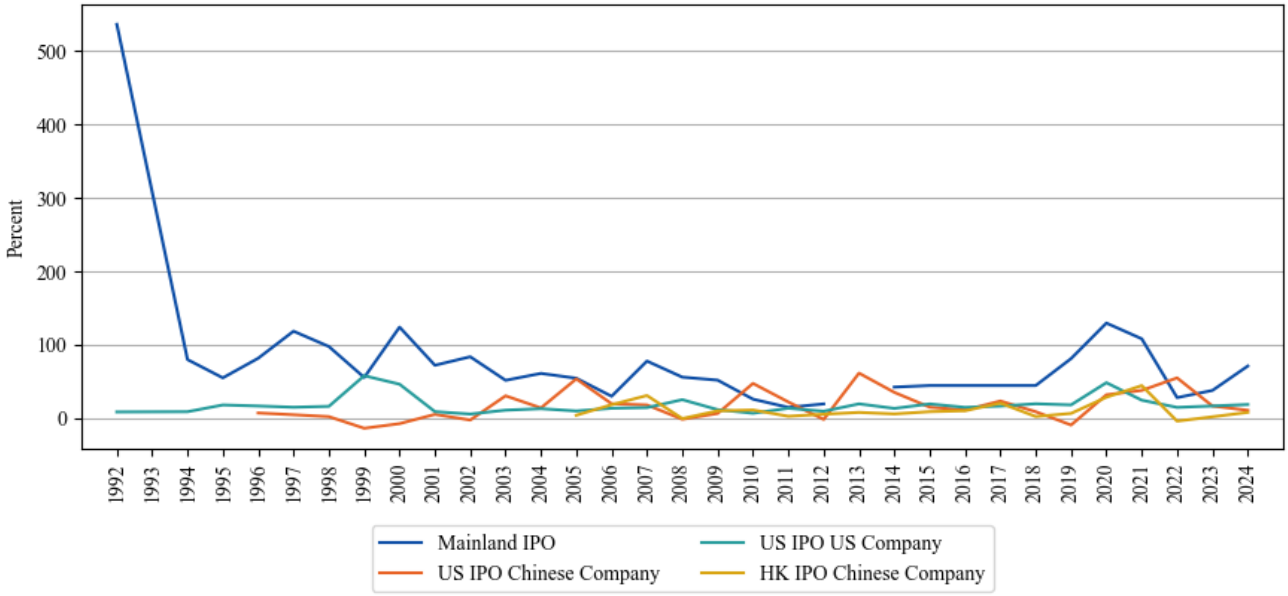
[20] Industry groupings based on GICS sector codes: Technology (45,50), Finance (40, 60), Consumer (25, 30), Energy (10), Healthcare (35), Industrials (20), and Other (15, 55, and missing GICS sector).

II. Assessing the Benefits of U.S. Listings for Chinese Companies

We examine several potential benefits that listing in the U.S. affords Chinese companies. First, as demonstrated by **Figure 11** and **Table 2**, U.S. IPOs of Chinese companies experience substantially less underpricing than those in mainland China. Chinese companies listing in the U.S. experienced average first-day returns of 26.9% over the period 1991-2025 versus average first-day returns of 61.1% for Chinese companies listing in mainland China. However, Hong Kong IPOs of Chinese companies saw lower first-day returns than those in the U.S. (13.8% for Hong Kong versus 26.9% for the U.S.).

Underpricing of IPOs is a significant measure, as it represents money "left on the table" by the issuing company. The first-day return of an IPO reflects the gain an investor could earn by buying shares at the offering price and selling them at the close of trading on the IPO's debut day. A positive first-day return indicates that the issuing company priced its shares below what the market was willing to pay, effectively forgoing potential IPO proceeds. Thus, these returns serve as both a measure of the IPO market's pricing efficiency and a representation of the implicit cost of raising equity. Accordingly, lower IPO underpricing in the U.S. represents a significant benefit for Chinese companies relative to those listing in mainland China, while Hong Kong listings also provide advantages with respect to IPO underpricing.

Figure 11: Proceeds-Weighted First Day Returns for U.S., Hong Kong, and Mainland China IPOs[21]



[21] Data for U.S. IPOs by Chinese firms are derived from Refinitiv SDC Platinum New Issues. US domestic IPO data are from Jay R. Ritter, *Initial Public Offerings: Underpricing* (May 27, 2025), https://site.warrington.ufl.edu/ritter/files/IPOs-Underpricing.pdf. Mainland underpricing data are from CSMAR and includes A shares, B shares, ChiNext listings, and STAR listings. Hong Kong underpricing includes all IPOs on the Hong Kong Stock Exchange with shares denominated in HKD and a corporate headquarters in mainland China or Hong Kong. Capital IQ Transaction Offerings data are available for Asian markets beginning in 2005.

Table 2: Proceeds-Weighted First Day Returns for U.S., Hong Kong, and Mainland China IPOs

	Proceeds Weighted			
Years	U.S. Domestic	U.S. China	Mainland	Hong Kong
1991-1995	11.5%	0.0%	55.3%	-
1996-2000	35.2%	-1.8%	96.6%	-
2001-2005	9.2%	26.3%	67.0%	-
2006-2010	13.5%	20.8%	47.2%	17.4%
2011-2015	14.5%	34.2%	26.0%	6.0%
2016-2020	28.4%	19.0%	85.0%	12.6%
2021-2025	22.2%	33.0%	61.1%	25.5%
Total	21.2%	26.9%	61.1%	13.8%

Another benefit for Chinese companies from listing in the U.S. relative to mainland China is a lower cost of capital. A company's weighted average cost of capital ("**WACC**") is a blend of the company's cost of debt and cost of equity, representing the average cost of raising funds in both debt and equity markets. We find a lower WACC for U.S. listings than for mainland China listings, although it is not the case that both the cost of debt and the cost of equity are lower individually. As illustrated in **Table 3**, Chinese companies listed in the U.S. face higher costs of debt than those listed in mainland China (3.3% for U.S.-listed firms versus 2.1% for mainland-listed firms), while companies listing in Hong Kong bear the highest cost of debt (3.9%).

Table 3: Cost of Debt, Equity, and WACC for U.S.-, Hong Kong-, and Mainland-Listed Chinese Firms[22]

Metric	Cost of Debt			Cost of Equity			WACC		
	China	Hong Kong	U.S.	China	Hong Kong	U.S.	China	Hong Kong	U.S.
Pooled Average	2.1%	3.9%	3.3%	12.4%	8.4%	7.4%	10.2%	7.5%	6.5%
Observations	73,550	30,108	3,088	73,555	21,673	2,238	73,554	18,884	1,694

The lower cost of debt for mainland-listed Chinese firms relative to the findings of the CCMR Report, which found similar costs of debt for U.S.-listed firms (3.2% cost of debt) but higher costs of debt for mainland-listed firms (4.5% net cost of debt), is a result of a reduction in the cost of debt for Chinese firms occurring after the period studied in the CCMR Report.[23] The more recent drop in the cost of debt for mainland-listed firms is likely due to several factors, including interest rate cuts by the People's Bank of China and the growth of domestic debt markets in mainland China.[24] On the other hand, U.S.-listed Chinese firms benefit from lower debt costs than Hong Kong-listed firms, with gross costs 0.7% lower and net costs 0.6% lower.

Cost of equity, however, is lower for Chinese companies listing in the U.S. compared with mainland China and Hong Kong**. Table 3** shows that the average USD cost of equity for mainland-listed Chinese companies is 12.4% versus 7.4% for U.S.-listed Chinese companies, indicating a

[22] Cost of debt is net of tax benefits. The population of mainland-listed firms includes all mainland-listed companies in the CSMAR and Compustat databases. The population of Hong Kong-listed Chinese firms includes all Hong Kong-listed firms with either Hong Kong or mainland China headquarters in Compustat.
[23] CCMR Report at 15.
[24] Arjun Neil Alim and Cheng Leng, *Foreign Companies Flock to "Panda Bond" Market in Hunt for China Hedge*, FINANCIAL TIMES (May 1, 2025), https://www.ft.com/content/af4ed068-ef31-45a3-a462-3db25b55ce76.

significantly lower cost of equity capital for companies choosing to list in the U.S. rather than mainland China. The average cost of equity for Hong Kong-listed companies sits in the middle at 8.4%.

With respect to the average WACC, the lower cost of equity for U.S-listed firms outweighs the higher cost of debt, resulting in a significantly lower average WACC for U.S.-listed companies (6.5%) versus mainland-listed companies (10.2%). The 3.7% difference in WACC between U.S.- and mainland-listed Chinese companies represents a substantial increase over the 1.0% difference (7.5% for mainland and 6.5% for U.S.) reported in the CCMR Report. Furthermore, U.S.-listed companies face lower average WACC than those listed in Hong Kong (7.5% in Hong Kong versus 6.5% in the U.S.).

The difference in cost of equity and WACC among Chinese companies listed in the U.S., mainland China, and Hong Kong may reflect other firm-specific factors, such as firm size, leverage, and profitability, independent of the listing location. Therefore, to control for these other factors and assess whether U.S. listings are indeed associated with lower costs of capital, we ran linear regressions to identify the specific impact of a U.S. listing. **Table 4** shows the results of regressions on cost of equity with controls for size, book leverage, and return on assets ("**ROA**"). The coefficient on "U.S. Listing" is the main variable of interest and shows that listing in the U.S. versus mainland China is associated with a cost of equity that is 3.4% lower than for mainland-listed firms, statistically significant at the 99% level. However, listing in the U.S. does not confer similar benefits compared with listing in Hong Kong, with only a 0.2% lower cost of equity for a U.S. listing, statistically significant at the 95% level.

Table 5 shows the results of regressions on WACC with controls for size, book leverage, and ROA. Listing in the U.S. is associated with a 2.8% lower WACC than for mainland-listed firms, statistically significant at the 99% level. Compared with listing in Hong Kong, U.S. listings are associated with a 0.7% reduction in WACC, statistically significant at the 99% level. Overall, the regression results in **Table 4** and **Table 5** indicate a clear reduction in the cost of capital for Chinese firms choosing to list in the U.S. versus in mainland China. Moreover, unlike the CCMR Report, which found no statistically significant differences in cost of equity or WACC between U.S. and Hong Kong listings,[25] our analysis reveals moderate benefits for listing in the U.S. versus Hong Kong for both cost of equity and WACC.

[25] CCMR Report at 17.

Table 4: USD Cost of Equity for Chinese Firms

Model	U.S. vs China	U.S. vs Hong Kong
U.S. Listing	-0.034***	-0.002**
Size	0.000***	0.005***
Book Leverage	0.003***	0.001*
Return on Assets	0.021***	-0.021***
Year FE	Y	Y
Sector FE	Y	Y
Observations	70,420	20,449
R^2	0.474	0.336

Table 5: USD WACC for Chinese Firms

Model	U.S. vs China	U.S. vs Hong Kong
U.S. Listing	-0.028***	-0.007***
Size	-0.002***	0.001***
Book Leverage	-0.051***	0.001
Return on Assets	-0.001	-0.022***
Year FE	Y	Y
Sector FE	Y	Y
Observations	70,419	20,449
R^2	0.434	0.150

The final potential benefit for Chinese firms listing in the U.S. versus in mainland China relates to industry performance. As identified in the CCMR Report, Chinese firms listing in the U.S. can potentially improve domestic Chinese industry performance because of the lower cost of capital available in the U.S.[26]

The CCMR Report tested this by regressing industry performance, as measured by profitability or other growth metrics, on the intensity of U.S. listings, defined as the fraction of Chinese companies listing in the U.S. over the prior two years. That study, based on data through 2021, found that increased U.S. listing intensity was associated with improved ROA for Chinese firms (e.g., a 100% increase in listing intensity led to a 2.6% improvement in ROA).[27] The results remained robust even when controlling for other factors that impact ROA, including inflation and GDP growth.[28]

This study, using updated data through 2024, found the opposite effect of U.S. listing intensity. As illustrated in **Table 6**, U.S. listing intensity is associated with a decrease in ROA (e.g., a 100% increase in listing intensity led to an 11.9% drop in ROA), statistically significant at the 95% level. However, after controlling for inflation and GDP growth, our regressions show no statistically significant relationship between U.S. listing intensity and ROA. Therefore, it appears that any

[26] *Id*. at 18.
[27] *Id*. at 19.
[28] *Id*.

benefits conferred on Chinese companies with respect to profitability as a result of listing in the U.S. are no longer evident in recent years.

Table 6: Pooled Industry Performance as a Function of U.S. Listing Intensity[29]

	Change in ROA	
Model	(1)	(2)
Lagged U.S. Listing Intensity	-0.119**	0.024
CPI Growth		-0.184
GDP Growth		0.055
Sector FE	Y	Y
Observations	135	118
R^2	0.023	0.033

[29] Based on CSMAR filings. Lagged U.S. listing intensity measures the fraction of Chinese companies listing in the U.S. relative to those listing in mainland China that list in the U.S., calculated over the two prior years. ROA is EBIT, earnings before interest and taxes, as a fraction of total assets

III. Assessing the Benefits of U.S. Listings for U.S. Investors

U.S. investors may benefit from Chinese companies listing in the U.S. through stronger operating performance and higher stock returns compared with their U.S. counterparts. **Table 7** compares U.S.-listed Chinese firms and U.S.-listed U.S. firms across multiple operating performance measures. The metrics are (i) ROA, which measures a firm's EBITDA relative to total assets,[30] (ii) return on sales ("**ROS**"), which measures a firm's EBITDA relative to total sales, and (iii) Tobin's Q, which compares the market value of the firm to the replacement cost of its assets (proxied by the book value of assets).

As illustrated in **Table 7**, U.S.-listed Chinese companies compare favorably to a matched set of U.S.-listed U.S. companies (U.S. Placebos), with companies matched based on industry and total assets. Over the period 1991-2024, Chinese firms have had significantly higher average ROA than their U.S. counterparts (4.9% versus 1.5%), as well as higher average ROS (36.8% versus 22.6%). However, Tobin's Q—an indicator of the market's assessment of a company's growth potential, where a higher Q suggests greater expected growth—is higher for U.S. companies than for Chinese companies listed in the U.S. (2.83 versus 2.34). This result, also found previously in the CCMR Report,[31] may indicate that Chinese companies are relatively undervalued as compared with their U.S. counterparts.

Table 7: Operating Performance of U.S.-Listed Chinese Companies vs. Domestically Listed U.S. Companies (1991-2024) [32]

	Panel A: Return on Assets	
	U.S. Placebos	China Companies
Mean	1.520%	4.937%
Observations	4,483	4,729
	Panel B: Return on Sales	
	U.S. Placebos	China Companies
Mean	22.586%	36.776%
Observations	4,529	4,744
	Panel C: Tobin Q	
	U.S. Placebos	China Companies
Mean	2.830	2.337
Observations	4,514	4,049

While operating performance among U.S.-listed Chinese companies has been superior to comparable U.S firms, evidence of relative stock performance is less compelling. Comparing relative stock performance can be achieved through regression analyses that decompose stock returns into systematic and idiosyncratic components. The common regression model used for this purpose is the Carhart four-factor regression. The result of interest is the alpha produced by such

[30] EBITDA is earnings before interest, taxes, depreciation, and amortization.
[31] CCMR Report at 21.
[32] Measured for 1990-2024 using Compustat North America. U.S.-listed Chinese firms include all companies with a mainland or Hong Kong headquarters on their listing date. U.S. peers are selected annually, by matching each Chinese company-year to the U.S. company in the same industry with the closest total assets.

regressions, which can be interpreted as the stock's performance relative to the performance of the overall stock market.

Table 8 shows the results of a Carhart four-factor regression for U.S.-listed Chinese companies and comparable U.S. firms. The negative alphas for both U.S. and Chinese companies indicate overall underperformance compared to broad market returns,[33] however, the alpha for Chinese firms is less negative than that of their U.S. counterparts, suggesting moderately superior firm-specific stock performance for Chinese firms. This finding contrasts with the CCMR Report, which found a positive alpha (1.91%) for U.S.-listed Chinese firms.[34]

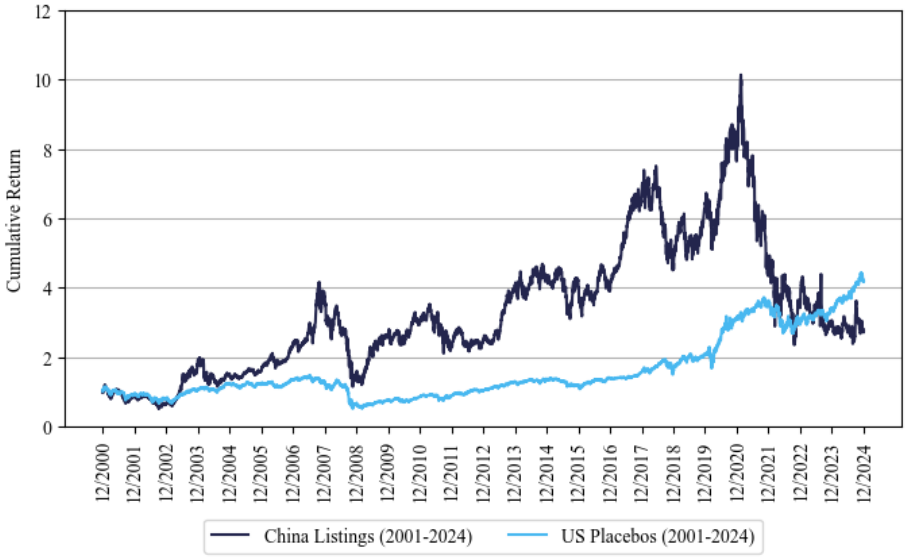
Table 8: Carhart Four Factor Regressions, 2001-2024[35]

	U.S. Placebos	China Companies
Alpha (annual)	-2.49%	-1.46%
Alpha (t-Statistic)	-1.41	-0.27
Market beta	1.02	1.13
Size beta	0.12	0.48
Value beta	-0.06	-0.37
Momentum beta	0.05	-0.10
R-squared	0.78	0.39
Observations	288	288

The significant decrease in alpha for U.S.-listed Chinese firms is due to the overall poor stock performance of Chinese firms over the past few years. **Figure 12** illustrates the significant decline in performance, showing that cumulative returns for U.S.-listed Chinese firms have trailed relative to comparable U.S. firms over the past two years. After peaking at approximately 10% in 2020, cumulative returns have dropped precipitously since then, coinciding with the December 2020 passage of the HFCAA and subsequent delisting tensions. By the end of 2024, cumulative returns of U.S.-listed Chinese firms had fallen below 3%.

[33] Broad-market returns entail the returns on a value-weighted portfolio of all listed U.S. stocks, as found in the CRSP database.
[34] CCMR Report at 22.
[35] Returns are exclusive of delisting returns, from CRSP. Factor returns from Ken French's data library, https://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html.

Figure 12: Cumulative Returns, 2001-2024



Given the recent poor performance of U.S.-listed Chinese stocks, arguably related to the regulatory and geopolitical tensions between the U.S. and China, the diversification benefits previously highlighted in the CCMR Report[36] from adding U.S.-listed Chinese companies to a portfolio of U.S. stocks have effectively disappeared. **Table 9** documents average excess returns and volatility of U.S. stocks and U.S.-listed Chinese stocks, along with the associated Sharpe Ratio, which is the ratio of excess returns to volatility. In the CCMR Report, U.S.-listed Chinese stocks had a Sharpe Ratio exceeding that of U.S. stocks (0.449 versus 0.428).[37] The strength of the Sharpe Ratio led to significant diversification benefits from adding U.S.-listed Chinese stocks to a portfolio of U.S. equities. The CCMR Report estimated that a mix of 54% U.S. stocks and 46% U.S.-listed Chinese stocks was the optimal portfolio allocation, yielding the highest possible Sharpe Ratio.[38]

However, as illustrated in **Table 9**, average returns dropped while volatility increased for U.S.-listed Chinese firms based on more recent data. As a result, the average Sharpe Ratio for Chinese firms fell significantly, declining to 0.275. Based on this poor performance, the optimal portfolio of U.S. stocks no longer includes an allocation to U.S.-listed Chinese stocks, particularly since the Sharpe Ratio for U.S. stocks has also increased since the CCMR Report, rising to 0.448 from 0.428 previously. Whereas the CCMR Report documented a Sharpe Ratio improvement to a portfolio that includes a modest allocation to U.S.-listed Chinese stocks, this is no longer the case. However, given that the recent weak performance of Chinese firms listed in the U.S. may largely be driven by the current U.S.-China cross-border issues, future U.S. investors may still realize the diversification benefits that previously existed if the regulatory environment stabilizes.

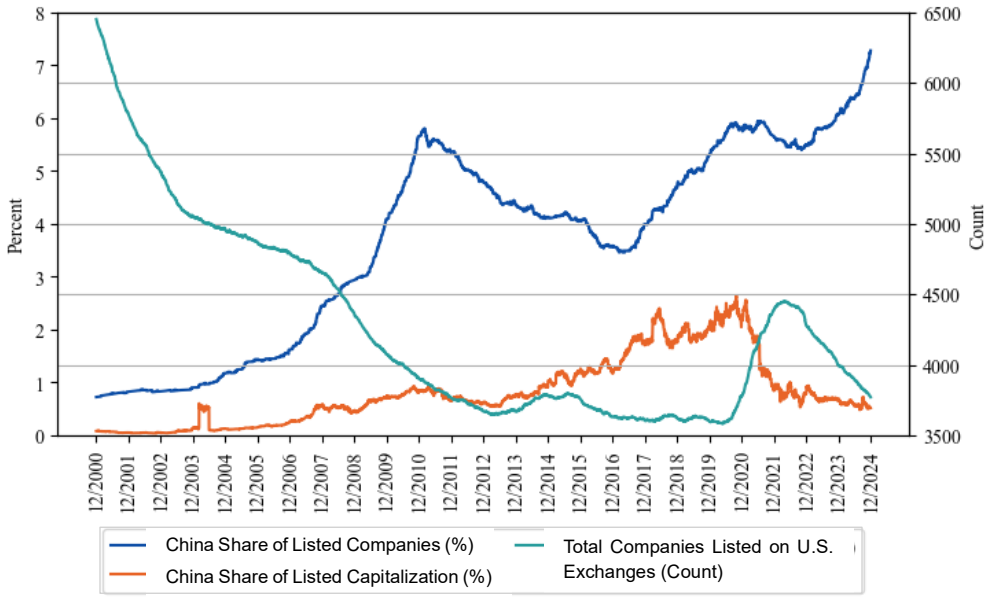
[36] CCMR Report at 24.
[37] *Id.*
[38] *Id.*

Table 9: Annualized Daily Return Characteristics, U.S. Common Shares and U.S.-Listed Chinese Firms

Metric	U.S. Common Shares	U.S.-Listed Chinese Firms	98.25% U.S./ 1.75% China	97% U.S./ 3% China
Excess Return	8.72%	9.31%	8.73%	8.74%
Volatility	19.47%	33.87%	19.51%	19.55%
Sharpe Ratio	0.448	0.275	0.448	0.447
U.S. Common Share Correlation	1.00	0.63	1.00	1.00

Finally, as the number of U.S.-listed firms has declined over the past twenty-five years, U.S.-listed Chinese firms have represented an increasing percentage of U.S. public listings. **Figure 13** shows that the number of U.S.-listed Chinese firms relative to total listings has grown from less than 1% in 2000 to more than 7% in 2024. However, the total market capitalization of U.S.-listed Chinese firms relative to total U.S. market capitalization has dropped precipitously over the past five years, more than halving from over 2% in 2020 to less than 1% as of 2024. Therefore, despite the increasing representation of Chinese firms in U.S. public markets as a share of firm count, the market value of investments in such firms has declined significantly, indicating a decreasing prevalence of Chinese firms in U.S. public markets.

Figure 13: Relative Importance of U.S.-Listed Chinese Firms[39]



The decline in representation of Chinese firms in U.S. markets, as measured by market capitalization, will potentially contribute to an increase in U.S. investor "home bias," which describes investors' preferences for domestic over foreign equities. While U.S. investors can purchase Chinese stocks listed abroad, empirical research illustrates the strong preference of U.S.

[39] The set of U.S.-listed firms includes all common shares in the CRSP database, excluding U.S.-listed Chinese firms. The set of U.S.-listed Chinese firms includes all securities that fall within the intersection of CRSP and Compustat for which the issuer has a mainland or Hong Kong headquarters on the listing date.

investors for purchasing equities on U.S. exchanges. Prior research by Federal Reserve economists found that "U.S. investors double their holdings in foreign stock once the stocks are listed on either the NYSE or NASDAQ."[40] While more recent research has shown that home bias in the U.S. trended consistently downward from 2006 through 2020, U.S. investors still overweight domestic stocks by nearly double what portfolio theory suggests.[41] In this case, home bias can lead to suboptimal portfolio allocations as U.S. investors overweight U.S. firms and underweight Chinese firms. As a result, reducing U.S. investor access to U.S.-listed Chinese firms may exacerbate the home bias issue, leading to inferior portfolio allocations, particularly in the event that returns rebound for Chinese firms listed in the U.S.

[40] John Ammer, Sara B. Holland, David C. Smith, and Francis E. Warnock, *Why do U.S. Cross-Listings Matter,* BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM International Finance Discussion Papers No. 930 (May 2008), https://www.federalreserve.gov/pubs/ifdp/2008/930/ifdp930.pdf.

[41] Rifa Atrous and Ezzeddine Abaoub, *The Home Bias: Evolution, Determinants, and Financial Crises,* 16(7) International Journal of Economics and Finance 60 (2024) at 70, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4932501.

Conclusion

Participation in U.S. equity markets by Chinese issuers over the past twenty-five years has generally conferred advantages that are mutually beneficial to Chinese firms and U.S. investors alike. Access to U.S. capital markets has offered Chinese firms significantly lower costs of capital and reduced costs associated with IPO underpricing. Listing in the U.S. attracts high-quality institutional investors and enables Chinese firms—particularly those in the Technology and Consumer sectors—to raise larger sums of capital than would be possible at home. For U.S. investors, these listings represent access to Chinese equities on U.S. exchanges, providing exposure to firms with historically strong operating and stock return performance, while also improving opportunities for portfolio diversification. Moreover, U.S.-listed Chinese companies have contributed meaningfully to trading volumes and underwriting revenues, reinforcing the global competitiveness of U.S. capital markets.

However, the escalating regulatory tensions between the United States and China have curtailed many of these benefits, as documented in several of our study's findings. Delistings and audit disputes have led to uncertainty and reduced listing activity, likely damaging returns and increasing volatility in the process. As Chinese firms potentially seek alternatives in Hong Kong or Europe, U.S. investors will lose access to an important segment of foreign issuers, while Chinese firms will lose the benefits associated with a U.S. listing. Therefore, a more stable and transparent regulatory environment—rooted in mutual recognition of oversight standards and consistent listing protocols—would help restore the full spectrum of benefits that these cross-border listings once delivered and reinvigorate the capital market integration that has proved advantageous to both economies.

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