# China's Global Ownership*

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**Abstract**

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*Keywords*: Foreign ownership, China, overseas investment, state-owned enterprises, innovation

*JEL Classification*: G30, G32, O3, F3

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## Abstract

Assembling a comprehensive micro-level dataset of China’s ownership in 154,699 firms across 159 countries between 2012 and 2021, we evaluate the scale, patterns, and motivations behind China’s overseas investments and assess their real impacts on target firms and the spillover effects on non-Chinese-owned peer firms in the same country and industry. Our findings show that China's global ownership has grown at an annual rate of 22%, reaching a 1.72% ownership of firms in other countries by 2021. About half of China's global ownership is from state-owned enterprises (SOEs). China tends to target firms with strong innovation, abundant natural resources, and those integrated into its supply chains. After acquisitions, target firms tend to expand in firm size by 9.3% and increase R&D investments by 4.9% on average compared to non-target peer firms. However, these investments fail to result in higher patent output and instead lead to declines in operational efficiency and profitability, highlighting a disconnect in the innovation process and inefficient investment under Chinese ownership. This impact is especially pronounced when Chinese shareholders are affiliated with the government or SOEs. Notably, these findings stand in stark contrast to the outcomes of acquisitions by other economies, such as the United States, Japan, and India.

## Introduction

Over the past decade, China has experienced rapid economic growth, becoming the world's second-largest economy since 2010 and the largest exporter of goods since 2009. This domestic growth has been accompanied by a surge in overseas investments, with China's global investment stock rising from $317 billion in 2009 to over $2.7 trillion by the end of 2021, according to the American Enterprise Institute.[2] By 2021, China had achieved a 1.72% ownership of firms in other countries, reflecting an annual growth rate of 22%. These developments have drawn scrutiny in the Western world, fueling the "China threat" narrative, which frames China's international economic expansion as serving geopolitical objectives, including the acquisition of critical infrastructure, advanced technologies, and natural resources to enhance its economic and political leverage.

These developments raise several crucial questions that have become central to political, academic, and media discourse: What is the true scale of China's ownership of foreign firms? What tangible effects does Chinese ownership have on acquired companies? And how do the impacts of Chinese overseas investment differ from those of other countries?

examines these questions through comprehensive micro-level analysis, studying corporate ownership by Chinese entities across 154,652 firms in 159 countries from 2012 to 2021, which account for over 80 percent of total corporate assets globally. Our research draws upon four novel datasets that capture global ownership structures, financial statements, international patents, and supply chain networks. Our findings reveal that Chinese acquisitions, which target innovative firms, natural resources, and supply chain integration, drive significant increases in firm size (10.4%) and R&D investment (4.9%) but often reduce operational efficiency and profitability. We also examine spillover effects on non-Chinese-owned firms within the same industries, providing a broad view of China's global corporate influence.

[2] https://www.aei.org/china-global-investment-tracker/

The primary challenge in identifying Chinese global ownership lies in the limitations of traditional analyses, which often rely on aggregate foreign direct investment (FDI) data (Buckley et al. 2007; Morck et al. 2008). Such approaches fail to capture indirect ultimate ownership arrangements and overlook critical distinctions, such as the varying investment patterns of state-owned enterprises (SOEs) and private firms—key in China's context. Firm-level studies (Leuz et al. 2009; Kim et al. 2011; Manova et al. 2015; Wang and Wang 2015) have partially addressed these gaps but remain restricted to specific countries or regions, often neglecting investments structured through tax havens, an increasingly significant channel for global capital flows (Coppola et al. 2021). To overcome these challenges, we construct the most comprehensive data to date on China's global ownership by tracing multi-layered corporate structures to their ultimate owners, including those obscured by tax haven intermediaries. This allows us to calculate the proportion of a firm's equities ultimately owned by a Chinese entity, pinpointing Chinese owners with controlling rights. Our methodology also distinguishes between state and private ownership, as well as ownership originating from mainland China versus Hong Kong and Macau, offering a nuanced view of Chinese overseas investments.

Before the formal analyses, we first present key stylized facts of China's global corporate ownership. The first noteworthy observation is that China has the most rapid growth in outward investment in the world. In 2012, China held approximately $307 billion in assets among the world's largest firms outside China, accounting for a 0.55% share. This number increased substantially to $1.56 trillion and a 1.72% share in 2021, reflecting an average annual growth rate of 20%. In contrast, the United States' global corporate ownership outside the US expanded from $11.28 trillion to $23.01 trillion in assets between 2012 and 2021, with a modest growth rate of 8.24%. As of 2021, China is ranked No. 5 in outbound corporate ownership behind the US ($23.01 trillion), Japan ($2.67 trillion), Germany ($2.14 trillion), and the United Kingdom ($1.97 trillion). When combined with the global ownership of Hong Kong and Macao, the greater China held $3.12 trillion in assets as of the end of 2021.

Second, the top five industries targeted by China's outward investment are financial services, manufacturing, information and communication, real estate, and scientific and technical activities. By the end of our sample in 2021, approximately 1.84% of the total assets of large real estate companies outside China are held by Chinese entities. The number is 0.53% for financial services, 0.50% for manufacturing, 1.08% for information and communication, and 0.92% for scientific and technical activities.

In terms of geographic distribution, our analysis reveals that Europe receives the largest concentration of Chinese investment outside of tax haven countries, accounting for approximately 24.23% of China's overseas investment as of 2021. Asia, excluding China, Hong Kong, and Macau, accounts for 6.92%, and Northern America accounts for 5.19% of total Chinese overseas investment. [3] It is important to mention that China has prominent investments in tax havens. For example, China holds ownership stakes in firms that together account for 17.07% of total assets in the Cayman Islands, 8.94% in Antigua and Barbuda, and 5.57% in Bermuda as of 2021. Many of these Chinese companies in tax havens further invest globally. These findings underscore the importance of employing our micro-level methodology to track China's global ownership.

Next, we formally analyze the real impact of Chinese ownership on acquired companies. Our regression analyses yield four salient findings. First, we observe that Chinese investors not only target firms with high R&D investment but also significantly boost R&D investment following acquisitions. On average, firms increase their R&D investments by 5.1% after being acquired by Chinese shareholders, compared to non-targeted firms. This impact is particularly pronounced when Chinese shareholders are affiliated with the government and state-owned entities, indicating a strategic emphasis on R&D by Chinese state-owned enterprises. Notably, this positive effect of Chinese ownership on R&D investments is primarily driven by acquired firms in developed countries and tax havens, where technological acquisition is likely a central motivation for Chinese investors.

[3] We only have financial information for listed companies in the US and Canada.

Secondly, our findings indicate that greater R&D investment by Chinese shareholders does not necessarily generate a higher number of patents. This suggests that R&D investment doesn't always translate into innovation, and can instead result in inefficient investment under Chinese ownership. Moreover, the overall efficiency of firms, measured by the return on assets (ROA), decreases by 1.2 percentage points. For comparison, the mean (median) value of ROA for firms without Chinese ownership is 2.3% (2.2%). Notably, the decline in ROA is mainly associated with Chinese SOE shareholders rather than private shareholders from China.

The above findings jointly underscore the inefficiencies associated with Chinese ownership. The decline in profitability, alongside increased firm size and R&D spending, suggests that while Chinese investment can lead to firm growth, it often comes at the cost of operational efficiency, highlighting a potential challenge for firms under Chinese ownership to convert investments into profitable outcomes.

Third, Chinese ownership has a minimal impact on target firms' supply chain relationships. Specifically, Chinese shareholders do not systematically increase a firm's likelihood of becoming a customer of a Chinese entity, nor the likelihood of becoming a supplier to Chinese companies. The lack of significant results across both upstream and downstream elements of the supply chain suggests that Chinese ownership does not lead to a noticeable integration of local firms into Chinese supply chains, either as suppliers or customers.

These effects on the supply chains of Chinese foreign investments contrast sharply with those of other countries such as the United States, Japan, or India. Foreign investors from these countries, especially those from the U.S., tend to significantly increase both customer and supplier linkages in their global supply chains when investing abroad, creating stronger connections between foreign-owned firms and their supply chain partners.

Our work provides the first systematic study of China's global ownership using microdata, which contributes to several strands of the literature. Firstly, we contribute to the extensive body of research on FDI spillovers, as comprehensively reviewed by Harrison and Rodriguez-Clare (2009). Diverging from many studies that rely on aggregate data (e.g., Fosfuri, Motta, and Rønde

(2001); Javorcik (2004)), our research utilizes a detailed firm-level dataset, uniquely enabling us to track firm ownership structure changes over time. This approach allows us to uncover novel evidence by distinguishing between state and private shareholders, and to analyze economic spillovers to competing firms in the same industry and country.

Moreover, our findings on the effects of China's ownership on technology innovations add to the recent discussion of knowledge spillovers and decoupling across countries (e.g., Blalock and Gertler (2008); Akcigit et al. (2024); Han, Jiang, and Mei (2024)).[4] In particular, Bai et al. (2020) document that Chinese domestic automakers learn from their foreign joint venture partners to achieve quality upgrades. Our paper shows that ownership channels constitute another way for Chinese firms to acquire and adopt foreign technologies, with potential adverse consequences on foreign markets. This also adds to ongoing discussions among policymakers regarding the geopolitical tensions between China and other countries (e.g., Amiti et al. (2019), Ru and Yang (2024)).

Relatedly, our evidence on the determinants of Chinese corporate ownership adds to the growing literature on international mergers and acquisitions. This literature has identified various drivers of foreign acquisitions, including access to larger product markets (e.g., Yeaple 2003; Di Giovanni 2005), access to deeper financial markets (e.g., Alquist et al. 2014; Aguiar and Gopinath 2005; Baker et al. 2009), access to stronger 'investor protection rights (e.g., Bris and Cabolis 2008; Rossi and Volpin 2004; Chari et al. 2010), and access to more favorable tax regimes or regulations (e.g., Huizinga and Voget 2009). We complement these findings by showing that the foreign acquisitions of Chinese entities, particularly those tied to the Chinese government, are often driven by strategic reasons, such as seeking natural resources or gaining technology transfer. Consequently, the target firms often tend to exhibit poor performance after getting Chinese stockholders.

[4] Several recent studies focus on the economic consequences of investments from China to US (e.g., Brown and Singh (2018); Hanemann et al., (2021)). There is also related evidence that the merger of corporate entities can generate synergies for innovation (e.g., Bena and Li 2014).

Our paper proceeds as follows. Section 2 describes the data sources, construct key variables, and presents stylized facts of China's global ownership. Section 3 shows empirical analysis. Section 4 concludes.

## 1. Identify Chinese Ownership

### 1.1. Data

Our main dataset is from Moody's Orbis, the largest cross-country firm-level database of harmonized financial information and ownership information, covering over 400 million public and private firms in 212 economies. Orbis only keeps historical data for a limited number of years, and the online version of Orbis does not maintain data for firms that exit from the sample (Kalemli-Ozcan et al., 2024). To reduce survivorship bias, we follow Kalemli-Ozcan et al. (2024) and use annual downloads of the Orbis database to build a panel data set from 2012 to 2021, a period over which China's global ownership stake increased dramatically. In practice, we obtain information on about 255 million firm-year observations for 94 million firms over this sample period, with 44 million companies among them having non-missing balance sheet information.[5]

#### 1.1.1. Orbis Ownership

Orbis Ownership data provides the historical ownership information of corporations. For each firm in a given year, it contains the firm's name, identifier (BVDID), its domiciled country, the names and identifiers of its direct shareholders and their ownership shares. It also contains two variables, GUO25 and GUO50, to indicate a firm's global ultimate owner when all shareholders in the ownership hierarchy between a subsidiary and its ultimate owner maintain at least 25% or 50% ownership at *each and all* hierarchical levels.

To study China's outbound investment, we construct a sample of non-Chinese firms by excluding firms with a BVDID that starts with "CN" or a country code (CTRYISO) that equals

[5] We mainly check whether firms have non-missing total assets (TOAS) because total assets, in general, have better coverage than other financial items and would be used in most of our research designs.

"CN." We also exclude firms domiciled in Hong Kong and Macau, as they are essentially two Special Administrative Regions under China's realm.[6]

### 1.1.2. Orbis Financials

Orbis Financials integrates various sources of financial statements across countries. For multinational firms with subsidiaries, duplicate accounts may appear at the same time point in both consolidated and unconsolidated forms.[7] Consider a Chinese company that directly owns an entity in Bermuda and ultimately owns a subsidiary in Germany through this Bermudan entity. In this case, both the Bermudan and German firms would be classified as having Chinese ownership. (We formally identify Chinese ownership in Section 1.2.) To avoid double counting that would arise from using consolidated accounts, we prioritize unconsolidated accounts when both types are available. As noted by Kalemli-Ozcan et al. (2024), most firms in Orbis report unconsolidated accounts.

Orbis Financials reports data in two filing types: "local registry filing" and "annual report." When a firm has both types in a given year, we prioritize local registry filings, which represent the predominant reporting format. We use the U.S. dollar version of these filings rather than local currencies to facilitate cross-country analyses.

We apply several additional filters to ensure data consistency. We retain only annual reports, excluding quarterly ones, and maintain accounts that cover at least 12 months. When a firm has multiple filings in a year due to changes in account closing dates, we keep the filing with the latest closing date. For any remaining duplicate accounts after applying these filters, we select the account with the most comprehensive coverage of key financial variables, particularly total assets.

From Orbis Financials, we collect firm-level variables in several categories. Financial position variables include total assets (TOAS), tangible fixed assets (TFAS), long-term debts (LTDB), and

[6] We use domicile country instead of incorporation country to identify Hong Kong and Macau firms because foreign firms may register in Hong Kong and Macau for tax reasons but not actually operate there.

[7] The year in the Account Closing Date (CLOSEDATE) in Orbis does not necessarily correspond to the calendar year. Following convention, we assign the CLOSEDATE year as the calendar year if the closing date falls on or after June 1st. For closing dates before June 1st, we assign the preceding year as the calendar year.

cash (CASH). Performance metrics comprise R&D expenses (RD), sales (expressed in market shares), return on assets (ROA), and earnings before interest, taxes, depreciation, and amortization (EBTA). We also collect operational data, including the number of employees (EMPL) and the year of incorporation (DATEINC_year).

Using these raw variables, we construct additional measures: leverage (LEV) as the ratio of long-term debt to total assets, firm age (AGE) calculated from the year of incorporation, and the Herfindahl index (HH) computed from industry sales to measure market concentration. To mitigate the impact of outliers, we winsorize all raw variables from Orbis Financials at the 1st and 99th percentiles. For variables not expressed as ratios—specifically R&D expenses, total assets, tangible fixed assets, and firm age—we apply a logarithmic transformation after winsorization.

At the country-industry level, we construct aggregate measures by averaging firm-level variables within each country-industry pair annually. Specifically, we compute the mean values of R&D expenses, number of employees, EBITDA, operating costs, and cash holdings across all firms operating in the same country and industry in a given year. The complete methodology for variable construction and aggregation is detailed in the Appendix.

### 1.1.3. Orbis Patent

Our global patent information also comes from Orbis. The original global patent data comes from the Worldwide Patent Statistical Database (PATSTAT), which contains nearly 168 million patents filed by 2.4 million companies. This data has been widely used in previous literature, for example, Kong et al., 2022 and Moshirian et al., 2021. The data includes comprehensive details such as the patent's publication information (identifier, type, date), application information (identifier, type, date), and grant information (grant status and, if applicable, the grant date ). It also provides family information where a single patent family represents the same patent filed in different jurisdictions for protection across countries. Additionally, the dataset includes details about inventors, applicants, and owners, among other valuable information.

Orbis Patent integrates this global patent data with firm-level information from the Orbis database, which encompasses both public and private companies. This integration facilitates seamless matching with Orbis Financials and Ownership data.

We construct measures of a firm's innovation output. Specifically, we calculate #GrantedPatents, which represents the number of patents applied for by the focal firm that are eventually granted. This measure is winsorized at the 1st and 99th percentiles to mitigate the influence of outliers and is subsequently log-transformed.

To avoid double counting, we follow the approach of Liu and Ma (2021): duplicate applications across multiple jurisdictions are treated as a single application, and patents jointly applied for by multiple firms are assigned fractional and equal weights for each firm. To ensure the accuracy of the data, we aggregate the number of applied and granted patents by the patent office over time and compare these figures with the summary statistics reported by Liu and Ma (2021). The results exhibit very similar patterns (see Online Appendix Figure A1 for a detailed comparison).

#### 1.1.4. FactSet Global Supply Chain Data

We use the FactSet Revere dataset to collect firm-level supply chain information. A local entity is identified as a customer of China if it is recorded in FactSet Revere as an entity to which a source company in China sells products or services. Conversely, a local entity is identified as a supplier to China if it is recorded as i) an entity from which a source company in China purchases goods or services, ii) an entity that provides paid manufacturing services to a source company in China, iii) an entity that provides paid marketing, branding, or advertising services to a source company in China, or iv) an entity that a source company in China pays to distribute its products or services. We then merge the FactSet data with our primary dataset using ISIN and year as identifiers. Approximately 10% of our firm-year observations can be matched with supply chain information from FactSet Revere.

At the country-industry level, we utilize the OECD Input-Output Tables, which encompass 45 ISIC Rev. 4 industries across 76 countries (OECD, 2023). We calculate the share of intermediate inputs sourced from China for each country's industry as a percentage of its total intermediate inputs (*II_CN/II*). Similarly, we calculate the share of intermediate outputs supplied to China for each country's industry as a percentage of its total intermediate outputs (*IO_CN/IO*). The industries in our primary dataset are also defined according to the OECD classification. Accordingly, we perform a one-to-one merge of our main dataset with the OECD Input-Output Tables using country codes, ISIC Rev. 4 codes, and years as matching variables.

We merge the Ownership data and the Financials data by BVDID and year. This process yields 98 million firm-year observations, which corresponds to 23 million entities across 171 countries. We further take the following two steps to construct a final sample. First, we require that firms have information on total assets in the Orbis dataset to be included in our sample. Second, we restrict our sample to entities labelled as "Very Large Company" by Orbis. Although these entities represent only about 1% of firms in the Orbis dataset, their total assets account for nearly 90% of the aggregated total assets across all firms with non-missing ownership and total assets information. This makes our sample highly representative of global firms.

The "Very Large Company" classification criteria vary by country, reducing the likelihood of any country being overweight or underrepresented in this sample. Most importantly, the coverage of many key variables is significantly better in the "Very Large Company" sample compared to the full sample. For instance, in the full sample, 97.06% of firm-year observations with non-missing total assets and ownership information have missing R&D expenses. In contrast, this percentage drops to 82.76% in the "Very Large Company" sample.

After applying these criteria, our final sample consists of 1,046,966 firm-year observations, representing 154,652 firms across 159 countries.

### 1.2. Identify Chinese Ownership

To identify whether a firm is owned by a Chinese entity, we begin with the firm's direct shareholders and their ownership percentages, focusing on shareholders whose BVDID starts with "CN" or whose country ISO code equals "CN." However, examining only first-level shareholders may be insufficient, as Chinese ownership might be obscured through subsidiaries incorporated in tax havens (Coppola et al., 2021; Clayton et al., 2023). To address this concern, we utilize Orbis's Global Ultimate Owner 25 (GUO25) variable. A GUO25 is recorded when all shareholders in the ownership hierarchy between a subsidiary and its ultimate owner maintain at least 25% ownership at each hierarchical level. We, therefore, identify all GUO25s domiciled or incorporated in China.

To validate the GUO25 variable, we independently replicate the ownership structure analysis by tracing ownership trees layer by layer using the 25% threshold. Following Orbis's documented methodology, our replication successfully matches 95% of the subsidiary-GUO25 pairs found in the raw Orbis data, while identifying an additional 20% of subsidiary-GUO25 relationships not captured in Orbis's measures. As shown in Figure 1, our ownership measure is very close to the total assets of China's overseas FDI enterprises recorded by China's Ministry of Commerce.

**[Insert Figure 1 about here]**

Our layer-by-layer tracing approach offers an additional advantage: while Orbis only records direct ownership percentages for immediate shareholders and control rights for ultimate shareholders, our method enables us to calculate the *cash flow rights* of ultimate owners through complex, multi-layered ownership structures. This provides a more complete picture of economic ownership than the original Orbis data.

For our formal analysis, we use two firm-level ownership variables: *CN_Owned* and *CN_Controlled*. *CN_Owned* is a dummy variable that equals one if either of two conditions is met: i) The firm has a direct Chinese shareholder with at least 25% ownership, and ii) The firm has a Chinese global ultimate owner with at least 25% ownership. We define *CN_Controlled* to specifically identify firms where Chinese ownership maintains a controlling interest. This distinction between ownership and control allows us to differentiate between firms with significant Chinese investment and those under Chinese control. Our underlying assumption is that the

presence of Chinese ownership—whether through direct shareholding or ultimate ownership—can meaningfully influence firm-level outcomes, with potentially different effects based on the degree of control.

Beyond the main ownership measures, we further differentiate between Chinese state and private ownership through a two-step classification process. First, we utilize the entity type classification variable in Orbis and identify Chinese government agencies as those labelled as "public authority, state, government." Second, we classify Chinese state-owned enterprises as entities that have at least one Chinese government agency as their ultimate owner. All remaining Chinese entities are classified as private firms. To validate our state ownership classification, we test it on a subsample of firms domiciled or incorporated in China. Using our algorithm to classify these firms as either SOEs or private entities, we track the annual evolution of SOE capital in the Chinese economy. Our results using the 25% ownership threshold (GUO25) align with Allen et al. (2022), who employ a 30% threshold and estimate SOEs account for approximately 40% of the Chinese economy.[8]

Based on this classification, we define two additional ownership variables: *CN_SOEOwned* and *CN_PvtOwned. CN_SOEOwned* equals one if a firm has at least one Chinese government agency or Chinese SOE as its GUO10. *CN_PvtOwned* equals one if *CN_Owned* equals one and *CN_SOEOwned* equals zero.

## 2. Stylized Facts and Preliminary Analysis

In this section, we present key stylized facts about China's global ownership, reporting its scale and patterns across countries and industries. Then, we explore the relationship between Chinese ownership and the characteristics of target firms at the industry and country level.

### 2.1 Stylized Facts of China's Global Ownership

[8] A detailed comparison with Allen et al. (2022) is presented in the Online Appendix Figure A2.

Using our layer-by-layer tracing method, we can calculate the precise dollar value of assets owned or controlled by Chinese entities, whether through direct shareholding or ultimate ownership. Table 1 presents the top countries and industries ranked by three metrics: dollar value, share, and growth of China-owned assets.

Panel A reveals that China's global ownership comprises a substantial share of total assets among "Very Large Company" sample firms in tax havens. The highest concentrations appear in the Cayman Islands (9.46%) and Antigua and Barbuda (8.32%), followed by significant holdings in the British Virgin Islands and Bermuda. Panel B demonstrates that beyond tax havens, Chinese ownership represents substantial dollar values in developed European and Asian countries. Panel C shows that while Chinese ownership growth is highest in small developing countries, it has also increased significantly in developed nations, notably Denmark.

Industry analysis in Panels D and E indicates that Chinese ownership concentrates in key sectors like real estate activities, mining and quarrying, information and communication, construction, and wholesale and retail trade, in both dollar values and shares. During our sample period of 2012 to 2021, on average, approximately 0.65% of the total assets of large real estate companies outside China are held by Chinese entities and their subsidiaries. The number is 0.32% for financial services, 0.50% for manufacturing, 0.59% for information and communication, and 0.42% for scientific and technical activities.

**[Insert Table 1 about here]**

Figure 2 tracks the evolution of China's global ownership. China's share of total sample firm assets grew from 0.55% in 2012 to 1.72% in 2021, with the dollar value quadrupling from approximately 307 billion USD to 1.56 trillion USD, representing an average annual growth rate of 22%. For comparison, U.S. global corporate ownership outside the United States expanded from $11.28 trillion to $23.01 trillion in assets during the same period, growing at a modest rate of 8.24%. When combining mainland China with Hong Kong and Macau, Greater China's global ownership nearly doubles, reaching 3.12 trillion USD as of 2021, representing 3.45% of total assets among large global firms.

**[Insert Figure 2 about here]**

Figures 3 and 4 examine industry-specific and regional trends. Panel A of Figure 3 shows that China's ownership in traditional sectors like mining and quarrying remained stable at 2~5%. However, significant growth occurred in IT, construction, and real estate. Most notably, Panel D demonstrates that China-owned IT assets in the "Very Large Company" sample tripled from 600 billion USD in 2012 to nearly 1.8 trillion USD in 2021. Real estate ownership showed particularly striking growth, with Panel F revealing an increase from just over 0.50% in 2012 to more than 4.5% in 2021.

Regional analysis in Figure 4 reveals three distinct patterns: stable ownership in North America, modest expansion in Asia, and substantial growth in Europe. Europe receives the largest concentration of Chinese investment outside of tax haven countries, accounting for approximately 24.23% of China's overseas investment as of 2021. Asia, excluding China, Hong Kong, and Macau, accounts for 6.92%, and Northern America for 5.19% of total Chinese overseas investment.

Figure 5 compares the China state versus private ownership. In the early stage of our sample, SOEs play a leading role. Comprising less than 10% of China's domestic economy, they account for approximately 50% of China's global ownership. Since 2016 (any policy shock?), Chinese private ownership outpaces SOE ownership. The gap has been even widened since the pandemic period.

Figure 5 reveals a dramatic shift in the composition of China's global ownership. Despite comprising less than 10% of China's domestic economy, SOEs initially dominated China's overseas holdings, accounting for approximately 50% of total Chinese global ownership through 2015. However, a significant transition occurred in 2016, when private ownership began to outpace SOE ownership. This gap widened notably during the COVID-19 pandemic period. This shift around 2016 coincides with several important policy developments, including China's formalization of the "Going Global" strategy and increased scrutiny of SOE overseas investments.

**[Insert Figures 3, 4, and 5 about here]**

**2.2 Preliminary Analysis of Chinese Overseas Investment Motivations**

Our analysis begins with an exploration of the relationship between Chinese ownership and firm characteristics at the industry-country level. To set the stage, we present summary statistics of firm characteristics in Table 2. Panel A provides statistics for all firms, while Panel B focuses on firms with Chinese ownership (*CN_Owned = 1*), and Panel C examines firms without Chinese ownership (*CN_Owned = 0*).

Comparing Panels A and B, we find that, unconditionally, China-owned firms have higher R&D expenses, lower likelihood of reporting blank R&D expenses, lower profitability, larger market shares, more assets, and larger firm ages. Besides, China-owned firms are more likely to be part of the Chinese supply chains. In Panel C, the observations are either aggregated or averaged at the country-industry-year level for all sample countries, excluding China. In Panels D and E, we report the summary statistics of China-incorporated firms conditioning on whether the firm has foreign subsidiaries in that year or not. Panel D reports the summary statistics for firm-year observations with $\text{CN\_foreign} = 1$, while Panel E for $\text{CN\_foreign} = 0$. Comparing Panels D and E, we find that, unconditionally, China-incorporated firms with foreign subsidiaries have higher R&D expenses, lower likelihood of reporting blank R&D expenses, larger market shares, more assets, higher leverage, and larger firm ages than their peers. Nevertheless, the profitability is similar across the two groups.

**[Insert Table 2 about here]**

Next, we run the regressions for the total dollar value of assets owned by China at the industry-country-year level on the industry and country characteristics such as innovation investments and efficiency. Formally, we run the following regressions:

$$\begin{aligned}\text{Log}(\textstyle\sum\text{CN\_Owned\_Assets})_{c,j,t+1} = \alpha + \beta_1 \times \text{Log}(\textstyle\sum\text{R\&D})_{c,j,t} + \beta_2 \times \text{Log}(\textstyle\sum\text{Empl})_{c,j,t} + \\ \beta_3 \times \textstyle\sum\text{Assets}_{c,j,t} + \beta_4 \times \textstyle\sum\text{Tangible}_{c,j,t} + \beta_5 \times \text{IO\_China/IO}_{c,j,t} + \beta_6 \times \text{II\_China/II}_{c,j,t} + \\ \beta_7 \times \text{Nature\_Resources\_Country}_{c,t} + \gamma' \times \text{Nature\_Resources\_Industry}_{c,t} + \text{All\_Blank\_R\&D} + \\ \text{Partial\_Blank\_R\&D} + \text{HHI} + \text{FEs} + \varepsilon_{i,t} \quad (1)\end{aligned}$$

where $\text{Log}(\sum\text{CN\_Owned\_Assets})_{c,j,t+1}$ is the logarithm of the aggregate assets of all firms owned by Chinese entities within industry j in country c in year t+1 by aggregating at the firm-level. Similarly, $\text{Log}(\sum\text{R\&D})_{c,j,t}$ is the logarithm of the R&D expenses of all firms within industry $j$ in country $c$ in year $t$.[9]

In addition, we measure the country industry's employment and profitability by including different country-industry level characteristics in the regressions. Specifically, the numbers of employees of all firms within industry $j$ in country $c$ in year $t$ are aggregated and log-transformed to get $\text{Log}(\sum\text{Empl})_{c,j,t}$. The EBITDA of all firms within industry $j$ in country $c$ in year $t$ are aggregated and scaled by the summation of all firms' total assets to get $\sum\text{EBITDA}/\sum\text{Assets}_{c,j,t}$. Similarly, the operating costs of all firms within industry $j$ in country $c$ in year $t$ are aggregated and scaled by the summation of all firms' EBITDA to get $\sum\text{OpCost}/\sum\text{EBITDA}_{c,j,t}$, and the summation of all firms' cash is scaled by the summation of all firms' total assets to get $\sum\text{Cash}/\sum\text{Assets}_{c,j,t}$.

We also would like to see whether Chinese ownership concentrates on industries relying on the Chinese supply chain. To achieve this, we utilize the OECD Input-Output Tables, which cover 45 ISIC industries in 76 countries (OECD, 2023). To be specific, we extract the intermediate inputs from ( or intermediate outputs to) all Chinese industries for the industry $j$ in the country $c$ in a year $t$ and then divide them by the country industry's total intermediate inputs (intermediate outputs) to determine its dependence on the suppliers from China (customers from China), $II\_China/II_{c,j,t}$ $(IO\_China/IO_{c,j,t})$. The sample size shrinks a little when these variables are included because not all countries are covered.

[9] The issue of missing R&D expense data, which we will detail in Section 4.2.1, prompts us to adopt two strategies to mitigate its impact. Initially, we impute missing R&D expenses as zero at the country-industry level and introduce two dummy variables—*All_Blank_R&D* and *Partial_Blank_R&D*—to signify the absence of R&D data across all or some firms, respectively, within a specific country-industry-year. Alternatively, we exclude any firm-year observations lacking R&D data before aggregating. We then conduct separate regressions for each method to test the robustness of our findings.

To measure whether Chinese owners prefer countries/industries with high natural resources, we use the following two approaches. Firstly, we download the total natural resources rents for each country c in year t from the World Bank's website. Secondly, we use a set of indicators for natural resource-intensive ISIC industries, including agriculture, hunting, forestry (ISIC 01,02), mining and quarrying – energy (ISIC 05,06), and mining and quarrying – non-energy (ISIC 07,08). Both sets of variables are included in equation (1) simultaneously.

We also include a set of control variables besides country and year fixed effects in the regressions, including the aggregated total assets, aggregated tangible fixed assets, and aggregated long-term debt across all firms, as well as the Herfindahl index and the square of the Herfindahl index based on sales in industry j in country c in year t. The detailed descriptions of the control variables are in the Appendix. Besides, we include industry fixed effects when the indicators for natural resource-intensive industries are not included.

The regression results are shown in Table 3. In particular, we find a positive and substantial correlation between Chinese ownership and the level of R&D investment within firms, indicating that firms under Chinese ownership tend to prioritize and invest more in research and development. Additionally, our analysis demonstrates a significant relationship between Chinese ownership and the firm's integration within supply chains, as measured by input-output tables. This suggests that firms with Chinese ownership are more likely to have robust connections with suppliers and customers, highlighting the strategic importance of supply chain networks in Chinese investment decisions. Furthermore, the results underscore a specific interest of State-Owned Enterprises (SOEs) in the natural resources sector, pointing to a targeted approach by Chinese SOEs to invest in industries rich in natural resources. These findings collectively provide a nuanced understanding of the preferences and strategies of Chinese investors, reflecting their emphasis on innovation, supply chain integration, and natural resources.

**[Insert Table 3 about here]**

## 3. The Real Impact of China's Ownership

To evaluate the real impact of Chinese ownership on target firms, we employ the following regression model:

$$Y_{i,t} = \alpha + \beta_1 \times \text{CN\_Owned}_{i,t} + \text{Control} + \text{FEs} + \varepsilon_{i,t}.$$

The dependent variable $Y_{i,t}$ refers to each of the three sets of firm characteristics. The first set measures research and innovation through two variables: the logarithm of R&D expenses, $Log(R\&D)$ , and the logarithm of granted patent numbers, $Log(\#GrantPatent)$. The second set examines firm profitability and investment efficiency, measured by the logarithm of firm fixed assets, $Log(FixedAsset)$, and return on assets, *ROA*. The third set assesses the target firm's integration into Chinese supply chains using two dummy variables, *CNSupplier* and *CNCustomer*, which indicate whether the non-Chinese firm serves as a supplier or customer of a Chinese company, respectively.

For control variables, we include the firm characteristics such as the logarithm of total assets, tangible fixed assets, firm age, and firm leverage. We also control for market structure using the Herfindal index and its square term based on sales. To account for unobserved heterogeneity, we employ various combinations of fixed effects, controlling for omitted firm characteristics and time-varying factors at the firm, industry, and country levels.

Beyond the baseline regression, we extend our analysis by differentiating between SOE and private ownership using the following regression model:

$$Y_{i,t} = \alpha + \beta_1 \times \text{CN\_SOEOwned}_{i,t} + \beta_2 \times \text{CN\_PvtOwned}_{i,t} + \text{Control} + \text{FEs} + \varepsilon_{i,t}.$$

Where $CN\_SOEOwned_{i,t}$ *and* $CN\_PvtOwned_{i,t}$ indicates whether a non-Chinese firm is owned by Chinese state or government-related entities or private entities, respectively.

After presenting the main results of China's real impact, we conduct comparative analyses by replicating our main tests using U.S. and Japanese ownership measures. This parallel analysis allows us to determine whether the documented impacts of Chinese ownership represent unique patterns or reflect more general effects of foreign ownership from major economies.

### 3.1. Research and Innovation

R&D expenses are frequently unreported in financial statements, particularly among firms in emerging market economies. While researchers traditionally treat missing R&D values as zeros, Koh and Reeb (2015) demonstrate that absent R&D reporting does not necessarily indicate a lack of innovation activities. Subsequent research highlights that various factors, including managerial traits (Koh, Reeb, and Zhao, 2018), influence R&D reporting decisions. To address potential biases arising from either treating missing R&D as zero or excluding firms with unreported R&D, we employ two approaches. First, we include an indicator variable (*Blank_R&D*) to flag missing R&D data. Second, we conduct robustness tests by excluding firm-year observations with missing R&D data. This dual approach strengthens the reliability of our findings, ensuring they capture genuine economic relationships rather than data treatment artifacts (Koh and Reeb, 2015; Koh et al., 2022).

Table 4 presents regression results for R&D expenditure, where missing R&D values are coded as zeros and controlled for using two indicator variables: *Blank_R&D* for unreported R&D and *Zero_R&D* for R&D reported as zero in Orbis Financials data. The analysis employs progressively rigorous fixed effects specifications. Columns (1) to (3) in Panel A use three fixed effects combinations: firm and year fixed effects in Column (1), adding country-by-year fixed effects in Column (2), and further incorporating industry-by-year fixed effects in Column (3). Columns (4) to (6) augment these specifications with firm-level control variables.

Across all specifications, the coefficient on *CN_Owned* captures within-firm variation, measuring changes in R&D expenditure before and after the introduction of Chinese shareholders. This within-firm estimation approach allows us to identify the effect of Chinese ownership while controlling for time-invariant firm characteristics.

**[Insert Table 4 about here]**

The coefficient on *CN_Owned* in Column (1) of Panel A is 0.051, significant at the 1% level, indicating that Chinese ownership is associated with a 5.1% increase in R&D expenditure among

non-Chinese firms. When we add country-by-year fixed effects in Column (2), the coefficient decreases to 0.028, significant at the 5% level. This 45% reduction in economic magnitude suggests that country-specific time trends account for a substantial portion of the variation in R&D expenditure. The effect remains robust, ranging from 0.025 to 0.049, after including firm-level control variables.

In Panel B, we differentiate between Chinese state-owned (government) and private ownership, using CN_$SOEOwned$ and $CN\_PvtOwned$ as independent variables. Our main finding indicates that the positive relationship of Chinese ownership and increased R&D expenditure in target firms is primarily driven by Chinese owners affiliated with central and local governments. Controlling for the firm and year one-way fixed effect, the estimated coefficient on CN_$SOEOwned$ is 0.056, significant at the 1% level, while the coefficient on $CN\_PvtOwned$ is smaller at 0.049, though also significant at the 1% level. However, after controlling for the country-by-year two-way fixed effects, the coefficient $CN\_PvtOwned$ becomes statistically insignificant, whereas the coefficient CN_$SOEOwned$ remains significant at the 5% level with a value of 0.045.

In Panel C, we stratify the sample into developed and emerging market economies. The results show that the positive relationship between Chinese ownership and R&D investment is primarily concentrated in developed countries, with little to no effect observed in emerging markets. This finding suggests that the positive impact of Chinese ownership on R&D investments is largely driven by firms in developed economies, where technological acquisition and innovation are likely key motivations for Chinese investors. In contrast, the weaker effects in emerging markets indicate that the nature and objectives of Chinese investments differ significantly depending on the economic and institutional context of the target firms.

In addition, the results in Table 5 highlight that Chinese ownership significantly increases investments in target firms, mainly through state-owned enterprises (SOEs). In Panel A, the

coefficient for overall Chinese ownership (CN_Owned) is consistently positive, with values such as 0.093 at the 1% significance level in Column (1), indicating a 9.3% increase in firm-level fixed assets on average. Panel B further reveals that this effect is stronger for SOEs, with the coefficient for CN_SOEOwned reaching 0.133 in Column (3), compared to a smaller coefficient, 0.083, for private ownership (CN_PvtOwned). These findings underscore that Chinese ownership, especially through SOEs, drives substantial capital investment, consistent with a strategic emphasis on expanding target firms' fixed assets.

**[Insert Table 5 about here]**

### 3.2. Investment Efficiency and Profitability

Next, we examine how efficiency and profitability are impacted when firms have Chinese shareholders, starting with an analysis of patent outcomes as a measure of innovation. Table 6 presents the regression results, which reveal that most of the coefficients for $CN\_Owned$ are statistically insignificant. This finding suggests that while firms owned by Chinese shareholders tend to increase their R&D investments, these efforts do not necessarily translate into a corresponding rise in the number of patents filed. The lack of a significant relationship between Chinese ownership and patent output indicates potential inefficiencies in how these R&D investments are being utilized, pointing to a possible gap between the resources allocated for innovation and the tangible results achieved. This inefficiency may stem from various factors, such as differences in the strategic goals of Chinese investors, who may prioritize integration into Chinese supply chains or market expansion over immediate technological breakthroughs. Thus, while Chinese shareholders encourage higher R&D spending, the effectiveness of this investment in driving patentable innovations remains questionable, highlighting a potential disconnect in the innovation process under Chinese ownership.

**[Insert Table 6 about here]**

In Table 7, we look at the ROA as the measurement of firms' overall efficiency, which is measured using net income and expressed in percentage points. In column (1) of Panel A, we regress ROA only on the key variable of interest, CN_Owned, and firm and year fixed effects. The estimated coefficient of CN_Owned is negative and significant, suggesting that China's ownership is associated with a lower ROA in the non-China-incorporated firms. Specifically, the coefficient is -1.227, which is significant at the 1% level, suggesting that when a Chinese shareholder comes in, the firm's ROA decreases by 1.227 percentage point. In comparison, the mean and median ROA for firm years without China ownership in our sample are 2.24% and 2.23%, respectively, according to Table 1. In Panel B, when dividing China owners into SOE and private firms, we find that the estimated coefficient CN_PrivateOwned is insignificant, while the coefficient CN_SOEOwned is -1.038 at the 5% significance level. This suggests that the decreased ROA is mainly associated with SOE Chinese shareholders instead of Chinese private shareholders.

**[Insert Table 7 about here]**

The results in Table 8 suggest that Chinese ownership, particularly through state-owned enterprises (SOEs), negatively affects total factor productivity (TFP), indicating less efficient operations. In Panel B, the coefficient for CN_SOEOwned is -1.673 ($p<0.05$) in Column (3), highlighting a significant decline in TFP under SOE ownership, while private ownership (CN_PvtOwned) shows no statistically significant impact. This inefficiency aligns with the narrative of less effective resource utilization under state-controlled ownership. Additionally, Panel C reveals no consistent TFP improvement in either developed or emerging markets, further reinforcing the inefficiency of Chinese SOE ownership.

**[Insert Table 8 about here]**

For employment, Table 9 shows that Chinese ownership has either a negative or no significant impact on local job creation, suggesting that Chinese investments do not aim to increase employment. In Panel A, the coefficient for CN_Owned is -0.080 ($p<0.01$) in Column (4), indicating a reduction in employment levels in firms with Chinese ownership. Panel B highlights that neither SOE nor private ownership contributes positively to employment, with CN_SOEOwned and CN_PvtOwned both showing insignificant or marginally negative effects. This pattern persists across developed and emerging markets in Panel C, with coefficients such as -0.083 for CN_Owned in emerging markets, signaling a lack of focus on local employment growth.

**[Insert Table 9 about here]**

In summary, the analysis of Chinese ownership in non-China-incorporated firms reveals a pattern of inefficiencies exported through increased investments and firm size without corresponding improvements in key performance outcomes. While Chinese shareholders, particularly SOEs, drive significant increases in R&D investments and firm size, these efforts do not yield higher patent filings, indicating a gap between the allocation of resources for innovation and the actual generation of tangible results. This disconnect suggests inefficiencies in how R&D investments are utilized under Chinese ownership, possibly due to strategic priorities that focus on integrating firms into Chinese supply chains or expanding market reach rather than fostering technological breakthroughs. Additionally, the decrease in return on assets (ROA), especially pronounced in firms owned by Chinese SOEs, further underscores the inefficiencies associated with Chinese ownership. The decline in profitability alongside increased firm size and R&D spending suggests that while Chinese investment can lead to firm growth, it often comes at the cost of operational efficiency, highlighting a potential challenge for firms under Chinese ownership to convert investments into profitable outcomes.

### 3.3. Supply Chain

Next, we explore whether opening up to Chinese ownership increases the dependence of local firms on Chinese supply chains. We use the FactSet Revere data to measure a firm's position as a customer or supplier in the supply chain. Tables 10 and 11 presents the results, which indicate that Chinese ownership has minimal impact on firms' supply chain relationships. Specifically, for CN_Owned, the coefficients in Table 10 (with CNSupplier as the dependent variable) are generally insignificant across most specifications, implying that Chinese shareholders do not systematically increase a firm's likelihood of becoming a customer of a Chinese entity. Similarly, in Table 11 (with CNCustomer as the dependent variable), we observe no significant impact of Chinese ownership on a firm's role as a supplier to Chinese companies. The lack of significant results across both panels suggests that Chinese ownership does not lead to a noticeable integration of local firms into Chinese supply chains, either as suppliers or customers. This result contrasts sharply with the findings for U.S. ownership, where foreign investors—particularly from the U.S.—tend to significantly increase both customer and supplier linkages in their respective supply chains, creating stronger connections between U.S.-owned firms and their supply chain partners.

**[Insert Tables 10 and 11 about here]**

Furthermore, the strategic implications of U.S. versus Chinese ownership reveal contrasting priorities. U.S. ownership, while enhancing supply chain integration, does not lead to a significant increase in R&D investments nor does it negatively affect profitability, as measured by return on assets (ROA). In contrast, Chinese ownership is associated with a notable increase in R&D expenditures but does not translate this investment into higher patent outcomes, indicating inefficiencies in innovation. Additionally, Chinese ownership—particularly through state-owned enterprises (SOEs)—tends to reduce ROA, suggesting a decrease in operational efficiency. This difference highlights divergent strategies: Chinese investors, particularly SOEs, may prioritize long-term control, technology acquisition, or market access over immediate profitability or supply

chain integration. On the other hand, U.S. investors appear to focus more on optimizing operational efficiencies and supply chain linkages without significantly altering R&D or profitability metrics. These contrasting strategies illustrate how different nations' investors bring unique objectives to the firms they acquire, shaping distinct outcomes in terms of innovation, supply chains, and financial performance.

### 3.4. Spillover Effects on non-Chinese-owned firms

This section investigates the implications of China's global ownership on firms within the same country-industry-year that are not owned by Chinese entities. Specifically, we examine whether Chinese ownership crowds out R&D activities and influences profitability among these non-China-owned peer firms. To ensure robustness, we exclude all firms that have ever been owned by Chinese shareholders during the sample period (2012–2021), resulting in a final sample of 1,031,204 and 152,217 firms for R&D and profitability analyses, respectively. The regression framework incorporates firm- and year-fixed effects to account for unobservable heterogeneity and controls for firm-specific characteristics such as total assets, tangible fixed assets, leverage, firm age, and industry concentration measures.

The first analysis focuses on spillover effects on R&D, as shown in Table 12. The dependent variable is the logarithm of R&D expenses for non-China-owned firms, with missing or zero R&D values flagged separately to avoid distortions. Panel A uses the ratio of Chinese-owned assets to total assets (∑CN_Owned_Assets/∑Assets) as the key independent variable. The results indicate that the coefficients are generally insignificant across all specifications, suggesting no consistent association between the extent of Chinese ownership in a given industry and the R&D inputs of non-China-owned firms within the same industry and country. In Panel B, the ownership type is further stratified into state-owned (∑CN_SOEOwned_Assets/∑Assets) and privately owned (∑CN_PvtOwned_Assets/∑Assets) assets. The coefficient for SOE ownership is negative and

statistically significant at -0.060 ($p<0.05$), indicating that Chinese SOEs may exert a crowding-out effect on R&D expenditures among peer firms. In contrast, the coefficient for private ownership is -0.040 and not significant, suggesting no measurable impact from private Chinese shareholders.

**[Insert Table 12 about here]**

The second analysis explores the spillover effects on profitability, as presented in Table 13. The dependent variable is return on assets (ROA), calculated as pre-tax income divided by total assets. In Panel A, the estimated coefficient for ∑CN_Owned_Assets/∑Assets is slightly positive and statistically significant in some specifications, indicating that increased Chinese ownership within an industry may have a marginally beneficial impact on the profitability of non-China-owned peer firms. In Panel B, the decomposition of ownership types reveals that the coefficient for SOE ownership is 3.221 ($p<0.05$), highlighting that Chinese SOEs can enhance the profitability of peer firms in the same industry. However, the coefficient for private ownership is not significant, suggesting no discernible impact on profitability from privately owned Chinese firms.

**[Insert Table 13 about here]**

In summary, the findings from Tables 12 and 13 provide nuanced insights into the spillover effects of Chinese ownership. While Chinese SOEs appear to crowd out R&D activities among non-China-owned peer firms, they simultaneously enhance profitability within the same industries. These results align with the broader narrative that SOEs may prioritize strategies benefiting short-term performance metrics, potentially at the expense of long-term innovation. Conversely, private Chinese ownership exerts limited spillover effects on both R&D and profitability, underscoring the distinct dynamics of state versus private investment strategies.

### 3.5. Global Ownership – China vs. Others

In this section, we study whether China's targeting of foreign companies and the effects of its global ownership differ from those of other countries, particularly the U.S., Japan, and India. The U.S. remains the dominant player in global ownership, being ranked top in terms of foreign acquisitions and investments. As shown above, U.S. investors often emphasize integrating acquired firms into their existing supply chains, creating stronger relationships and fostering operational synergies. Japan provides an interesting historical comparison, as it employed a similar strategy during the 1970s and 1980s, aggressively acquiring foreign companies to gain technological know-how and enhance its global influence. India, on the other hand, has adopted a more cautious approach to global ownership, focusing primarily on expanding market reach and gaining access to foreign customer bases.

In Table 14, we conduct regressions similar to those in Table 3, using the ownership dummy for other countries such as the U.S., Japan, and India. The results indicate that, unlike China, ownership from these countries is not strongly correlated with increased R&D investments. This difference suggests that while Chinese investors focus on boosting R&D expenditures in acquired firms, investors from the U.S., Japan, and India pursue other strategic objectives that do not necessarily emphasize R&D.

When we look at Tables 16 and 17, the findings show that both U.S. and Japanese shareholders are associated with an increase in the size of the companies they invest in, but the return on assets (ROA) remains stable. This suggests that unlike China’s strategy, which is marked by significant R&D investments that do translate into inefficiency, U.S. and Japanese investors seem to expand firm size through asset investments without inducing inefficiencies.

**[Insert Tables 14, 15, 16, and 17 about here]**

Historically, Japan's global investment strategy in the 1970s and 1980s was focused on securing technological advantages and expanding into global markets through strategic acquisitions in key sectors such as automobiles, electronics, and trading companies. This period was characterized by a strong emphasis on long-term technological integration and product quality improvements, which established Japan as a leader in many global industries (Froot, 1991; Graham and Krugman, 1991).

In contrast, U.S. investors typically aim to integrate acquired firms into their existing supply chains, prioritizing operational efficiencies and synergy creation. The strategy focuses on achieving stable financial performance and market expansion, without relying heavily on increasing R&D spending. Indian investors, on the other hand, concentrate on acquiring firms that align with their core sectors to enhance market reach rather than aggressively pushing for R&D.

These findings highlight these distinct approaches. While China's ownership often leads to increased R&D spending that can be inefficient, U.S. and Japanese ownership appears to drive firm growth through effective asset investments without significantly impacting ROA. This difference in strategic focus between countries reflects their varying approaches to enhancing global influence and competitiveness through foreign ownership.

## 4. Conclusions

This paper studies the strategic role of Chinese investment in research and development (R&D) across non-China-incorporated firms, particularly emphasizing the influence of state-owned enterprises (SOEs). In the context of escalating global geopolitical tensions, this paper uncovers a significant positive correlation between Chinese ownership and increased R&D activities and distinguishes the heightened impact stemming from SOEs compared to private entities. Amidst the complexities of international relations, economic strategies, and trade policies, these insights provide a nuanced understanding of how Chinese investments are navigating and shaping the innovation landscape abroad.

The robust association between Chinese SOEs and enhanced R&D investments underscores China's commitment to fostering innovation as a cornerstone of its global economic engagement. This strategic emphasis on R&D by Chinese investors, especially within the framework of SOEs, signals a deliberate effort to cultivate technological advancement and competitive edge in a variety of sectors. Such findings are particularly relevant in the current climate of geopolitical frictions, where technological supremacy and economic influence are increasingly intertwined.

Understanding the dynamics of Chinese investment in R&D can offer valuable perspectives for policymakers, business leaders, and researchers grappling with the implications of global economic interdependence and competition. Our research suggests that despite the challenges and controversies surrounding international investments, there exists a potential for positive spillovers in technological innovation and development. Recognizing the nuanced impacts of Chinese ownership on R&D can therefore contribute to more informed discussions on international trade, investment policies, and the global innovation ecosystem in an era marked by significant geopolitical uncertainties.

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## Table 1. China's Global Ownership

Notes: The sample consists of all non-China "Very Large" firms with non-missing financial and ownership information from Orbis between 2012 and 2021. Firms incorporated or domiciling in China, firms domiciling in Hong Kong or Macau, and golden share firms are excluded from the sample. At the firm level, we calculate the total assets owned by Chinese entities, CN_Owned_Assets = %CN_Owned × Assets, where Assets are winsorized at the 1st and 99th percentiles. %CN_Owned refer to the cash flow rights owned by a firm's direct shareholders or ultimate shareholders (i.e., UO25 or UO50) that are Chinese companies. Chinese companies refer to firms incorporated or domiciling in China. In Panels A-C, firm-level assets owned by Chinese shareholders are aggregated at the country level. In Panels D-F, firm-level assets owned by Chinese shareholders are aggregated at the industry level. In Panel A (D), country-level (industry-level) assets owned by Chinese shareholders are scaled by the aggregation of total assets of firms within the country (industry) to get the share of assets owned by Chinese shareholders. Then, the average, standard deviation, minimum value, and maximum value of the shares owned by Chinese shareholders across 2012-2021 are reported. In Panels B, C, E, and F, country-level or industry-level assets owned by Chinese shareholders are averaged across the first three years of (2012-2014), the last three years of (2017-2019), and the entire eight years of (2012-2019) our sample period, and the growth rates from the first-three-year average to the last-three-year average are calculated. The numbers of the US and Canada should be dealt with cautiously, as Orbis only provides non-missing information on listed firms in these two countries.

*Panel A. Top 10 Countries in terms of % Assets Owned by CN*

| ISO | Name | Mean | STD | Min | Max |
|---|---|---|---|---|---|
| KY | Cayman Islands | 9.46% | 4.47% | 3.38% | 17.07% |
| AG | Antigua and Barbuda | 8.32% | 4.51% | 0.00% | 11.27% |
| VG | British Virgin Islands | 3.18% | 1.54% | 1.54% | 5.89% |
| BM | Bermuda | 2.61% | 2.19% | 0.08% | 5.57% |
| UY | Uruguay | 2.28% | 4.85% | 0.00% | 12.70% |
| LA | Laos | 2.14% | 3.28% | 0.00% | 9.82% |
| PT | Portugal | 2.05% | 2.92% | 0.00% | 9.44% |
| SG | Singapore | 1.51% | 0.78% | 0.20% | 2.59% |
| LU | Luxembourg | 0.74% | 0.63% | 0.00% | 1.67% |
| MT | Malta | 0.53% | 1.65% | 0.00% | 5.21% |

*Panel B. Top 10 Countries in terms of Assets Owned by CN*

| ISO | Name | Average for 2012-2014 ($M USD) | Average for 2019-2021 ($M USD) | Growth Rate | Average for 2012-2021 ($M USD) |
|---|---|---|---|---|---|
| KY | Cayman Islands | 14,070.37 | 200,260.60 | 1323.28% | 89,924.36 |
| GB | United Kingdom | 8,869.08 | 62,379.87 | 603.34% | 28,755.61 |
| LU | Luxembourg | 0.00 | 41,779.88 | N/A | 23,986.22 |
| IT | Italy | 962.78 | 34,494.08 | 3482.78% | 17,362.17 |
| SG | Singapore | 5,435.87 | 30,592.58 | 462.79% | 17,240.27 |
| KR | South Korea | 69.69 | 19,958.43 | 28540.34% | 13,942.13 |
| NL | Netherlands | 1,574.55 | 24,325.54 | 1444.92% | 12,572.76 |
| PT | Portugal | 0.00 | 32,080.61 | N/A | 11,837.65 |
| BM | Bermuda | 527.18 | 16,566.67 | 3042.48% | 9,782.75 |
| ES | Spain | 36.27 | 21,777.77 | 59941.74% | 8,033.13 |

*Panel C. Top 10 Countries in terms of Growth in Assets Owned by CN*

| ISO | Name | Average for 2012-2014 ($M USD) | Average for 2019-2021 ($M USD) | Growth Rate | Average for 2012-2021 ($M USD) |
|---|---|---|---|---|---|
| DK | Denmark | 0.01 | 19.07 | 175024.10% | 25.92 |
| PH | Philippines | 4.34 | 3,353.37 | 77228.04% | 1,014.70 |
| ES | Spain | 36.27 | 21,777.77 | 59941.74% | 8,033.13 |
| IN | India | 9.43 | 2,873.67 | 30382.64% | 1,224.89 |

| | | | | | |
|---|---|---|---|---|---|
| KR | South Korea | 69.69 | 19,958.43 | 28540.34% | 13,942.13 |
| IL | Israel | 1.10 | 186.51 | 16894.06% | 64.68 |
| CO | Colombia | 2.32 | 173.86 | 7384.55% | 73.95 |
| TR | Türkiye | 2.39 | 169.89 | 7019.25% | 65.24 |
| VN | Viet Nam | 27.66 | 1,755.78 | 6247.17% | 637.90 |
| HU | Hungary | 30.30 | 1,139.97 | 3662.74% | 547.10 |

Panel D. Top 10 Industries in terms of % Assets Owned by CN

| NACE Section | Name | Mean | STD | Min | Max |
|---|---|---|---|---|---|
| P | Education | 1.76% | 2.13% | 0.00% | 5.76% |
| I | Accommodation and food service activities | 0.68% | 1.02% | 0.02% | 2.69% |
| L | Real estate activities | 0.65% | 0.54% | 0.05% | 1.84% |
| F | Construction | 0.59% | 0.60% | 0.03% | 1.51% |
| J | Information and communication | 0.59% | 0.39% | 0.12% | 1.23% |
| A | Agriculture, forestry and fishing | 0.45% | 0.41% | 0.12% | 1.35% |
| M | Professional, scientific and technical activities | 0.42% | 0.38% | 0.05% | 0.92% |
| K | Financial and insurance activities | 0.32% | 0.21% | 0.05% | 0.65% |
| N | Administrative and support service activities | 0.28% | 0.20% | 0.01% | 0.61% |
| G | Wholesale and retail trade; repair of motor vehicles and motorcycles | 0.28% | 0.21% | 0.02% | 0.74% |

Panel E. Top 10 Industries in terms of Assets Owned by CN

| NACE | Name | Average for 2012-2014 ($M USD) | Average for 2019-2021 ($M USD) | Growth Rate | Average for 2012-2021 ($M USD) |
|---|---|---|---|---|---|
| K | Financial and insurance activities | 12,889.90 | 165,160.70 | 1181.32% | 84,537.44 |
| C | Manufacturing | 11,171.70 | 79,479.49 | 611.44% | 42,674.66 |
| J | Information and communication | 5,181.85 | 49,429.33 | 853.89% | 24,012.16 |
| L | Real estate activities | 3,238.03 | 51,867.43 | 1501.82% | 23,129.89 |
| M | Professional, scientific and technical activities | 2,191.64 | 42,990.30 | 1861.56% | 18,704.01 |
| G | Wholesale and retail trade; repair of motor vehicles and motorcycles | 4,891.57 | 31,879.50 | 551.72% | 15,428.39 |
| F | Construction | 709.33 | 29,832.51 | 4105.74% | 14,313.57 |
| D | Electricity, gas, steam and air conditioning supply | 5,013.36 | 17,237.55 | 243.83% | 10,845.68 |
| H | Transportation and storage | 917.85 | 20,151.88 | 2095.55% | 10,185.29 |
| B | Mining and quarrying | 4,402.71 | 11,598.24 | 163.43% | 7,416.21 |

Panel F. Top 10 Industries in terms of Growth in Assets Owned by CN

| NACE Section | Name | Average for 2012-2014 ($M USD) | Average for 2019-2021 ($M USD) | Growth Rate | Average for 2012-2021 ($M USD) |
|---|---|---|---|---|---|
| E | Water supply; sewerage, waste management and remediation activities | 0.01 | 2,053.64 | 20800070.00% | 899.99 |
| S | Other service activities | 91.92 | 6,010.24 | 6438.60% | 2,029.95 |
| F | Construction | 709.33 | 29,832.51 | 4105.74% | 14,313.57 |
| P | Education | 223.44 | 9,294.71 | 4059.87% | 3,407.28 |
| R | Arts, entertainment and recreation | 53.28 | 1,485.83 | 2688.61% | 615.08 |
| H | Transportation and storage | 917.85 | 20,151.88 | 2095.55% | 10,185.29 |

| | | | | | |
|---|---|---|---|---|---|
| I | Accommodation and food service activities | 166.04 | 3,288.92 | 1880.78% | 4,480.67 |
| M | Professional, scientific and technical activities | 2,191.64 | 42,990.30 | 1861.56% | 18,704.01 |
| L | Real estate activities | 3,238.03 | 51,867.43 | 1501.82% | 23,129.89 |
| N | Administrative and support service activities | 863.27 | 11,115.73 | 1187.63% | 5,552.56 |

## Table 2. Summary Statistics of Key Variables

Notes: This table presents the summary statistics of the variables in our main analyses for the mean, median, standard deviation (STD), 25% percentile (Q1), and 75% percentile (Q3) distributions. Panel A reports firm-level characteristics for all non-China "Very Large" firms with non-missing financial and ownership information from Orbis between 2012 and 2021. Firms incorporated or domiciling in China, firms domiciling in Hong Kong or Macau, and golden share firms are excluded from the sample. CN_Owned = 1 if one of the firm's direct shareholders or ultimate shareholders (i.e., UO25 or UO50) is a Chinese company. CN_SOEOwned = 1 if one of the firm's direct shareholders or ultimate shareholders (i.e., UO25 or UO50) is a Chinese SOE or a Chinese government agency. Chinese government agencies refer to entities incorporated or domiciling in China and labeled as "Public authority, state, government" by Orbis. Firms incorporated or domiciling in China are treated as China firms or China SOEs. SOEs refer to firms that have one of their ultimate owners (i.e., UO25 or UO50) to be a Chinese government agency. Panel B (Panel C) report firm-level characteristics for non-China "Very Large" firms with CN_Owned = 1 (CN_Owned = 0) with non-missing financial and ownership information from Orbis between 2012 and 2021. Panel D reports country-sector-level characteristics for non-China "Very Large" firms with non-missing financial and ownership information from Orbis from Orbis between 2012 and 2021. For ∑CN_Owned_Assets/∑Assets (∑CN_PvtOwned_Assets/∑Assets or ∑CN_SOEOwned_Assets/∑Assets), country refers to domicile country, while sector refers to 2-digit NACE Rev 2 industry. For other variables, the sample is further limited to country sectors with input-output information from OECD and natural resources rents from the World Bank's website. Country refers to domicile country, while sector refers to ISIC Rev 4 Divisions used in OECD input-output tables. The sample period is limited to 2012-2020 when the input-output information is available. Variable definitions are detailed in the Appendix. .

*Panel A. Firm Characteristics, Full Sample*

| Variables | N | Mean | Median | STD | Q1 | Q3 |
|---|---|---|---|---|---|---|
| CN_Owned | 1,046,966 | 0.0080 | 0.0000 | 0.0888 | 0.0000 | 0.0000 |
| CN_Owned, developed | 679,559 | 0.0044 | 0.0000 | 0.0662 | 0.0000 | 0.0000 |
| CN_Owned, emerging | 271,278 | 0.0031 | 0.0000 | 0.0556 | 0.0000 | 0.0000 |
| CN_Owned, offshore | 96,129 | 0.0467 | 0.0000 | 0.2111 | 0.0000 | 0.0000 |
| CN_SOEOwned | 1,046,966 | 0.0018 | 0.0000 | 0.0423 | 0.0000 | 0.0000 |
| US_Owned | 1,147,477 | 0.1082 | 0.0000 | 0.3106 | 0.0000 | 0.0000 |
| JP_Owned | 1,043,620 | 0.0283 | 0.0000 | 0.1658 | 0.0000 | 0.0000 |
| IN_Owned | 1,059,940 | 0.0038 | 0.0000 | 0.0616 | 0.0000 | 0.0000 |
| Log(1+RD), =0 if Missing | 1,046,966 | 1.0017 | 0.0000 | 3.7518 | 0.0000 | 0.0000 |
| Log(1+RD), Deleted if Missing | 181,623 | 5.7746 | 0.0000 | 7.3198 | 0.0000 | 13.8387 |
| Log(1+#GrantedPatents) | 1,046,966 | 0.1256 | 0.0000 | 0.4944 | 0.0000 | 0.0000 |
| Log(1+Assets) | 1,046,966 | 18.3926 | 18.5616 | 2.2426 | 17.2828 | 19.7573 |
| Log(1+Fixed) | 1,038,493 | 17.2530 | 17.4975 | 2.2948 | 15.6559 | 19.1711 |
| Log(1+Tangible) | 1,009,657 | 13.1165 | 15.3768 | 6.4879 | 11.4859 | 17.4736 |
| Log(1+Debts) | 1,020,750 | 15.2585 | 16.7391 | 5.2186 | 14.2778 | 18.2530 |
| ROA USING NET INCOME (%) | 961,680 | 2.2094 | 2.2200 | 13.0654 | -0.0400 | 6.6800 |
| Log(TFP) | 431,967 | 6.1794 | 6.5833 | 9.6400 | 3.7418 | 8.8146 |
| Log(1+Empl) | 661,673 | 5.0361 | 5.2883 | 2.1902 | 3.6376 | 6.5971 |
| CNCustomer | 125,211 | 0.0503 | 0.0000 | 0.2185 | 0.0000 | 0.0000 |
| CNSupplier | 125,211 | 0.0251 | 0.0000 | 0.1563 | 0.0000 | 0.0000 |
| Log(1+FirmAge) | 1,044,119 | 2.9054 | 3.0445 | 0.9604 | 2.3979 | 3.5553 |

*Panel B. Firm Characteristics, CN_Owned = 1*

| Variables | N | Mean | Median | STD | Q1 | Q3 |
|---|---|---|---|---|---|---|
| Log(1+RD), =0 if Missing | 8,329 | 3.2419 | 0.0000 | 6.3339 | 0.0000 | 0.0000 |
| Log(1+RD), Deleted if Missing | 3,945 | 6.8445 | 0.0000 | 7.7490 | 0.0000 | 15.0366 |
| Log(1+#GrantedPatents) | 8,329 | 0.0884 | 0.0000 | 0.4372 | 0.0000 | 0.0000 |
| Log(1+Assets) | 8,329 | 18.6031 | 18.8233 | 2.4062 | 17.3181 | 20.0650 |
| Log(1+Fixed) | 8,291 | 17.2969 | 17.6718 | 2.4177 | 15.5220 | 19.3885 |
| Log(1+Tangible) | 8,062 | 12.5713 | 14.7839 | 6.7011 | 10.5212 | 17.3689 |
| Log(1+Debts) | 8,121 | 14.7507 | 16.6064 | 6.0935 | 13.7226 | 18.4630 |
| ROA USING NET INCOME (%) | 6,937 | -2.2083 | 1.0000 | 17.0681 | -5.0300 | 5.5700 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Log(TFP) | 3,035 | 5.2330 | 5.1596 | 10.5525 | 2.3167 | 8.2674 |
| Log(1+Empl) | 4,446 | 5.7642 | 5.8377 | 2.1399 | 4.3438 | 7.2951 |
| CNCustomer | 1,823 | 0.1827 | 0.0000 | 0.3865 | 0.0000 | 0.0000 |
| CNSupplier | 1,823 | 0.0784 | 0.0000 | 0.2689 | 0.0000 | 0.0000 |
| Log(1+FirmAge) | 8,326 | 2.2361 | 2.1972 | 0.9639 | 1.6094 | 2.9444 |

*Panel C: Firm Characteristics, CN_Owned = 0*

| Variables | N | Mean | Median | STD | Q1 | Q3 |
|---|---|---|---|---|---|---|
| Log(1+RD), =0 if Missing | 1,038,637 | 0.9838 | 0.0000 | 3.7184 | 0.0000 | 0.0000 |
| Log(1+RD), Deleted if Missing | 177,678 | 5.7508 | 0.0000 | 7.3082 | 0.0000 | 13.8072 |
| Log(1+#GrantedPatents) | 1,038,637 | 0.1259 | 0.0000 | 0.4948 | 0.0000 | 0.0000 |
| Log(1+Assets) | 1,038,637 | 18.3909 | 18.5600 | 2.2411 | 17.2824 | 19.7547 |
| Log(1+Fixed) | 1,030,202 | 17.2527 | 17.4963 | 2.2938 | 15.6570 | 19.1691 |
| Log(1+Tangible) | 1,001,595 | 13.1209 | 15.3806 | 6.4860 | 11.4939 | 17.4744 |
| Log(1+Debts) | 1,012,629 | 15.2626 | 16.7400 | 5.2108 | 14.2825 | 18.2514 |
| ROA USING NET INCOME (%) | 954,743 | 2.2415 | 2.2300 | 13.0264 | -0.0400 | 6.6900 |
| Log(TFP) | 428,932 | 6.1861 | 6.5909 | 9.6329 | 3.7544 | 8.8171 |
| Log(1+Empl) | 657,227 | 5.0312 | 5.2832 | 2.1897 | 3.6109 | 6.5930 |
| CNCustomer | 123,388 | 0.0483 | 0.0000 | 0.2145 | 0.0000 | 0.0000 |
| CNSupplier | 123,388 | 0.0243 | 0.0000 | 0.1539 | 0.0000 | 0.0000 |
| Log(1+FirmAge) | 1,035,793 | 2.9108 | 3.0445 | 0.9584 | 2.3979 | 3.5553 |

*Panel D: Country-Sector Characteristics, Full Sample*

| Variables | N | Mean | Median | STD | Q1 | Q3 |
|---|---|---|---|---|---|---|
| ΣCN_Owned_Assets/ΣAssets | 46,818 | 0.0041 | 0.0000 | 0.0355 | 0.0000 | 0.0000 |
| ΣCN_PvtOwned_Assets/ΣAssets | 46,818 | 0.0030 | 0.0000 | 0.0311 | 0.0000 | 0.0000 |
| ΣCN_SOEOwned_Assets/ΣAssets | 46,818 | 0.0011 | 0.0000 | 0.0166 | 0.0000 | 0.0000 |
| Log(1+ΣCN_Owned_Assets) | 20,930 | 1.4919 | 0.0000 | 4.9513 | 0.0000 | 0.0000 |
| Log(1+ΣCN_PvtOwned_Assets) | 20,930 | 1.1052 | 0.0000 | 4.2159 | 0.0000 | 0.0000 |
| Log(1+ΣCN_SOEOwned_Assets) | 20,930 | 0.5706 | 0.0000 | 3.2722 | 0.0000 | 0.0000 |
| Log(1+∑Assets) | 20,930 | 21.6049 | 21.6933 | 2.5182 | 19.9343 | 23.5159 |
| Log(1+∑Tangible) | 20,930 | 19.4692 | 20.1291 | 4.0027 | 18.2139 | 21.9128 |
| Log(1+∑Debt) | 20,930 | 19.8592 | 20.2595 | 3.7413 | 18.3751 | 22.2731 |
| HHI | 20,930 | 0.4340 | 0.3384 | 0.3603 | 0.1134 | 0.7655 |
| HHI Squared | 20,930 | 0.3182 | 0.1145 | 0.3837 | 0.0129 | 0.5860 |
| Log(1+∑R&D) | 20,930 | 2.9530 | 0.0000 | 6.4135 | 0.0000 | 0.0000 |
| Blank_R&D | 20,930 | 0.5410 | 1.0000 | 0.4983 | 0.0000 | 1.0000 |
| Zero_R&D | 20,930 | 0.1303 | 0.0000 | 0.3366 | 0.0000 | 0.0000 |
| Log(1+∑EMPL) | 20,930 | 6.6362 | 7.8501 | 4.0244 | 4.0604 | 9.6029 |
| II_CN/II | 20,930 | 0.0238 | 0.0142 | 0.0297 | 0.0071 | 0.0291 |
| IO_CN/IO | 20,930 | 0.0199 | 0.0043 | 0.0438 | 0.0007 | 0.0185 |
| Nature_Resources_Rent_Country | 20,930 | 2.3481 | 0.7492 | 4.3094 | 0.1696 | 2.9105 |
| Agriculture, hunting, forestry (indicator) | 20,930 | 0.0238 | 0.0000 | 0.1524 | 0.0000 | 0.0000 |
| Mining&quarrying - energy (indicator) | 20,930 | 0.0197 | 0.0000 | 0.1391 | 0.0000 | 0.0000 |
| Mining&quarrying - non-energy (indicator) | 20,930 | 0.0200 | 0.0000 | 0.1401 | 0.0000 | 0.0000 |
| Mining support service activities (indicator) | 20,930 | 0.0207 | 0.0000 | 0.1425 | 0.0000 | 0.0000 |
| Financial and insurance activities (indicator) | 20,930 | 0.0284 | 0.0000 | 0.1661 | 0.0000 | 0.0000 |

## Table 3. Determinants of China's Global Ownership

Notes: This table reports the results of the regressions designed to test the determinants of Chinese global ownership. The sample consists of all non-China "Very Large" firms with non-missing financial and ownership information from Orbis in country sectors with input-output information from OECD and natural resources rents from the World Bank's website. Country refers to domicile country, while sector refers to ISIC Rev 4 Divisions used in OECD input-output tables. The sample period is limited to 2012-2020 when the input-output information is available. CN_Owned_Assets = %CN_Owned × Assets, where Assets are winsorized at the 1st and 99th percentiles. %CN_Owned refer to the cash flow rights owned by a firm's direct shareholders or ultimate shareholders (i.e., UO25 or UO50) that are Chinese companies. Chinese companies refer to firms incorporated or domiciling in China. Similarly, CN_SOEOwned_Assets = %CN_SOEOwned × Assets and CN_PvtOwned_Assets = %CN_PvtOwned × Assets. %CN_SOEOwned refer to the cash flow rights owned by a firm's direct shareholders or ultimate shareholders (i.e., UO25 or UO50) that are Chinese SOE or a Chinese government agency. Chinese government agencies refer to entities incorporated or domiciling in China and labeled as "Public authority, state, government" by Orbis. Chinese SOEs refer to firms incorporated or domiciling in China that have one of their ultimate owners (i.e., UO25 or UO50) to be a Chinese government agency. %CN_PvtOwned = %CN_Owned - %CN_SOEOwned. The China-owned assets are aggregated at the country-sector level for year $t$+1 and log-transformed. Other variable definitions are reported in the Appendix. Robust standard errors clustered at the country-sector level are in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| | Log(1+ΣCN_Owned_Assets)$_{t+1}$ | | Log(1+ΣCN_PvtOwned_Assets)$_{t+1}$ | | Log(1+ΣCN_SOEOwned_Assets)$_{t+1}$ | |
| Log(1+∑Assets) | 0.465*** | 0.375*** | 0.314*** | 0.264*** | 0.274*** | 0.217*** |
| | (0.042) | (0.042) | (0.035) | (0.034) | (0.033) | (0.032) |
| Log(1+∑Tangible) | -0.027 | 0.010 | -0.034** | 0.002 | -0.003 | 0.005 |
| | (0.018) | (0.018) | (0.015) | (0.014) | (0.013) | (0.012) |
| Log(1+∑Debt) | 0.010 | -0.019 | 0.009 | -0.013 | 0.003 | -0.008 |
| | (0.018) | (0.017) | (0.013) | (0.013) | (0.013) | (0.013) |
| Log(1+∑RD) | 0.107*** | 0.093*** | 0.100*** | 0.086*** | 0.038*** | 0.038*** |
| | (0.020) | (0.019) | (0.018) | (0.017) | (0.013) | (0.014) |
| Log(1+∑Empl) | 0.039* | 0.023 | 0.029 | 0.007 | 0.011 | 0.014 |
| | (0.023) | (0.023) | (0.020) | (0.020) | (0.016) | (0.016) |
| II_CN/II | 4.777* | 1.990 | 5.580** | 0.811 | -0.633 | 1.807 |
| | (2.760) | (3.465) | (2.684) | (3.344) | (1.428) | (1.946) |
| IO_CN/IO | 5.639** | 6.239** | 6.433*** | 6.656*** | 2.237 | 2.923 |
| | (2.343) | (2.585) | (2.193) | (2.419) | (2.205) | (2.602) |
| Nature_Resources_Rent_Country | 0.076*** | 0.077*** | 0.058*** | 0.059*** | 0.034*** | 0.035*** |
| | (0.014) | (0.014) | (0.011) | (0.011) | (0.010) | (0.010) |
| Agriculture, hunting, forestry (indicator) | -0.305 | | -0.269 | | -0.092 | |
| | (0.357) | | (0.338) | | (0.165) | |
| Mining&quarrying - energy (indicator) | 0.537 | | -0.544 | | 0.976* | |
| | (0.591) | | (0.347) | | (0.554) | |
| Mining&quarrying - non-energy (indicator) | 0.012 | | 0.028 | | 0.323 | |
| | (0.588) | | (0.507) | | (0.486) | |
| Mining support service activities (indicator) | 0.190 | | -0.548* | | 0.733 | |
| | (0.532) | | (0.280) | | (0.473) | |
| Financial and insurance activities (indicator) | 3.194*** | | 2.187*** | | 2.709*** | |
| | (0.715) | | (0.634) | | (0.697) | |
| HHI | -4.296*** | -3.927*** | -3.711*** | -3.400*** | -1.530** | -1.321* |
| | (0.884) | (0.904) | (0.760) | (0.790) | (0.683) | (0.701) |
| HHI*HHI | 3.871*** | 3.675*** | 3.183*** | 3.052*** | 1.545*** | 1.375** |
| | (0.758) | (0.769) | (0.654) | (0.670) | (0.575) | (0.588) |
| Blank_R&D | -0.448** | -0.321 | -0.600*** | -0.416** | 0.175 | 0.161 |
| | (0.205) | (0.205) | (0.170) | (0.167) | (0.158) | (0.162) |
| Zero_R&D | 0.590** | 0.579** | 0.508** | 0.541** | 0.419** | 0.383** |

| | | | | | | |
|---|---|---|---|---|---|---|
| | (0.271) | (0.269) | (0.250) | (0.246) | (0.172) | (0.175) |
| Constant | -8.333*** | -6.407*** | -5.120*** | -4.170*** | -5.669*** | -4.375*** |
| | (0.851) | (0.845) | (0.699) | (0.685) | (0.670) | (0.666) |
| Country FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Industry FE | No | Yes | No | Yes | No | Yes |
| Year FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 20,682 | 20,682 | 20,682 | 20,682 | 20,682 | 20,682 |
| R-squared | 0.235 | 0.253 | 0.218 | 0.237 | 0.131 | 0.143 |

## Table 4. China's Ownership and Innovation Log(R&D)

This table examines Chinese ownership on target firms' R&D expenses. The dependant variable is the logarithm of firm-level R&D expenses. We treat the missing observations as zeros and controlling for two dummy variables indicating the status if R&D is not reported (Blank_R&D) or reported as zero (Zero_R&D) for a given year in Orbis. Other control variables are defined in Table A1 of the Appendix. Panel A consider the overall Chinese ownership, CN_Owned, which equals one for firm i in year t if any of its direct shareholders or ultimate shareholders that maintain at least 25% ownership in each and all hierarchical levels is a company domiciled or incorporated in China. Panel B differentiates between Chinese state/government and private ownership, CN_SOEOwned and CN_PvtOwned. Panel C repeats the test in Panel A separately for firms in developed and emerging market economies, respectively. The sample period is from 2012 to 2021. Standard errors are clustered at the firm level and reported in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

***Panel A. General Ownership***

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| CN_Owned | 0.051*** | 0.028** | 0.024* | 0.049*** | 0.028** | 0.025* |
| | (0.014) | (0.013) | (0.013) | (0.014) | (0.014) | (0.014) |
| Blank_R&D | -12.866*** | -12.859*** | -12.857*** | -12.878*** | -12.874*** | -12.875*** |
| | (0.041) | (0.041) | (0.041) | (0.042) | (0.042) | (0.042) |
| Zero_R&D | -12.766*** | -12.750*** | -12.743*** | -12.779*** | -12.763*** | -12.759*** |
| | (0.042) | (0.042) | (0.042) | (0.043) | (0.043) | (0.043) |
| Log(1+Assets) | | | | 0.025*** | 0.024*** | 0.023*** |
| | | | | (0.001) | (0.001) | (0.001) |
| Log(1+Tangible) | | | | 0.002*** | 0.002*** | 0.002*** |
| | | | | (0.000) | (0.000) | (0.000) |
| Log(1+FirmAge) | | | | 0.024*** | 0.014*** | 0.012** |
| | | | | (0.004) | (0.004) | (0.005) |
| Log(1+Debts) | | | | 0.001*** | 0.001** | 0.001** |
| | | | | (0.000) | (0.000) | (0.000) |
| HHI | | | | 0.007* | 0.002 | 0.004 |
| | | | | (0.004) | (0.004) | (0.005) |
| HHI*HHI | | | | -0.000 | -0.000 | -0.000 |
| | | | | (0.000) | (0.000) | (0.000) |
| Constant | 12.973*** | 12.966*** | 12.964*** | 12.419*** | 12.452*** | 12.488*** |
| | (0.038) | (0.038) | (0.038) | (0.046) | (0.045) | (0.045) |
| Firm FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | No | No | Yes | No | No |
| Country*Year FE | No | Yes | Yes | No | Yes | Yes |
| Industry*Year FE | No | No | Yes | No | No | Yes |
| Observations | 1,034,754 | 1,034,588 | 1,022,529 | 980,046 | 979,874 | 969,363 |
| R-squared | 0.992 | 0.992 | 0.992 | 0.992 | 0.992 | 0.992 |

***Panel B. State versus Private Ownership***

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| CN_PvtOwned | 0.049*** | 0.023 | 0.019 | 0.048*** | 0.024 | 0.019 |
| | (0.016) | (0.015) | (0.015) | (0.017) | (0.016) | (0.016) |
| CN_SOEOwned | 0.056*** | 0.045** | 0.046** | 0.053** | 0.044** | 0.045** |
| | (0.021) | (0.021) | (0.021) | (0.023) | (0.022) | (0.023) |
| Blank_R&D | -12.866*** | -12.859*** | -12.857*** | -12.878*** | -12.874*** | -12.875*** |
| | (0.041) | (0.041) | (0.041) | (0.042) | (0.042) | (0.042) |
| Zero_R&D | -12.766*** | -12.750*** | -12.743*** | -12.779*** | -12.763*** | -12.759*** |
| | (0.042) | (0.042) | (0.042) | (0.043) | (0.043) | (0.043) |
| Log(1+Assets) | | | | 0.025*** | 0.024*** | 0.023*** |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | (0.001) | (0.001) | (0.001) |
| Log(1+Tangible) | | | | 0.002*** | 0.002*** | 0.002*** |
| | | | | (0.000) | (0.000) | (0.000) |
| Log(1+FirmAge) | | | | 0.024*** | 0.014*** | 0.012** |
| | | | | (0.004) | (0.004) | (0.005) |
| Log(1+Debts) | | | | 0.001*** | 0.001** | 0.001** |
| | | | | (0.000) | (0.000) | (0.000) |
| HHI | | | | 0.007 | 0.002 | 0.004 |
| | | | | (0.004) | (0.004) | (0.005) |
| HHI*HHI | | | | -0.000 | -0.000 | -0.000 |
| | | | | (0.000) | (0.000) | (0.000) |
| Constant | 12.973*** | 12.966*** | 12.964*** | 12.419*** | 12.452*** | 12.488*** |
| | (0.038) | (0.038) | (0.038) | (0.046) | (0.045) | (0.045) |
| Firm FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | No | No | Yes | No | No |
| Country*Year FE | No | Yes | Yes | No | Yes | Yes |
| Industry*Year FE | No | No | Yes | No | No | Yes |
| Observations | 1,034,754 | 1,034,588 | 1,022,529 | 980,046 | 979,874 | 969,363 |
| R-squared | 0.992 | 0.992 | 0.992 | 0.992 | 0.992 | 0.992 |

***Panel C. Developed vs Emerging Market Economies***

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| | Developed Economies | | | Emerging Market Economies | | |
| CN_Owned | 0.047** | 0.042* | 0.033 | 0.019 | 0.019 | 0.020 |
| | (0.022) | (0.022) | (0.022) | (0.012) | (0.012) | (0.013) |
| Blank_R&D | -12.963*** | -12.953*** | -12.956*** | -12.153*** | -12.166*** | -12.152*** |
| | (0.044) | (0.045) | (0.045) | (0.124) | (0.122) | (0.122) |
| Zero_R&D | -12.841*** | -12.830*** | -12.828*** | -12.101*** | -12.115*** | -12.100*** |
| | (0.046) | (0.046) | (0.046) | (0.127) | (0.125) | (0.125) |
| Log(1+Assets) | 0.042*** | 0.041*** | 0.038*** | -0.001 | -0.001* | -0.001 |
| | (0.002) | (0.002) | (0.002) | (0.001) | (0.001) | (0.001) |
| Log(1+Tangible) | 0.004*** | 0.003*** | 0.003*** | 0.001** | 0.001** | 0.001* |
| | (0.001) | (0.001) | (0.001) | (0.000) | (0.000) | (0.000) |
| Log(1+FirmAge) | 0.032*** | 0.025*** | 0.021*** | 0.001 | -0.000 | 0.001 |
| | (0.006) | (0.006) | (0.006) | (0.004) | (0.004) | (0.004) |
| Log(1+Debts) | 0.001** | 0.000 | 0.000 | 0.001** | 0.001** | 0.001** |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| HHI | 0.007 | 0.003 | 0.006 | 0.003 | 0.003 | 0.004 |
| | (0.007) | (0.007) | (0.007) | (0.006) | (0.006) | (0.007) |
| HHI*HHI | -0.000 | -0.000 | -0.000 | -0.000 | -0.000 | -0.000 |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| Constant | 12.181*** | 12.226*** | 12.294*** | 12.138*** | 12.162*** | 12.143*** |
| | (0.056) | (0.055) | (0.055) | (0.124) | (0.123) | (0.122) |
| Firm FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | No | No | Yes | No | No |
| Country*Year FE | No | Yes | Yes | No | Yes | Yes |
| Industry*Year FE | No | No | Yes | No | No | Yes |
| Observations | 641,412 | 641,410 | 634,459 | 260,185 | 260,066 | 257,459 |
| R-squared | 0.993 | 0.993 | 0.993 | 0.983 | 0.983 | 0.984 |

## Table 5. China's Ownership and Investment

This table examines Chinese ownership on target firms' investment. The dependant variable is the logarithm of firm-level fixed assets. Other control variables are defined in Table A1 of the Appendix. Panel A consider the overall Chinese ownership, CN_Owned, which equals one for firm i in year t if any of its direct shareholders or ultimate shareholders that maintain at least 25% ownership in each and all hierarchical levels is a company domiciled or incorporated in China. Panel B differentiates between Chinese state/government and private ownership, CN_SOEOwned and CN_PvtOwned. Panel C repeats the test in Panel A separately for firms in developed and emerging market economies, respectively. The sample period is from 2012 to 2021. Standard errors are clustered at the firm level and reported in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

***Panel A. General Ownership***

| | (1) Log(1+Fixed) | (2) Log(1+Fixed) | (3) Log(1+Fixed) | (4) Log(1+Fixed) | (5) Log(1+Fixed) | (6) Log(1+Fixed) |
|---|---|---|---|---|---|---|
| CN_Owned | 0.093*** | 0.056** | 0.051** | 0.035 | 0.040 | 0.038 |
| | (0.027) | (0.026) | (0.025) | (0.025) | (0.025) | (0.024) |
| Log(1+FirmAge) | | | | 0.514*** | 0.525*** | 0.522*** |
| | | | | (0.010) | (0.010) | (0.010) |
| Log(1+Debts) | | | | 0.061*** | 0.061*** | 0.060*** |
| | | | | (0.001) | (0.001) | (0.001) |
| HHI | | | | 0.010 | 0.006 | 0.003 |
| | | | | (0.008) | (0.009) | (0.009) |
| HHI*HHI | | | | -0.000 | -0.000 | -0.000 |
| | | | | (0.000) | (0.000) | (0.000) |
| Constant | 17.251*** | 17.251*** | 17.252*** | 14.823*** | 14.796*** | 14.817*** |
| | (0.000) | (0.000) | (0.000) | (0.031) | (0.033) | (0.034) |
| Firm FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | No | No | Yes | No | No |
| Country*Year FE | No | Yes | Yes | No | Yes | Yes |
| Industry*Year FE | No | No | Yes | No | No | Yes |
| Observations | 1,026,549 | 1,026,380 | 1,014,323 | 1,001,652 | 1,001,481 | 990,242 |
| R-squared | 0.916 | 0.918 | 0.920 | 0.926 | 0.927 | 0.929 |

***Panel B. State versus Private Ownership***

| | (1) Log(1+Fixed) | (2) Log(1+Fixed) | (3) Log(1+Fixed) | (4) Log(1+Fixed) | (5) Log(1+Fixed) | (6) Log(1+Fixed) |
|---|---|---|---|---|---|---|
| CN_PvtOwned | 0.083*** | 0.043 | 0.029 | 0.024 | 0.030 | 0.019 |
| | (0.029) | (0.028) | (0.028) | (0.027) | (0.027) | (0.026) |
| CN_SOEOwned | 0.133** | 0.103* | 0.134*** | 0.076 | 0.081 | 0.116** |
| | (0.058) | (0.058) | (0.051) | (0.058) | (0.058) | (0.051) |
| Log(1+FirmAge) | | | | 0.514*** | 0.525*** | 0.522*** |
| | | | | (0.010) | (0.010) | (0.010) |
| Log(1+Debts) | | | | 0.061*** | 0.061*** | 0.060*** |
| | | | | (0.001) | (0.001) | (0.001) |
| HHI | | | | 0.010 | 0.006 | 0.003 |
| | | | | (0.008) | (0.009) | (0.009) |
| HHI*HHI | | | | -0.000 | -0.000 | -0.000 |
| | | | | (0.000) | (0.000) | (0.000) |
| Constant | 17.251*** | 17.251*** | 17.252*** | 14.823*** | 14.796*** | 14.817*** |
| | (0.000) | (0.000) | (0.000) | (0.031) | (0.033) | (0.034) |
| Firm FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | No | No | Yes | No | No |
| Country*Year FE | No | Yes | Yes | No | Yes | Yes |
| Industry*Year FE | No | No | Yes | No | No | Yes |
| Observations | 1,026,549 | 1,026,380 | 1,014,323 | 1,001,652 | 1,001,481 | 990,242 |
| R-squared | 0.916 | 0.918 | 0.920 | 0.926 | 0.927 | 0.929 |

***Panel C. Developed vs Emerging Market Economies***

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| | Developed Economies | | | Emerging Markets | | |
| | Log(1+Fixed) | Log(1+Fixed) | Log(1+Fixed) | Log(1+Fixed) | Log(1+Fixed) | Log(1+Fixed) |
| CN_Owned | 0.001 | 0.009 | -0.005 | 0.099 | 0.099 | 0.082 |
| | (0.039) | (0.039) | (0.038) | (0.066) | (0.065) | (0.064) |
| Log(1+FirmAge) | 0.463*** | 0.470*** | 0.461*** | 0.734*** | 0.756*** | 0.737*** |
| | (0.012) | (0.012) | (0.012) | (0.023) | (0.023) | (0.024) |
| Log(1+Debts) | 0.063*** | 0.063*** | 0.061*** | 0.067*** | 0.067*** | 0.066*** |
| | (0.001) | (0.001) | (0.001) | (0.002) | (0.002) | (0.002) |
| HHI | 0.016 | -0.004 | -0.018 | -0.004 | 0.025 | 0.016 |
| | (0.011) | (0.012) | (0.012) | (0.017) | (0.017) | (0.019) |
| HHI*HHI | -0.000 | 0.000 | 0.000 | 0.001 | -0.001 | -0.001 |
| | (0.000) | (0.000) | (0.000) | (0.001) | (0.001) | (0.002) |
| Constant | 14.970*** | 14.959*** | 15.006*** | 13.606*** | 13.532*** | 13.597*** |
| | (0.039) | (0.040) | (0.041) | (0.072) | (0.074) | (0.077) |
| Firm FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | No | No | Yes | No | No |
| Country*Year FE | No | Yes | Yes | No | Yes | Yes |
| Industry*Year FE | No | No | Yes | No | No | Yes |
| Observations | 658,470 | 658,468 | 651,113 | 261,645 | 261,524 | 258,890 |
| R-squared | 0.926 | 0.927 | 0.929 | 0.935 | 0.936 | 0.938 |

## Table 6. China's Ownership and Granted Patents

This table examines Chinese ownership on target firms' granted patents. The dependant variable is the number of patents applied by the focal firm that are eventually granted. To avoid double counting, duplicate applications in multiple jurisdictions are treated as one application, while patents applied by multiple firms are attributed to these firms assuming fractional and equal weight per firm. Other control variables are defined in Table A1 of the Appendix. Panel A consider the overall Chinese ownership, CN_Owned, which equals one for firm i in year t if any of its direct shareholders or ultimate shareholders that maintain at least 25% ownership in each and all hierarchical levels is a company domiciled or incorporated in China. Panel B differentiates between Chinese state/government and private ownership, CN_SOEOwned and CN_PvtOwned. Panel C repeats the test in Panel A separately for firms in developed and emerging market economies, respectively. The sample period is from 2012 to 2021. Standard errors are clustered at the firm level and reported in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

***Panel A. General Ownership***

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| | Log(1+#GrantedPatents) | | | | | |
| CN_Owned | -0.007 | -0.008 | -0.007 | -0.011* | -0.010 | -0.008 |
| | (0.006) | (0.006) | (0.006) | (0.006) | (0.006) | (0.006) |
| Log(1+Assets) | | | | 0.007*** | 0.007*** | 0.007*** |
| | | | | (0.000) | (0.000) | (0.000) |
| Log(1+Tangible) | | | | 0.001*** | 0.001*** | 0.001*** |
| | | | | (0.000) | (0.000) | (0.000) |
| Log(1+FirmAge) | | | | 0.021*** | 0.013*** | 0.010*** |
| | | | | (0.002) | (0.002) | (0.002) |
| Log(1+Debt) | | | | 0.000 | 0.000* | 0.000** |
| | | | | (0.000) | (0.000) | (0.000) |
| HHI | | | | -0.003* | -0.002 | 0.000 |
| | | | | (0.001) | (0.002) | (0.002) |
| HHI*HHI | | | | 0.000 | 0.000 | -0.000 |
| | | | | (0.000) | (0.000) | (0.000) |
| Constant | 0.127*** | 0.127*** | 0.128*** | -0.076*** | -0.051*** | -0.044*** |
| | (0.000) | (0.000) | (0.000) | (0.009) | (0.009) | (0.009) |
| Firm FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | No | No | Yes | No | No |
| Country*Year FE | No | Yes | Yes | No | Yes | Yes |
| Industry*Year FE | No | No | Yes | No | No | Yes |
| Observations | 1,034,754 | 1,034,588 | 1,022,529 | 980,046 | 979,874 | 969,363 |
| R-squared | 0.848 | 0.849 | 0.852 | 0.848 | 0.850 | 0.852 |

***Panel B. State versus Private Ownership***

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| | Log(1+#GrantedPatents) | | | | | |
| CN_PvtOwned | -0.006 | -0.006 | -0.005 | -0.010 | -0.008 | -0.006 |
| | (0.007) | (0.007) | (0.007) | (0.007) | (0.007) | (0.007) |
| CN_SOEOwned | -0.012 | -0.015* | -0.014* | -0.017* | -0.018** | -0.017* |
| | (0.008) | (0.008) | (0.008) | (0.009) | (0.009) | (0.009) |
| Log(1+Assets) | | | | 0.007*** | 0.007*** | 0.007*** |
| | | | | (0.000) | (0.000) | (0.000) |
| Log(1+Tangible) | | | | 0.001*** | 0.001*** | 0.001*** |
| | | | | (0.000) | (0.000) | (0.000) |
| Log(1+FirmAge) | | | | 0.021*** | 0.013*** | 0.010*** |
| | | | | (0.002) | (0.002) | (0.002) |
| Log(1+Debt) | | | | 0.000 | 0.000* | 0.000** |
| | | | | (0.000) | (0.000) | (0.000) |
| HHI | | | | -0.003* | -0.002 | 0.000 |
| | | | | (0.001) | (0.002) | (0.002) |
| HHI*HHI | | | | 0.000 | 0.000 | -0.000 |
| | | | | (0.000) | (0.000) | (0.000) |
| Constant | 0.127*** | 0.127*** | 0.128*** | -0.076*** | -0.051*** | -0.044*** |
| | (0.000) | (0.000) | (0.000) | (0.009) | (0.009) | (0.009) |
| Firm FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | No | No | Yes | No | No |
| Country*Year FE | No | Yes | Yes | No | Yes | Yes |
| Industry*Year FE | No | No | Yes | No | No | Yes |
| Observations | 1,034,754 | 1,034,588 | 1,022,529 | 980,046 | 979,874 | 969,363 |
| R-squared | 0.848 | 0.849 | 0.852 | 0.848 | 0.850 | 0.852 |

***Panel C. Developed vs Emerging Market Economies***

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| | Developed Economies | | | Emerging Markets | | |
| | Log(1+#GrantedPatents) | | | | | |
| CN_Owned | -0.019 | -0.017 | -0.015 | -0.020 | -0.019 | -0.019 |
| | (0.014) | (0.014) | (0.014) | (0.015) | (0.015) | (0.015) |
| Log(1+Assets) | 0.012*** | 0.012*** | 0.012*** | 0.002*** | 0.002*** | 0.002*** |
| | (0.001) | (0.001) | (0.001) | (0.000) | (0.000) | (0.000) |
| Log(1+Tangible) | 0.001*** | 0.001*** | 0.001*** | 0.001*** | 0.001*** | 0.001*** |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| Log(1+FirmAge) | 0.025*** | 0.017*** | 0.012*** | 0.006** | 0.007** | 0.004 |
| | (0.003) | (0.003) | (0.003) | (0.003) | (0.003) | (0.003) |
| Log(1+Debt) | 0.000 | 0.000* | 0.000** | 0.000 | 0.000 | 0.000 |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| HHI | -0.002 | -0.004* | -0.001 | -0.001 | 0.000 | 0.002 |
| | (0.002) | (0.002) | (0.003) | (0.003) | (0.003) | (0.003) |
| HHI*HHI | 0.000 | 0.000 | 0.000 | 0.000 | -0.000 | -0.000 |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| Constant | -0.137*** | -0.099*** | -0.090*** | -0.025** | -0.023** | -0.013 |
| | (0.015) | (0.015) | (0.015) | (0.010) | (0.011) | (0.011) |
| Firm FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | No | No | Yes | No | No |
| Country*Year FE | No | Yes | Yes | No | Yes | Yes |
| Industry*Year FE | No | No | Yes | No | No | Yes |
| Observations | 641,412 | 641,410 | 634,459 | 260,185 | 260,066 | 257,459 |
| R-squared | 0.854 | 0.855 | 0.858 | 0.737 | 0.738 | 0.747 |

## Table 7. China's Ownership and Profitability

This table examines Chinese ownership on target firms' profitability. The dependant variable is ROA measured using income and P/L before tax. Other control variables are defined in Table A1 of the Appendix. Panel A consider the overall Chinese ownership, CN_Owned, which equals one for firm i in year t if any of its direct shareholders or ultimate shareholders that maintain at least 25% ownership in each and all hierarchical levels is a company domiciled or incorporated in China. Panel B differentiates between Chinese state/government and private ownership, CN_SOEOwned and CN_PvtOwned. Panel C repeats the test in Panel A separately for firms in developed and emerging market economies, respectively. The sample period is from 2012 to 2021. Standard errors are clustered at the firm level and reported in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

***Panel A. General Ownership***

| | (1) ROA | (2) ROA | (3) ROA | (4) ROA | (5) ROA | (6) ROA |
|---|---|---|---|---|---|---|
| CN_Owned | -1.227*** | -0.391 | -0.483 | -1.501*** | -0.633* | -0.723** |
| | (0.351) | (0.342) | (0.337) | (0.346) | (0.336) | (0.330) |
| Log(1+Assets) | | | | 2.360*** | 2.343*** | 2.360*** |
| | | | | (0.046) | (0.046) | (0.047) |
| Log(1+Tangible) | | | | -0.114*** | -0.120*** | -0.122*** |
| | | | | (0.010) | (0.010) | (0.011) |
| Log(1+FirmAge) | | | | -0.314*** | -0.078 | -0.138 |
| | | | | (0.095) | (0.098) | (0.102) |
| Log(1+Debts) | | | | -0.261*** | -0.258*** | -0.257*** |
| | | | | (0.008) | (0.008) | (0.008) |
| HHI | | | | 0.133 | 0.095 | 0.098 |
| | | | | (0.099) | (0.101) | (0.105) |
| HHI*HHI | | | | -0.001 | -0.001 | -0.001 |
| | | | | (0.001) | (0.001) | (0.001) |
| Constant | 2.259*** | 2.253*** | 2.238*** | -34.864*** | -35.223*** | -35.342*** |
| | (0.003) | (0.002) | (0.002) | (0.789) | (0.802) | (0.816) |
| Firm FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | No | No | Yes | No | No |
| Country*Year FE | No | Yes | Yes | No | Yes | Yes |
| Industry*Year FE | No | No | Yes | No | No | Yes |
| Observations | 949,706 | 949,541 | 938,829 | 916,587 | 916,418 | 906,509 |
| R-squared | 0.569 | 0.572 | 0.580 | 0.579 | 0.583 | 0.590 |

***Panel B. State versus Private Ownership***

| | (1) ROA | (2) ROA | (3) ROA | (4) ROA | (5) ROA | (6) ROA |
|---|---|---|---|---|---|---|
| CN_PvtOwned | -1.247*** | -0.325 | -0.366 | -1.472*** | -0.528 | -0.563 |
| | (0.414) | (0.403) | (0.401) | (0.405) | (0.393) | (0.389) |
| CN_SOEOwned | -1.147** | -0.642 | -0.934** | -1.614*** | -1.038** | -1.346*** |
| | (0.484) | (0.483) | (0.436) | (0.496) | (0.495) | (0.450) |
| Log(1+Assets) | | | | 2.360*** | 2.343*** | 2.360*** |
| | | | | (0.046) | (0.046) | (0.047) |
| Log(1+Tangible) | | | | -0.114*** | -0.120*** | -0.122*** |
| | | | | (0.010) | (0.010) | (0.011) |
| Log(1+FirmAge) | | | | -0.314*** | -0.078 | -0.137 |
| | | | | (0.095) | (0.098) | (0.102) |
| Log(1+Debts) | | | | -0.261*** | -0.258*** | -0.257*** |
| | | | | (0.008) | (0.008) | (0.008) |
| HHI | | | | 0.133 | 0.095 | 0.098 |
| | | | | (0.099) | (0.101) | (0.105) |
| HHI*HHI | | | | -0.001 | -0.001 | -0.001 |
| | | | | (0.001) | (0.001) | (0.001) |
| Constant | 2.259*** | 2.253*** | 2.238*** | -34.864*** | -35.225*** | -35.345*** |
| | (0.003) | (0.002) | (0.002) | (0.789) | (0.802) | (0.816) |
| Firm FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | No | No | Yes | No | No |
| Country*Year FE | No | Yes | Yes | No | Yes | Yes |
| Industry*Year FE | No | No | Yes | No | No | Yes |
| Observations | 949,706 | 949,541 | 938,829 | 916,587 | 916,418 | 906,509 |
| R-squared | 0.569 | 0.572 | 0.580 | 0.579 | 0.583 | 0.590 |

***Panel C. Developed vs Emerging Market Economies***

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| | Developed Economies | | | Emerging Markets | | |
| | ROA | ROA | ROA | ROA | ROA | ROA |
| CN_Owned | -1.108** | -1.163** | -1.059** | -0.023 | -0.143 | -0.236 |
| | (0.499) | (0.498) | (0.490) | (0.726) | (0.731) | (0.731) |
| Log(1+Assets) | 2.743*** | 2.748*** | 2.774*** | 1.748*** | 1.736*** | 1.724*** |
| | (0.063) | (0.064) | (0.065) | (0.072) | (0.074) | (0.075) |
| Log(1+Tangible) | -0.147*** | -0.152*** | -0.153*** | -0.077*** | -0.078*** | -0.083*** |
| | (0.014) | (0.014) | (0.014) | (0.018) | (0.018) | (0.019) |
| Log(1+FirmAge) | -0.112 | -0.193 | -0.250** | 1.438*** | 1.236*** | 1.289*** |
| | (0.116) | (0.119) | (0.124) | (0.206) | (0.212) | (0.219) |
| Log(1+Debts) | -0.294*** | -0.290*** | -0.290*** | -0.242*** | -0.243*** | -0.240*** |
| | (0.010) | (0.010) | (0.010) | (0.013) | (0.014) | (0.014) |
| HHI | 0.200 | 0.117 | 0.084 | 0.046 | 0.098 | -0.155 |
| | (0.133) | (0.135) | (0.145) | (0.190) | (0.195) | (0.217) |
| HHI*HHI | -0.002 | -0.001 | -0.001 | -0.024 | -0.021 | 0.001 |
| | (0.001) | (0.001) | (0.001) | (0.020) | (0.021) | (0.022) |
| Constant | -42.433*** | -42.276*** | -42.556*** | -27.525*** | -26.686*** | -26.529*** |
| | (1.108) | (1.119) | (1.144) | (1.203) | (1.229) | (1.238) |
| Firm FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | No | No | Yes | No | No |
| Country*Year FE | No | Yes | Yes | No | Yes | Yes |
| Industry*Year FE | No | No | Yes | No | No | Yes |
| Observations | 598,045 | 598,043 | 591,509 | 255,624 | 255,501 | 252,935 |
| R-squared | 0.601 | 0.602 | 0.612 | 0.532 | 0.537 | 0.555 |

## Table 8. China's Ownership and TFP

This table examines Chinese ownership on target firms' TFP. The dependant variable is Log(TFP), calculated as log(1+VA)-(1-sL)×log(1+Fixed)-sL×log(1+Empl). Log(1+VA), log(1+Fixed), and log(1+Empl) are the natural logarithms of value added, fixed assets, and employment, respectively. sL is the average share of the costs of employees over value added for all firms in the same country and 4-digit NACE Rev 2 sector in the same year. Value added is calculated as the summation of factor incomes going to employees (costs of employees) and to capital owners (EBITDA). Other control variables are defined in Table A1 of the Appendix. Panel A consider the overall Chinese ownership, CN_Owned, which equals one for firm i in year t if any of its direct shareholders or ultimate shareholders that maintain at least 25% ownership in each and all hierarchical levels is a company domiciled or incorporated in China. Panel B differentiates between Chinese state/government and private ownership, CN_SOEOwned and CN_PvtOwned. Panel C repeats the test in Panel A separately for firms in developed and emerging market economies, respectively. The sample period is from 2012 to 2021. Standard errors are clustered at the firm level and reported in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

***Panel A. General Ownership***

| | (1) Log(TFP) | (2) Log(TFP) | (3) Log(TFP) | (4) Log(TFP) | (5) Log(TFP) | (6) Log(TFP) |
|---|---|---|---|---|---|---|
| CN_Owned | -0.012 | -0.142 | -0.190 | -0.060 | -0.131 | -0.180 |
| | (0.320) | (0.326) | (0.331) | (0.319) | (0.325) | (0.332) |
| Log(1+Assets) | | | | -0.432*** | -0.370*** | -0.254*** |
| | | | | (0.055) | (0.055) | (0.053) |
| Log(1+Tangible) | | | | -0.034** | -0.030* | -0.034** |
| | | | | (0.017) | (0.017) | (0.016) |
| Log(1+FirmAge) | | | | 0.528*** | 0.377*** | 0.377*** |
| | | | | (0.118) | (0.124) | (0.122) |
| Log(1+Debts) | | | | -0.009 | -0.011 | -0.007 |
| | | | | (0.014) | (0.013) | (0.012) |
| HHI | | | | -1.239*** | -1.272*** | -1.942*** |
| | | | | (0.178) | (0.178) | (0.175) |
| HHI*HHI | | | | 0.177*** | 0.154*** | 0.176*** |
| | | | | (0.048) | (0.055) | (0.033) |
| Constant | 6.187*** | 6.189*** | 6.186*** | 13.536*** | 12.839*** | 10.864*** |
| | (0.002) | (0.002) | (0.002) | (0.925) | (0.937) | (0.924) |
| Firm FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | No | No | Yes | No | No |
| Country*Year FE | No | Yes | Yes | No | Yes | Yes |
| Industry*Year FE | No | No | Yes | No | No | Yes |
| Observations | 424,835 | 424,660 | 423,893 | 420,884 | 420,717 | 419,955 |
| R-squared | 0.265 | 0.283 | 0.369 | 0.265 | 0.282 | 0.370 |

***Panel B. State versus Private Ownership***

| | (1) Log(TFP) | (2) Log(TFP) | (3) Log(TFP) | (4) Log(TFP) | (5) Log(TFP) | (6) Log(TFP) |
|---|---|---|---|---|---|---|
| CN_PvtOwned | 0.305 | 0.202 | 0.170 | 0.255 | 0.217 | 0.178 |
| | (0.345) | (0.352) | (0.360) | (0.344) | (0.352) | (0.360) |
| CN_SOEOwned | -1.316** | -1.549** | -1.673** | -1.355** | -1.557** | -1.655** |
| | (0.655) | (0.649) | (0.678) | (0.652) | (0.646) | (0.679) |
| Log(1+Assets) | | | | -0.432*** | -0.370*** | -0.254*** |
| | | | | (0.055) | (0.055) | (0.053) |
| Log(1+Tangible) | | | | -0.034** | -0.030* | -0.034** |
| | | | | (0.017) | (0.017) | (0.016) |
| Log(1+FirmAge) | | | | 0.528*** | 0.378*** | 0.378*** |
| | | | | (0.118) | (0.124) | (0.122) |
| Log(1+Debts) | | | | -0.009 | -0.011 | -0.007 |
| | | | | (0.014) | (0.013) | (0.012) |
| HHI | | | | -1.239*** | -1.272*** | -1.941*** |
| | | | | (0.178) | (0.178) | (0.175) |
| HHI*HHI | | | | 0.177*** | 0.154*** | 0.176*** |
| | | | | (0.048) | (0.055) | (0.033) |
| Constant | 6.187*** | 6.189*** | 6.186*** | 13.536*** | 12.837*** | 10.859*** |
| | (0.002) | (0.002) | (0.002) | (0.925) | (0.936) | (0.923) |
| Firm FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | No | No | Yes | No | No |
| Country*Year FE | No | Yes | Yes | No | Yes | Yes |
| Industry*Year FE | No | No | Yes | No | No | Yes |
| Observations | 424,835 | 424,660 | 423,893 | 420,884 | 420,717 | 419,955 |
| R-squared | 0.265 | 0.283 | 0.369 | 0.265 | 0.282 | 0.370 |

***Panel C. Developed vs Emerging Market Economies***

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| | Developed Economies | | | Emerging Markets | | |
| | Log(TFP) | Log(TFP) | Log(TFP) | Log(TFP) | Log(TFP) | Log(TFP) |
| CN_Owned | 0.293 | 0.129 | 0.222 | 1.373 | 1.318 | 1.176 |
| | (0.564) | (0.558) | (0.532) | (1.072) | (1.026) | (1.199) |
| Log(1+Assets) | -0.374*** | -0.349*** | -0.215*** | -0.625*** | -0.421** | -0.364** |
| | (0.059) | (0.059) | (0.056) | (0.168) | (0.175) | (0.160) |
| Log(1+Tangible) | -0.034* | -0.030* | -0.040** | -0.051 | -0.050 | -0.036 |
| | (0.018) | (0.018) | (0.017) | (0.051) | (0.050) | (0.045) |
| Log(1+FirmAge) | 0.378*** | 0.298** | 0.343*** | 1.386*** | 0.685 | 0.660 |
| | (0.132) | (0.134) | (0.130) | (0.515) | (0.533) | (0.503) |
| Log(1+Debts) | -0.008 | -0.009 | -0.006 | -0.012 | -0.016 | -0.012 |
| | (0.015) | (0.015) | (0.013) | (0.039) | (0.039) | (0.034) |
| HHI | -1.996*** | -2.216*** | -2.571*** | 1.278** | 1.451** | 2.507*** |
| | (0.491) | (0.559) | (0.207) | (0.646) | (0.656) | (0.706) |
| HHI*HHI | 0.673 | 0.759 | 0.336*** | -0.099* | -0.158*** | -0.258*** |
| | (0.441) | (0.513) | (0.086) | (0.056) | (0.058) | (0.064) |
| Constant | 12.998*** | 12.801*** | 10.388*** | 13.328*** | 11.882*** | 10.178*** |
| | (1.005) | (1.010) | (0.986) | (2.832) | (2.937) | (2.828) |
| Firm FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | No | No | Yes | No | No |
| Country*Year FE | No | Yes | Yes | No | Yes | Yes |
| Industry*Year FE | No | No | Yes | No | No | Yes |
| Observations | 358,969 | 358,959 | 358,214 | 47,740 | 47,623 | 46,805 |
| R-squared | 0.253 | 0.270 | 0.381 | 0.323 | 0.339 | 0.551 |

## Table 9. China's Ownership and Employment

This table examines Chinese ownership on target firms' employment. The dependant variable is the logarithm of firm-level number of employees. Other control variables are defined in Table A1 of the Appendix. Panel A consider the overall Chinese ownership, CN_Owned, which equals one for firm i in year t if any of its direct shareholders or ultimate shareholders that maintain at least 25% ownership in each and all hierarchical levels is a company domiciled or incorporated in China. Panel B differentiates between Chinese state/government and private ownership, CN_SOEOwned and CN_PvtOwned. Panel C repeats the test in Panel A separately for firms in developed and emerging market economies, respectively. The sample period is from 2012 to 2021. Standard errors are clustered at the firm level and reported in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

***Panel A. General Ownership***

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| | Log(1+Employment) | | | | | |
| CN_Owned | -0.033 | -0.017 | -0.023 | -0.080*** | -0.026 | -0.029 |
| | (0.021) | (0.021) | (0.021) | (0.019) | (0.019) | (0.019) |
| Log(1+Assets) | | | | 0.265*** | 0.265*** | 0.264*** |
| | | | | (0.005) | (0.005) | (0.005) |
| Log(1+Tangible) | | | | 0.060*** | 0.059*** | 0.059*** |
| | | | | (0.001) | (0.001) | (0.001) |
| Log(1+FirmAge) | | | | 0.281*** | 0.304*** | 0.311*** |
| | | | | (0.010) | (0.010) | (0.011) |
| Log(1+Debts) | | | | 0.015*** | 0.015*** | 0.015*** |
| | | | | (0.001) | (0.001) | (0.001) |
| HHI | | | | 0.042*** | 0.030*** | 0.023** |
| | | | | (0.010) | (0.010) | (0.011) |
| HHI*HHI | | | | -0.000*** | -0.000*** | -0.000** |
| | | | | (0.000) | (0.000) | (0.000) |
| Constant | 5.050*** | 5.049*** | 5.056*** | -1.825*** | -1.896*** | -1.878*** |
| | (0.000) | (0.000) | (0.000) | (0.090) | (0.090) | (0.091) |
| Firm FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | No | No | Yes | No | No |
| Country*Year FE | No | Yes | Yes | No | Yes | Yes |
| Industry*Year FE | No | No | Yes | No | No | Yes |
| Observations | 648,078 | 647,897 | 641,965 | 631,037 | 630,864 | 625,240 |
| R-squared | 0.950 | 0.951 | 0.952 | 0.958 | 0.959 | 0.960 |

***Panel B. State versus Private Ownership***

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| | Log(1+Employment) | | | | | |
| CN_PvtOwned | -0.039* | -0.019 | -0.026 | -0.086*** | -0.026 | -0.029 |
| | (0.023) | (0.024) | (0.024) | (0.021) | (0.020) | (0.020) |
| CN_SOEOwned | -0.008 | -0.006 | -0.010 | -0.055 | -0.024 | -0.030 |
| | (0.038) | (0.038) | (0.038) | (0.035) | (0.035) | (0.035) |
| Log(1+Assets) | | | | 0.265*** | 0.265*** | 0.264*** |
| | | | | (0.005) | (0.005) | (0.005) |
| Log(1+Tangible) | | | | 0.060*** | 0.059*** | 0.059*** |
| | | | | (0.001) | (0.001) | (0.001) |
| Log(1+FirmAge) | | | | 0.281*** | 0.304*** | 0.311*** |
| | | | | (0.010) | (0.010) | (0.011) |
| Log(1+Debts) | | | | 0.015*** | 0.015*** | 0.015*** |
| | | | | (0.001) | (0.001) | (0.001) |
| HHI | | | | 0.042*** | 0.030*** | 0.023** |
| | | | | (0.010) | (0.010) | (0.011) |
| HHI*HHI | | | | -0.000*** | -0.000*** | -0.000** |
| | | | | (0.000) | (0.000) | (0.000) |
| Constant | 5.050*** | 5.049*** | 5.056*** | -1.825*** | -1.896*** | -1.878*** |
| | (0.000) | (0.000) | (0.000) | (0.090) | (0.090) | (0.091) |
| Firm FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | No | No | Yes | No | No |
| Country*Year FE | No | Yes | Yes | No | Yes | Yes |
| Industry*Year FE | No | No | Yes | No | No | Yes |
| Observations | 648,078 | 647,897 | 641,965 | 631,037 | 630,864 | 625,240 |
| R-squared | 0.950 | 0.951 | 0.952 | 0.958 | 0.959 | 0.960 |

***Panel C. Developed vs Emerging Market Economies***

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| | Developed Economies | | | Emerging Markets | | |
| | Log(1+Employment) | | | | | |
| CN_Owned | -0.045 | -0.042 | -0.047 | -0.083 | -0.091 | -0.120* |
| | (0.030) | (0.030) | (0.030) | (0.069) | (0.072) | (0.066) |
| Log(1+Assets) | 0.289*** | 0.292*** | 0.290*** | 0.227*** | 0.224*** | 0.225*** |
| | (0.005) | (0.005) | (0.005) | (0.010) | (0.010) | (0.010) |
| Log(1+Tangible) | 0.063*** | 0.063*** | 0.062*** | 0.054*** | 0.053*** | 0.051*** |
| | (0.002) | (0.002) | (0.002) | (0.003) | (0.003) | (0.003) |
| Log(1+FirmAge) | 0.227*** | 0.232*** | 0.244*** | 0.640*** | 0.636*** | 0.672*** |
| | (0.010) | (0.010) | (0.010) | (0.033) | (0.034) | (0.035) |
| Log(1+Debts) | 0.016*** | 0.016*** | 0.016*** | 0.007*** | 0.007*** | 0.007*** |
| | (0.001) | (0.001) | (0.001) | (0.002) | (0.002) | (0.002) |
| HHI | 0.008 | 0.001 | -0.007 | 0.122*** | 0.124*** | 0.121*** |
| | (0.009) | (0.009) | (0.010) | (0.029) | (0.030) | (0.033) |
| HHI*HHI | -0.000 | -0.000 | 0.000 | -0.012*** | -0.012*** | -0.011*** |
| | (0.000) | (0.000) | (0.000) | (0.003) | (0.003) | (0.003) |
| Constant | -2.265*** | -2.345*** | -2.328*** | -1.685*** | -1.609*** | -1.696*** |
| | (0.095) | (0.097) | (0.100) | (0.164) | (0.165) | (0.164) |
| Firm FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | No | No | Yes | No | No |
| Country*Year FE | No | Yes | Yes | No | Yes | Yes |
| Industry*Year FE | No | No | Yes | No | No | Yes |
| Observations | 475,441 | 475,436 | 470,500 | 128,432 | 128,317 | 126,842 |
| R-squared | 0.969 | 0.969 | 0.970 | 0.928 | 0.931 | 0.937 |

## Table 10. China's Ownership and China's Suppliers

This table examines Chinese ownership on target firms' dependence on Chinese supply chains. The dependant variable is a dummy variable indicating whether the non-China firm is a supplier of a Chinese company in the year according to FactSet Revere. Other control variables are defined in Table A1 of the Appendix. Panel A consider the overall Chinese ownership, CN_Owned, which equals one for firm i in year t if any of its direct shareholders or ultimate shareholders that maintain at least 25% ownership in each and all hierarchical levels is a company domiciled or incorporated in China. Panel B differentiates between Chinese state/government and private ownership, CN_SOEOwned and CN_PvtOwned. Panel C repeats the test in Panel A separately for firms in developed and emerging market economies, respectively. The sample period is from 2012 to 2021. Standard errors are clustered at the firm level and reported in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

***Panel A. General Ownership***

| | (1) CNSupplier | (2) CNSupplier | (3) CNSupplier | (4) CNSupplier | (5) CNSupplier | (6) CNSupplier |
|---|---|---|---|---|---|---|
| CN_Owned | 0.012 | 0.005 | 0.002 | 0.012 | 0.005 | 0.001 |
| | (0.012) | (0.012) | (0.013) | (0.012) | (0.013) | (0.013) |
| Log(1+Assets) | | | | 0.004*** | 0.002 | 0.001 |
| | | | | (0.001) | (0.001) | (0.001) |
| Log(1+Tangible) | | | | 0.000 | 0.000 | 0.000 |
| | | | | (0.000) | (0.000) | (0.000) |
| Log(1+FirmAge) | | | | -0.003 | -0.012* | -0.010 |
| | | | | (0.006) | (0.006) | (0.007) |
| Log(1+Debts) | | | | 0.000 | 0.000 | 0.000 |
| | | | | (0.000) | (0.000) | (0.000) |
| HHI | | | | 0.000 | -0.002 | -0.007* |
| | | | | (0.003) | (0.003) | (0.004) |
| HHI*HHI | | | | 0.000 | 0.000 | 0.000 |
| | | | | (0.000) | (0.000) | (0.000) |
| Constant | 0.025*** | 0.025*** | 0.025*** | -0.054* | 0.021 | 0.041 |
| | (0.000) | (0.000) | (0.000) | (0.029) | (0.031) | (0.032) |
| Firm FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | No | No | Yes | No | No |
| Country*Year FE | No | Yes | Yes | No | Yes | Yes |
| Industry*Year FE | No | No | Yes | No | No | Yes |
| Observations | 123,560 | 123,403 | 122,859 | 121,253 | 121,104 | 120,557 |
| R-squared | 0.543 | 0.547 | 0.570 | 0.543 | 0.547 | 0.570 |

***Panel B. State versus Private Ownership***

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| | CNSupplier | CNSupplier | CNSupplier | CNSupplier | CNSupplier | CNSupplier |
| CN_PvtOwned | 0.015 | 0.008 | 0.004 | 0.016 | 0.008 | 0.004 |
| | (0.013) | (0.013) | (0.013) | (0.013) | (0.013) | (0.014) |
| CN_SOEOwned | -0.003 | -0.009 | -0.010 | -0.003 | -0.009 | -0.010 |
| | (0.023) | (0.023) | (0.023) | (0.023) | (0.024) | (0.024) |
| Log(1+Assets) | | | | 0.004*** | 0.002 | 0.001 |
| | | | | (0.001) | (0.001) | (0.001) |
| Log(1+Tangible) | | | | 0.000 | 0.000 | 0.000 |
| | | | | (0.000) | (0.000) | (0.000) |
| Log(1+FirmAge) | | | | -0.003 | -0.012* | -0.010 |
| | | | | (0.006) | (0.006) | (0.007) |
| Log(1+Debts) | | | | 0.000 | 0.000 | 0.000 |
| | | | | (0.000) | (0.000) | (0.000) |
| HHI | | | | 0.000 | -0.002 | -0.007* |
| | | | | (0.003) | (0.003) | (0.004) |
| HHI*HHI | | | | 0.000 | 0.000 | 0.000 |
| | | | | (0.000) | (0.000) | (0.000) |
| Constant | 0.025*** | 0.025*** | 0.025*** | -0.054* | 0.021 | 0.041 |
| | (0.000) | (0.000) | (0.000) | (0.029) | (0.031) | (0.032) |
| Firm FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | No | No | Yes | No | No |
| Country*Year FE | No | Yes | Yes | No | Yes | Yes |
| Industry*Year FE | No | No | Yes | No | No | Yes |
| Observations | 123,560 | 123,403 | 122,859 | 121,253 | 121,104 | 120,557 |
| R-squared | 0.543 | 0.547 | 0.570 | 0.543 | 0.547 | 0.570 |

***Panel C. Developed vs Emerging Market Economies***

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| | Developed Economies | | | Emerging Markets | | |
| | CNSupplier | CNSupplier | CNSupplier | CNSupplier | CNSupplier | CNSupplier |
| CN_Owned | 0.026 | 0.025 | 0.018 | -0.052** | -0.054** | -0.064** |
| | (0.017) | (0.017) | (0.018) | (0.025) | (0.026) | (0.029) |
| Log(1+Assets) | 0.003* | 0.002 | -0.000 | 0.003 | 0.002 | 0.002 |
| | (0.002) | (0.002) | (0.002) | (0.002) | (0.002) | (0.003) |
| Log(1+Tangible) | 0.000 | 0.000 | 0.000 | -0.000 | -0.000 | -0.000 |
| | (0.000) | (0.000) | (0.000) | (0.001) | (0.001) | (0.001) |
| Log(1+FirmAge) | -0.006 | -0.011 | -0.010 | -0.003 | -0.005 | 0.005 |
| | (0.007) | (0.007) | (0.007) | (0.010) | (0.010) | (0.012) |
| Log(1+Debts) | -0.000 | 0.000 | -0.000 | 0.000 | 0.000 | 0.000 |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| HHI | -0.013 | -0.003 | -0.010 | 0.003 | 0.002 | -0.001 |
| | (0.021) | (0.022) | (0.025) | (0.004) | (0.004) | (0.006) |
| HHI*HHI | 0.014 | 0.002 | 0.006 | -0.000 | -0.000 | 0.000 |
| | (0.020) | (0.021) | (0.024) | (0.000) | (0.000) | (0.000) |
| Constant | -0.014 | 0.032 | 0.063* | -0.037 | -0.020 | -0.048 |
| | (0.034) | (0.036) | (0.038) | (0.049) | (0.054) | (0.062) |
| Firm FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | No | No | Yes | No | No |
| Country*Year FE | No | Yes | Yes | No | Yes | Yes |
| Industry*Year FE | No | No | Yes | No | No | Yes |
| Observations | 93,621 | 93,613 | 93,100 | 21,806 | 21,717 | 20,865 |
| R-squared | 0.530 | 0.532 | 0.561 | 0.514 | 0.521 | 0.592 |

## Table 11. China's Ownership and China's Customers

This table examines Chinese ownership on target firms' dependence on Chinese supply chains. The dependant variable is a dummy variable indicating whether the non-China firm is a customer of a Chinese company in the year according to FactSet Revere. Other control variables are defined in Table A1 of the Appendix. Panel A consider the overall Chinese ownership, CN_Owned, which equals one for firm i in year t if any of its direct shareholders or ultimate shareholders that maintain at least 25% ownership in each and all hierarchical levels is a company domiciled or incorporated in China. Panel B differentiates between Chinese state/government and private ownership, CN_SOEOwned and CN_PvtOwned. Panel C repeats the test in Panel A separately for firms in developed and emerging market economies, respectively. The sample period is from 2012 to 2021. Standard errors are clustered at the firm level and reported in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

***Panel A. General Ownership***

| | (1) CNCustomer | (2) CNCustomer | (3) CNCustomer | (4) CNCustomer | (5) CNCustomer | (6) CNCustomer |
|---|---|---|---|---|---|---|
| CN_Owned | 0.034** | 0.021 | 0.011 | 0.035** | 0.022 | 0.011 |
| | (0.016) | (0.015) | (0.015) | (0.016) | (0.016) | (0.015) |
| Log(1+Assets) | | | | 0.000 | -0.002 | -0.000 |
| | | | | (0.001) | (0.002) | (0.002) |
| Log(1+Tangible) | | | | 0.001* | 0.001 | 0.001 |
| | | | | (0.000) | (0.000) | (0.000) |
| Log(1+FirmAge) | | | | -0.022*** | -0.034*** | -0.021** |
| | | | | (0.008) | (0.008) | (0.008) |
| Log(1+Debts) | | | | 0.000 | 0.000 | 0.000 |
| | | | | (0.000) | (0.000) | (0.000) |
| HHI | | | | 0.002 | 0.005 | -0.003 |
| | | | | (0.006) | (0.006) | (0.007) |
| HHI*HHI | | | | -0.000 | -0.001 | 0.000 |
| | | | | (0.000) | (0.001) | (0.000) |
| Constant | 0.050*** | 0.051*** | 0.051*** | 0.105*** | 0.189*** | 0.117*** |
| | (0.000) | (0.000) | (0.000) | (0.035) | (0.038) | (0.038) |
| Firm FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | No | No | Yes | No | No |
| Country*Year FE | No | Yes | Yes | No | Yes | Yes |
| Industry*Year FE | No | No | Yes | No | No | Yes |
| Observations | 123,560 | 123,403 | 122,859 | 121,253 | 121,104 | 120,557 |
| R-squared | 0.584 | 0.589 | 0.619 | 0.584 | 0.590 | 0.620 |

***Panel B. State versus Private Ownership***

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| | CNCustomer | CNCustomer | CNCustomer | CNCustomer | CNCustomer | CNCustomer |
| CN_PvtOwned | 0.033** | 0.019 | 0.010 | 0.035** | 0.020 | 0.010 |
| | (0.015) | (0.015) | (0.014) | (0.016) | (0.015) | (0.015) |
| CN_SOEOwned | 0.036 | 0.030 | 0.016 | 0.037 | 0.031 | 0.017 |
| | (0.043) | (0.042) | (0.041) | (0.043) | (0.043) | (0.042) |
| Log(1+Assets) | | | | 0.000 | -0.002 | -0.000 |
| | | | | (0.001) | (0.002) | (0.002) |
| Log(1+Tangible) | | | | 0.001* | 0.001 | 0.001 |
| | | | | (0.000) | (0.000) | (0.000) |
| Log(1+FirmAge) | | | | -0.022*** | -0.034*** | -0.021** |
| | | | | (0.008) | (0.008) | (0.008) |
| Log(1+Debts) | | | | 0.000 | 0.000 | 0.000 |
| | | | | (0.000) | (0.000) | (0.000) |
| HHI | | | | 0.002 | 0.005 | -0.003 |
| | | | | (0.006) | (0.006) | (0.007) |
| HHI*HHI | | | | -0.000 | -0.001 | 0.000 |
| | | | | (0.000) | (0.001) | (0.000) |
| Constant | 0.050*** | 0.051*** | 0.051*** | 0.105*** | 0.189*** | 0.117*** |
| | (0.000) | (0.000) | (0.000) | (0.035) | (0.038) | (0.038) |
| Firm FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | No | No | Yes | No | No |
| Country*Year FE | No | Yes | Yes | No | Yes | Yes |
| Industry*Year FE | No | No | Yes | No | No | Yes |
| Observations | 123,560 | 123,403 | 122,859 | 121,253 | 121,104 | 120,557 |
| R-squared | 0.584 | 0.589 | 0.619 | 0.584 | 0.590 | 0.620 |

***Panel C. Developed vs Emerging Market Economies***

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| | Developed Economies | | | Emerging Markets | | |
| | CNCustomer | CNCustomer | CNCustomer | CNCustomer | CNCustomer | CNCustomer |
| CN_Owned | 0.008 | 0.006 | -0.007 | -0.011 | -0.006 | -0.005 |
| | (0.022) | (0.021) | (0.021) | (0.048) | (0.048) | (0.050) |
| Log(1+Assets) | -0.002 | -0.004** | -0.002 | 0.000 | 0.000 | 0.001 |
| | (0.002) | (0.002) | (0.002) | (0.003) | (0.003) | (0.003) |
| Log(1+Tangible) | 0.001* | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 |
| | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) |
| Log(1+FirmAge) | -0.031*** | -0.034*** | -0.021** | -0.003 | -0.011 | 0.001 |
| | (0.008) | (0.009) | (0.009) | (0.026) | (0.028) | (0.028) |
| Log(1+Debts) | 0.000 | 0.000 | 0.000 | -0.000 | -0.000 | 0.000 |
| | (0.000) | (0.000) | (0.000) | (0.001) | (0.001) | (0.001) |
| HHI | 0.063** | 0.070** | 0.001 | 0.006 | 0.018* | 0.013 |
| | (0.030) | (0.032) | (0.034) | (0.009) | (0.010) | (0.012) |
| HHI*HHI | -0.059** | -0.068** | -0.013 | -0.000 | -0.001* | -0.001 |
| | (0.028) | (0.030) | (0.032) | (0.001) | (0.001) | (0.001) |
| Constant | 0.171*** | 0.219*** | 0.147*** | 0.020 | 0.035 | -0.016 |
| | (0.039) | (0.043) | (0.044) | (0.097) | (0.101) | (0.107) |
| Firm FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | No | No | Yes | No | No |
| Country*Year FE | No | Yes | Yes | No | Yes | Yes |
| Industry*Year FE | No | No | Yes | No | No | Yes |
| Observations | 93,621 | 93,613 | 93,100 | 21,806 | 21,717 | 20,865 |
| R-squared | 0.581 | 0.584 | 0.621 | 0.507 | 0.520 | 0.586 |

## Table 12. Spillover Effects on Innovation

Notes: This table reports the results of the firm-year level OLS regressions designed to test the spillover effects of China's ownership on the R&D expenses of peer firms without Chinese ownership within the same country industry year. The sample consists of all non-China "Very Large" firms that have never been owned by Chinese entities in our sample period with non-missing financial and ownership information from Orbis between 2012 and 2021. Firms incorporated or domiciling in China, firms domiciling in Hong Kong or Macau, and golden share firms are excluded from the sample. R&D expenses are winsorized at the 1st and 99th percentiles and log-transformed. Log(1+R&D) are treated as zero if missing. Blank_R&D = 1 if R&D expenses are missing for the firm in the year, while Zero_R&D = 1 if R&D expenses are zero for the firm in the year. In Panel A, the key independent variable is ∑CN_Owned_Assets/∑Assets, CN_Owned_Assets = %CN_Owned × Assets, where Assets are winsorized at the 1st and 99th percentiles. %CN_Owned refer to the cash flow rights owned by a firm's direct shareholders or ultimate shareholders (i.e., UO25 or UO50) that are Chinese companies. China companies refer to firms incorporated or domiciling in China. CN_Owned_Assets is then aggregated to the country-industry-year level and scaled by total assets within the same country same industry in the same year. Country refers to domicile country, while sector refers to 2-digit NACIS Rev 2. In Panel B, the key independent variables are ∑CN_SOEOwned_Assets/∑Assets and ∑CN_PvtOwned_Assets/∑Assets. CN_SOEOwned_Assets = %CN_SOEOwned × Assets and CN_PvtOwned_Assets = %CN_PvtOwned × Assets. %CN_SOEOwned refer to the cash flow rights owned by a firm's direct shareholders or ultimate shareholders (i.e., UO25 or UO50) that are Chinese SOE or a Chinese government agency. Chinese government agencies refer to entities incorporated or domiciling in China and labeled as "Public authority, state, government" by Orbis. Chinese SOEs refer to firms incorporated or domiciling in China that have one of their ultimate owners (i.e., UO25 or UO50) to be a Chinese government agency. %CN_PvtOwned = %CN_Owned - %CN_SOEOwned. CN_SOEOwned_Assets and CN_PvtOwned_Assets are then aggregated to the country-industry-year level and scaled by total assets within the same country same industry in the same year. Other variable definitions are reported in the Appendix. Robust standard errors clustered at the firm level are in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

***Panel A. CN_Owned***

| | (1) Log(1+R&D) | (2) Log(1+R&D) | (3) Log(1+R&D) | (4) Log(1+R&D) | (5) Log(1+R&D) | (6) Log(1+R&D) | (7) Log(1+R&D) | (8) Log(1+R&D) |
|---|---|---|---|---|---|---|---|---|
| ∑CN_Owned_Assets/∑Assets | -0.051 | -0.069 | -0.049 | -0.081 | -0.039 | -0.058 | -0.042 | -0.074 |
| | (0.057) | (0.060) | (0.063) | (0.065) | (0.061) | (0.063) | (0.069) | (0.071) |
| Blank_R&D | -12.844*** | -12.837*** | -12.841*** | -12.835*** | -12.857*** | -12.852*** | -12.856*** | -12.851*** |
| | (0.042) | (0.042) | (0.042) | (0.042) | (0.043) | (0.043) | (0.043) | (0.043) |
| Zero_R&D | -12.727*** | -12.711*** | -12.722*** | -12.708*** | -12.740*** | -12.725*** | -12.736*** | -12.723*** |
| | (0.043) | (0.043) | (0.043) | (0.043) | (0.044) | (0.044) | (0.044) | (0.044) |
| Log(1+Assets) | | | | | 0.024*** | 0.024*** | 0.022*** | 0.022*** |
| | | | | | (0.001) | (0.001) | (0.001) | (0.001) |
| Log(1+Tangible) | | | | | 0.002*** | 0.002*** | 0.002*** | 0.002*** |
| | | | | | (0.000) | (0.000) | (0.000) | (0.000) |
| Log(1+FirmAge) | | | | | 0.020*** | 0.014*** | 0.021*** | 0.012*** |
| | | | | | (0.004) | (0.004) | (0.004) | (0.005) |
| Log(1+Debt) | | | | | 0.001*** | 0.000** | 0.001** | 0.000* |
| | | | | | (0.000) | (0.000) | (0.000) | (0.000) |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| HHI | | | | | 0.007* | 0.003 | 0.007 | 0.004 |
| | | | | | (0.004) | (0.004) | (0.004) | (0.005) |
| HHI2 | | | | | -0.000* | -0.000 | -0.000* | -0.000 |
| | | | | | (0.000) | (0.000) | (0.000) | (0.000) |
| Constant | 12.947*** | 12.939*** | 12.944*** | 12.938*** | 12.417*** | 12.443*** | 12.454*** | 12.482*** |
| | (0.039) | (0.039) | (0.039) | (0.039) | (0.046) | (0.046) | (0.046) | (0.046) |
| Firm FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | No | No | No | Yes | No | No | No |
| Country*Year FE | No | Yes | No | Yes | No | Yes | No | Yes |
| Industry*Year FE | No | No | Yes | Yes | No | No | Yes | Yes |
| Observations | 1,007,715 | 1,007,558 | 1,007,155 | 1,006,998 | 955,260 | 955,097 | 954,693 | 954,530 |
| R-squared | 0.992 | 0.992 | 0.992 | 0.992 | 0.992 | 0.992 | 0.992 | 0.992 |

***Panel B. CN_PvtOwned and CN_SOEOwned, Full Sample***

| | (1) Log(1+R&D) | (2) Log(1+R&D) | (3) Log(1+R&D) | (4) Log(1+R&D) | (5) Log(1+R&D) | (6) Log(1+R&D) | (7) Log(1+R&D) | (8) Log(1+R&D) |
|---|---|---|---|---|---|---|---|---|
| ∑CN_PvtOwned_Assets/∑Assets | -0.041 | -0.066 | -0.066 | -0.103 | -0.019 | -0.048 | -0.051 | -0.088 |
| | (0.096) | (0.098) | (0.099) | (0.101) | (0.104) | (0.105) | (0.109) | (0.111) |
| ∑CN_SOEOwned_Assets/∑Assets | -0.060** | -0.063* | -0.019 | -0.032 | -0.061** | -0.062* | -0.023 | -0.038 |
| | (0.029) | (0.034) | (0.038) | (0.043) | (0.031) | (0.035) | (0.041) | (0.045) |
| Blank_R&D | -12.844*** | -12.837*** | -12.841*** | -12.835*** | -12.857*** | -12.852*** | -12.856*** | -12.851*** |
| | (0.042) | (0.042) | (0.042) | (0.042) | (0.043) | (0.043) | (0.043) | (0.043) |
| Zero_R&D | -12.727*** | -12.711*** | -12.722*** | -12.708*** | -12.740*** | -12.725*** | -12.736*** | -12.723*** |
| | (0.043) | (0.043) | (0.043) | (0.043) | (0.044) | (0.044) | (0.044) | (0.044) |
| Log(1+Assets) | | | | | 0.024*** | 0.024*** | 0.022*** | 0.022*** |
| | | | | | (0.001) | (0.001) | (0.001) | (0.001) |
| Log(1+Tangible) | | | | | 0.002*** | 0.002*** | 0.002*** | 0.002*** |
| | | | | | (0.000) | (0.000) | (0.000) | (0.000) |
| Log(1+FirmAge) | | | | | 0.020*** | 0.014*** | 0.021*** | 0.012*** |
| | | | | | (0.004) | (0.004) | (0.004) | (0.005) |
| Log(1+Debt) | | | | | 0.001*** | 0.000** | 0.001** | 0.000* |
| | | | | | (0.000) | (0.000) | (0.000) | (0.000) |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| HHI | | | | | 0.007* | 0.003 | 0.007 | 0.004 |
| | | | | | (0.004) | (0.004) | (0.004) | (0.005) |
| HHI2 | | | | | -0.000* | -0.000 | -0.000* | -0.000 |
| | | | | | (0.000) | (0.000) | (0.000) | (0.000) |
| Constant | 12.947*** | 12.939*** | 12.944*** | 12.938*** | 12.417*** | 12.443*** | 12.454*** | 12.482*** |
| | (0.039) | (0.039) | (0.039) | (0.039) | (0.047) | (0.046) | (0.046) | (0.046) |
| Firm FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | No | No | No | Yes | No | No | No |
| Country*Year FE | No | Yes | No | Yes | No | Yes | No | Yes |
| Industry*Year FE | No | No | Yes | Yes | No | No | Yes | Yes |
| Observations | 1,007,715 | 1,007,558 | 1,007,155 | 1,006,998 | 955,260 | 955,097 | 954,693 | 954,530 |
| R-squared | 0.992 | 0.992 | 0.992 | 0.992 | 0.992 | 0.992 | 0.992 | 0.992 |

## Table 13. Spillover Effects on Profitability

Notes: This table reports the results of the firm-year level OLS regressions designed to test the spillover effects of China's ownership on the profitability of peer firms without Chinese ownership within the same country industry year. The sample consists of all non-China "Very Large" firms that have never been owned by Chinese entities in our sample period with non-missing financial and ownership information from Orbis between 2012 and 2021. Firms incorporated or domiciling in China, firms domiciling in Hong Kong or Macau, and golden share firms are excluded from the sample. ROA measured using income and P/L before tax are winsorized at the 1st and 99th percentiles. Observations with missing ROA are deleted from the regressions. In Panel A, the key independent variable is ∑CN_Owned_Assets/∑Assets, CN_Owned_Assets = %CN_Owned × Assets, where Assets are winsorized at the 1st and 99th percentiles. %CN_Owned refer to the cash flow rights owned by a firm's direct shareholders or ultimate shareholders (i.e., UO25 or UO50) that are Chinese companies. China companies refer to firms incorporated or domiciling in China. CN_Owned_Assets is then aggregated to the country-industry-year level and scaled by total assets within the same country same industry in the same year. Country refers to domicile country, while sector refers to 2-digit NACIS Rev 2. In Panel B, the key independent variables are ∑CN_SOEOwned_Assets/∑Assets and ∑CN_PvtOwned_Assets/∑Assets. CN_SOEOwned_Assets = %CN_SOEOwned × Assets and CN_PvtOwned_Assets = %CN_PvtOwned × Assets. %CN_SOEOwned refer to the cash flow rights owned by a firm's direct shareholders or ultimate shareholders (i.e., UO25 or UO50) that are Chinese SOE or a Chinese government agency. Chinese government agencies refer to entities incorporated or domiciling in China and labeled as "Public authority, state, government" by Orbis. Chinese SOEs refer to firms incorporated or domiciling in China that have one of their ultimate owners (i.e., UO25 or UO50) to be a Chinese government agency. %CN_PvtOwned = %CN_Owned - %CN_SOEOwned. CN_SOEOwned_Assets and CN_PvtOwned_Assets are then aggregated to the country-industry-year level and scaled by total assets within the same country same industry in the same year. Other variable definitions are reported in the Appendix. Robust standard errors clustered at the firm level are in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

***Panel A. CN_Owned***

| | (1) ROA | (2) ROA | (3) ROA | (4) ROA | (5) ROA | (6) ROA | (7) ROA | (8) ROA |
|---|---|---|---|---|---|---|---|---|
| ∑CN_Owned_Assets/∑Assets | 0.215 | 1.991* | -0.977 | 1.464 | 0.169 | 2.083** | -1.108 | 1.444 |
| | (1.021) | (1.041) | (1.100) | (1.119) | (1.036) | (1.051) | (1.123) | (1.137) |
| Log(1+Assets) | | | | | 2.342*** | 2.331*** | 2.330*** | 2.329*** |
| | | | | | (0.046) | (0.047) | (0.047) | (0.047) |
| Log(1+Tangible) | | | | | -0.116*** | -0.121*** | -0.117*** | -0.122*** |
| | | | | | (0.011) | (0.011) | (0.010) | (0.011) |
| Log(1+FirmAge) | | | | | -0.040 | 0.009 | -0.137 | -0.013 |
| | | | | | (0.096) | (0.099) | (0.100) | (0.102) |
| Log(1+Debt) | | | | | -0.262*** | -0.259*** | -0.259*** | -0.257*** |
| | | | | | (0.008) | (0.008) | (0.008) | (0.008) |
| HHI | | | | | 0.105 | 0.094 | 0.054 | 0.075 |
| | | | | | (0.100) | (0.101) | (0.103) | (0.105) |
| HHI2 | | | | | -0.001 | -0.001 | -0.001 | -0.001 |
| | | | | | (0.001) | (0.001) | (0.001) | (0.001) |
| Constant | 2.297*** | 2.292*** | 2.299*** | 2.292*** | -35.236*** | -35.167*** | -34.755*** | -35.089*** |
| | (0.003) | (0.003) | (0.003) | (0.003) | (0.802) | (0.815) | (0.808) | (0.821) |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Firm FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | No | No | No | Yes | No | No | No |
| Country*Year FE | No | Yes | No | Yes | No | Yes | No | Yes |
| Industry*Year FE | No | No | Yes | Yes | No | No | Yes | Yes |
| | | | | | | | | |
| Observations | 926,281 | 926,125 | 925,694 | 925,538 | 894,272 | 894,112 | 893,673 | 893,513 |
| R-squared | 0.569 | 0.572 | 0.577 | 0.580 | 0.579 | 0.582 | 0.587 | 0.590 |

***Panel B. CN_PvtOwned and CN_SOEOwned, Full Sample***

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|---|---|---|---|---|---|---|---|---|
| | ROA | ROA | ROA | ROA | ROA | ROA | ROA | ROA |
| ∑CN_PvtOwned_Assets/∑Assets | -2.342 | 2.954** | -1.747 | 3.233** | -2.778* | 2.720* | -2.074 | 3.122* |
| | (1.457) | (1.502) | (1.515) | (1.561) | (1.515) | (1.551) | (1.582) | (1.619) |
| ∑CN_SOEOwned_Assets/∑Assets | 3.221** | 0.139 | -0.266 | -1.864 | 3.478*** | 0.708 | -0.211 | -1.668 |
| | (1.299) | (1.262) | (1.396) | (1.370) | (1.272) | (1.239) | (1.381) | (1.357) |
| Log(1+Assets) | | | | | 2.341*** | 2.331*** | 2.330*** | 2.329*** |
| | | | | | (0.046) | (0.047) | (0.047) | (0.047) |
| Log(1+Tangible) | | | | | -0.116*** | -0.121*** | -0.117*** | -0.122*** |
| | | | | | (0.011) | (0.011) | (0.010) | (0.011) |
| Log(1+FirmAge) | | | | | -0.037 | 0.009 | -0.136 | -0.013 |
| | | | | | (0.096) | (0.099) | (0.100) | (0.102) |
| Log(1+Debt) | | | | | -0.262*** | -0.259*** | -0.259*** | -0.257*** |
| | | | | | (0.008) | (0.008) | (0.008) | (0.008) |
| HHI | | | | | 0.103 | 0.094 | 0.054 | 0.074 |
| | | | | | (0.100) | (0.101) | (0.103) | (0.105) |
| HHI2 | | | | | -0.001 | -0.001 | -0.001 | -0.001 |
| | | | | | (0.001) | (0.001) | (0.001) | (0.001) |
| Constant | 2.297*** | 2.293*** | 2.299*** | 2.294*** | -35.239*** | -35.165*** | -34.756*** | -35.087*** |
| | (0.003) | (0.003) | (0.003) | (0.003) | (0.802) | (0.815) | (0.808) | (0.821) |
| | | | | | | | | |
| Firm FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | No | No | No | Yes | No | No | No |
| Country*Year FE | No | Yes | No | Yes | No | Yes | No | Yes |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Industry*Year FE | No | No | Yes | Yes | No | No | Yes | Yes |
| Observations | 926,281 | 926,125 | 925,694 | 925,538 | 894,272 | 894,112 | 893,673 | 893,513 |
| R-squared | 0.569 | 0.572 | 0.577 | 0.580 | 0.579 | 0.582 | 0.587 | 0.590 |

## Table 14. Is China Unique: Innovation

This table examines the US, Japan, and India's ownership on target firms' R&D expenses. The dependant variable is the logarithm of firm-level R&D expenses. We treat the missing observations as zeros and controlling for two dummy variables indicating the status if R&D is not reported (Blank_R&D) or reported as zero (Zero_R&D) for a given year in Orbis. XX_Owned equals one for firm i in year t if any of its direct shareholders or ultimate shareholders that maintain at least 25% ownership in each and all hierarchical levels is a company domiciled in XX, where XX refers to the US, Japan, or India, respectively. Other control variables are defined in Table A1 of the Appendix. The sample period is from 2012 to 2021. Standard errors are clustered at the firm level and reported in parentheses. *** p<0.01, ** p<0.05, * p<0.1

| | (1) US_Owned Log(1+R&D) | (2) US_Owned Log(1+R&D) | (3) US_Owned Log(1+R&D) | (4) JP_Owned Log(1+R&D) | (5) JP_Owned Log(1+R&D) | (6) JP_Owned Log(1+R&D) | (7) IN_Owned Log(1+R&D) | (8) IN_Owned Log(1+R&D) | (9) IN_Owned Log(1+R&D) |
|---|---|---|---|---|---|---|---|---|---|
| XX_Owned | 0.006 | 0.010** | 0.008* | 0.011 | 0.014 | 0.011 | 0.002 | 0.011 | 0.006 |
| | (0.005) | (0.005) | (0.005) | (0.011) | (0.011) | (0.012) | (0.017) | (0.017) | (0.017) |
| Blank_R&D | -13.431*** | -13.127*** | -13.125*** | -13.428*** | -13.117*** | -13.117*** | -13.474*** | -13.176*** | -13.176*** |
| | (0.030) | (0.036) | (0.036) | (0.029) | (0.034) | (0.034) | (0.029) | (0.034) | (0.034) |
| Zero_R&D | -13.268*** | -13.055*** | -13.048*** | -13.233*** | -13.043*** | -13.036*** | -13.272*** | -13.091*** | -13.084*** |
| | (0.033) | (0.037) | (0.037) | (0.033) | (0.035) | (0.036) | (0.033) | (0.035) | (0.035) |
| Log(1+Assets) | 0.017*** | 0.016*** | 0.016*** | 0.027*** | 0.026*** | 0.025*** | 0.028*** | 0.028*** | 0.026*** |
| | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) |
| Log(1+Tangible) | 0.001** | 0.001*** | 0.001*** | 0.002*** | 0.002*** | 0.002*** | 0.002*** | 0.002*** | 0.002*** |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| Log(1+FirmAge) | -0.003 | -0.006 | -0.008* | 0.003 | -0.000 | -0.000 | 0.008* | -0.000 | -0.001 |
| | (0.004) | (0.004) | (0.004) | (0.004) | (0.004) | (0.005) | (0.004) | (0.004) | (0.005) |
| Log(1+Debts) | 0.001*** | 0.000 | 0.000 | 0.001*** | 0.000* | 0.000 | 0.001*** | 0.000* | 0.000 |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| HHI | 0.003*** | -0.000 | -0.000 | 0.004*** | 0.000 | 0.000 | 0.004*** | 0.000 | 0.000 |
| | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) |
| HHI*HHI | -0.000*** | 0.000 | -0.000 | -0.000*** | -0.000 | -0.000 | -0.000*** | -0.000 | -0.000 |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| Constant | 13.130*** | 12.869*** | 12.877*** | 12.954*** | 12.701*** | 12.727*** | 12.954*** | 12.725*** | 12.753*** |
| | (0.034) | (0.039) | (0.039) | (0.035) | (0.038) | (0.038) | (0.035) | (0.038) | (0.038) |
| Firm FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | No | No | Yes | No | No | Yes | No | No |
| Country*Year FE | No | Yes | Yes | No | Yes | Yes | No | Yes | Yes |
| Industry*Year FE | No | No | Yes | No | No | Yes | No | No | Yes |
| Observations | 1,110,686 | 1,110,505 | 1,097,975 | 1,015,326 | 1,015,154 | 1,005,635 | 1,031,711 | 1,031,539 | 1,020,786 |
| R-squared | 0.988 | 0.989 | 0.989 | 0.992 | 0.992 | 0.992 | 0.992 | 0.992 | 0.992 |

## Table 15. Is China Unique: Granted Patents

This table examines the US, Japan, and India's ownership on target firms' granted patents. The dependant variable is the number of patents applied by the focal firm that are eventually granted. To avoid double counting, duplicate applications in multiple jurisdictions are treated as one application, while patents applied by multiple firms are attributed to these firms assuming fractional and equal weight per firm. XX_Owned equals one for firm i in year t if any of its direct shareholders or ultimate shareholders that maintain at least 25% ownership in each and all hierarchical levels is a company domiciled in XX, where XX refers to the US, Japan, or India, respectively. Other control variables are defined in Table A1 of the Appendix. The sample period is from 2012 to 2021. Standard errors are clustered at the firm level and reported in parentheses. *** p<0.01, ** p<0.05, * p<0.1

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
|---|---|---|---|---|---|---|---|---|---|
| | US_Owned | US_Owned | US_Owned | JP_Owned | JP_Owned | JP_Owned | IN_Owned | IN_Owned | IN_Owned |
| VARIABLES | Log(1+#GrantedPatents) | | | | | | | | |
| XX_Owned | -0.003 | 0.002 | 0.003 | 0.010 | 0.009 | 0.009 | 0.010 | 0.009 | 0.008 |
| | (0.003) | (0.003) | (0.003) | (0.008) | (0.008) | (0.008) | (0.011) | (0.011) | (0.011) |
| Log(1+Assets) | 0.010*** | 0.009*** | 0.009*** | 0.009*** | 0.009*** | 0.009*** | 0.011*** | 0.010*** | 0.010*** |
| | (0.000) | (0.000) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) |
| Log(1+Tangible) | 0.001*** | 0.001*** | 0.001*** | 0.001*** | 0.001*** | 0.001*** | 0.001*** | 0.001*** | 0.001*** |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| Log(1+FirmAge) | 0.031*** | 0.016*** | 0.012*** | 0.013*** | 0.012*** | 0.010*** | 0.025*** | 0.015*** | 0.012*** |
| | (0.002) | (0.002) | (0.002) | (0.002) | (0.002) | (0.002) | (0.002) | (0.002) | (0.002) |
| Log(1+Debts) | 0.000*** | 0.000*** | 0.000** | 0.000** | 0.000** | 0.000** | 0.000** | 0.000** | 0.000** |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| HHI | -0.000 | -0.001 | -0.001 | -0.001 | -0.001 | -0.001 | -0.001 | -0.001 | -0.001 |
| | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) |
| HHI*HHI | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| Constant | -0.109*** | -0.050*** | -0.042*** | -0.061*** | -0.052*** | -0.055*** | -0.096*** | -0.050*** | -0.046*** |
| | (0.010) | (0.010) | (0.011) | (0.010) | (0.010) | (0.010) | (0.011) | (0.011) | (0.011) |
| Firm FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | No | No | Yes | No | No | Yes | No | No |
| Country*Year FE | No | Yes | Yes | No | Yes | Yes | No | Yes | Yes |
| Industry*Year FE | No | No | Yes | No | No | Yes | No | No | Yes |
| Observations | 1,097,542 | 1,097,361 | 1,085,041 | 1,002,794 | 1,002,622 | 993,299 | 1,019,239 | 1,019,067 | 1,008,513 |
| R-squared | 0.838 | 0.840 | 0.841 | 0.818 | 0.820 | 0.821 | 0.844 | 0.845 | 0.847 |

## Table 16. Is China Unique: Investment

This table examines the US, Japan, and India's ownership on target firms' investment. The dependant variable is the logarithm of firm-level fixed assets. XX_Owned equals one for firm i in year t if any of its direct shareholders or ultimate shareholders that maintain at least 25% ownership in each and all hierarchical levels is a company domiciled in XX, where XX refers to the US, Japan, or India, respectively. Other control variables are defined in Table A1 of the Appendix. The sample period is from 2012 to 2021. Standard errors are clustered at the firm level and reported in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
|---|---|---|---|---|---|---|---|---|---|
| | US_Owned | US_Owned | US_Owned | JP_Owned | JP_Owned | JP_Owned | IN_Owned | IN_Owned | IN_Owned |
| | Log(1+Fixed) | Log(1+Fixed) | Log(1+Fixed) | Log(1+Fixed) | Log(1+Fixed) | Log(1+Fixed) | Log(1+Fixed) | Log(1+Fixed) | Log(1+Fixed) |
| XX_Owned | 0.059*** | 0.065*** | 0.060*** | 0.042** | 0.035* | 0.027 | 0.084* | 0.087* | 0.078* |
| | (0.008) | (0.008) | (0.008) | (0.018) | (0.018) | (0.018) | (0.046) | (0.046) | (0.046) |
| Log(1+FirmAge) | 0.528*** | 0.542*** | 0.544*** | 0.520*** | 0.535*** | 0.533*** | 0.490*** | 0.502*** | 0.497*** |
| | (0.010) | (0.011) | (0.011) | (0.010) | (0.010) | (0.011) | (0.009) | (0.010) | (0.010) |
| Log(1+Debts) | 0.059*** | 0.059*** | 0.058*** | 0.061*** | 0.060*** | 0.059*** | 0.058*** | 0.057*** | 0.057*** |
| | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) |
| HHI | 0.002 | 0.001 | 0.000 | 0.002 | 0.000 | 0.000 | 0.002 | 0.000 | 0.000 |
| | (0.002) | (0.002) | (0.002) | (0.002) | (0.002) | (0.002) | (0.002) | (0.002) | (0.002) |
| HHI*HHI | -0.000 | -0.000 | -0.000 | -0.000 | -0.000 | -0.000 | -0.000 | -0.000 | -0.000 |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| Constant | 14.847*** | 14.813*** | 14.813*** | 14.811*** | 14.777*** | 14.791*** | 15.044*** | 15.017*** | 15.040*** |
| | (0.033) | (0.035) | (0.036) | (0.031) | (0.032) | (0.033) | (0.030) | (0.031) | (0.032) |
| Firm FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | No | No | Yes | No | No | Yes | No | No |
| Country*Year FE | No | Yes | Yes | No | Yes | Yes | No | Yes | Yes |
| Industry*Year FE | No | No | Yes | No | No | Yes | No | No | Yes |
| Observations | 1,120,686 | 1,120,507 | 1,107,232 | 1,025,322 | 1,025,152 | 1,015,103 | 1,041,738 | 1,041,568 | 1,030,283 |
| R-squared | 0.924 | 0.925 | 0.927 | 0.926 | 0.927 | 0.928 | 0.927 | 0.928 | 0.930 |

## Table 17. Is China Unique: Profitability

This table examines the US, Japan, and India's ownership on target firms' profitability. The dependant variable is ROA measured using income and P/L before tax. XX_Owned equals one for firm i in year t if any of its direct shareholders or ultimate shareholders that maintain at least 25% ownership in each and all hierarchical levels is a company domiciled in XX, where XX refers to the US, Japan, or India, respectively. Other control variables are defined in Table A1 of the Appendix. The sample period is from 2012 to 2021. Standard errors are clustered at the firm level and reported in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

| | (1) US_Owned ROA | (2) US_Owned ROA | (3) US_Owned ROA | (4) JP_Owned ROA | (5) JP_Owned ROA | (6) JP_Owned ROA | (7) IN_Owned ROA | (8) IN_Owned ROA | (9) IN_Owned ROA |
|---|---|---|---|---|---|---|---|---|---|
| XX_Owned | -0.109 | -0.165* | -0.131 | -0.092 | 0.039 | 0.040 | -0.250 | -0.076 | -0.055 |
| | (0.088) | (0.088) | (0.088) | (0.205) | (0.205) | (0.206) | (0.499) | (0.486) | (0.488) |
| Log(1+Assets) | 1.987*** | 1.986*** | 2.005*** | 2.311*** | 2.315*** | 2.340*** | 2.302*** | 2.303*** | 2.325*** |
| | (0.041) | (0.041) | (0.042) | (0.044) | (0.045) | (0.045) | (0.044) | (0.045) | (0.046) |
| Log(1+Tangible) | -0.092*** | -0.097*** | -0.099*** | -0.128*** | -0.136*** | -0.138*** | -0.110*** | -0.118*** | -0.121*** |
| | (0.009) | (0.010) | (0.010) | (0.010) | (0.010) | (0.010) | (0.010) | (0.010) | (0.010) |
| Log(1+FirmAge) | 0.067 | 0.406*** | 0.385*** | -0.379*** | -0.075 | -0.130 | -0.424*** | -0.130 | -0.188* |
| | (0.100) | (0.104) | (0.108) | (0.097) | (0.098) | (0.102) | (0.095) | (0.097) | (0.101) |
| Log(1+Debts) | -0.244*** | -0.239*** | -0.238*** | -0.261*** | -0.256*** | -0.255*** | -0.257*** | -0.252*** | -0.251*** |
| | (0.007) | (0.007) | (0.007) | (0.007) | (0.007) | (0.008) | (0.007) | (0.007) | (0.008) |
| HHI | -0.011 | 0.020 | 0.004 | -0.009 | 0.028 | 0.012 | -0.009 | 0.028 | 0.013 |
| | (0.028) | (0.028) | (0.028) | (0.028) | (0.028) | (0.029) | (0.028) | (0.028) | (0.029) |
| HHI*HHI | 0.000 | -0.000 | -0.000 | 0.000 | -0.000 | -0.000 | 0.000 | -0.000 | -0.000 |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| Constant | -29.075*** | -30.049*** | -30.337*** | -33.461*** | -34.389*** | -34.664*** | -33.574*** | -34.442*** | -34.657*** |
| | (0.718) | (0.733) | (0.746) | (0.759) | (0.772) | (0.785) | (0.770) | (0.786) | (0.800) |
| Firm FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | No | No | Yes | No | No | Yes | No | No |
| Country*Year FE | No | Yes | Yes | No | Yes | Yes | No | Yes | Yes |
| Industry*Year FE | No | No | Yes | No | No | Yes | No | No | Yes |
| Observations | 1,043,129 | 1,042,951 | 1,031,236 | 948,745 | 948,576 | 939,741 | 965,804 | 965,635 | 955,569 |
| R-squared | 0.558 | 0.562 | 0.569 | 0.579 | 0.583 | 0.590 | 0.580 | 0.584 | 0.592 |

## Table 18. Is China Unique: Employment

This table examines the US, Japan, and India's ownership on target firms' TFP. The dependant variable is Log(TFP), calculated as log(1+VA)-(1-sL)×log(1+Fixed)-sL×log(1+Empl). Log(1+VA), log(1+Fixed), and log(1+Empl) are the natural logarithms of value added, fixed assets, and employment, respectively. sL is the average share of the costs of employees over value added for all firms in the same country and 4-digit NACE Rev 2 sector in the same year. Value added is calculated as the summation of factor incomes going to employees (costs of employees) and to capital owners (EBITDA). XX_Owned equals one for firm i in year t if any of its direct shareholders or ultimate shareholders that maintain at least 25% ownership in each and all hierarchical levels is a company domiciled in XX, where XX refers to the US, Japan, or India, respectively. Other control variables are defined in Table A1 of the Appendix. The sample period is from 2012 to 2021. Standard errors are clustered at the firm level and reported in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
|---|---|---|---|---|---|---|---|---|---|
| | US_Owned | US_Owned | US_Owned | JP_Owned | JP_Owned | JP_Owned | IN_Owned | IN_Owned | IN_Owned |
| | Log(1+Employment) | | | | | | | | |
| XX_Owned | 0.015** | 0.019*** | 0.017** | 0.127*** | 0.093*** | 0.088*** | 0.028 | 0.029 | 0.019 |
| | (0.007) | (0.007) | (0.007) | (0.025) | (0.022) | (0.022) | (0.032) | (0.031) | (0.031) |
| Log(1+Assets) | 0.256*** | 0.250*** | 0.249*** | 0.262*** | 0.256*** | 0.255*** | 0.264*** | 0.258*** | 0.257*** |
| | (0.005) | (0.005) | (0.005) | (0.005) | (0.005) | (0.005) | (0.005) | (0.005) | (0.005) |
| Log(1+Tangible) | 0.060*** | 0.060*** | 0.060*** | 0.060*** | 0.060*** | 0.059*** | 0.060*** | 0.059*** | 0.059*** |
| | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) |
| Log(1+FirmAge) | 0.329*** | 0.351*** | 0.362*** | 0.286*** | 0.311*** | 0.320*** | 0.282*** | 0.306*** | 0.314*** |
| | (0.011) | (0.011) | (0.012) | (0.010) | (0.010) | (0.011) | (0.010) | (0.010) | (0.010) |
| Log(1+Debts) | 0.015*** | 0.015*** | 0.015*** | 0.015*** | 0.015*** | 0.015*** | 0.015*** | 0.015*** | 0.015*** |
| | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) |
| HHI | 0.022** | 0.019* | 0.014* | 0.020** | 0.018* | 0.012 | 0.021** | 0.018* | 0.014* |
| | (0.010) | (0.010) | (0.008) | (0.010) | (0.010) | (0.007) | (0.010) | (0.010) | (0.008) |
| HHI*HHI | -0.000** | -0.000** | -0.000* | -0.000** | -0.000* | -0.000 | -0.000** | -0.000* | -0.000* |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| Constant | -1.784*** | -1.733*** | -1.732*** | -1.716*** | -1.668*** | -1.649*** | -1.728*** | -1.696*** | -1.681*** |
| | (0.087) | (0.087) | (0.087) | (0.088) | (0.088) | (0.088) | (0.086) | (0.086) | (0.087) |
| Firm FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | No | No | Yes | No | No | Yes | No | No |
| Country*Year FE | No | Yes | Yes | No | Yes | Yes | No | Yes | Yes |
| Industry*Year FE | No | No | Yes | No | No | Yes | No | No | Yes |
| Observations | 712,069 | 711,885 | 705,528 | 629,705 | 629,528 | 625,230 | 702,117 | 701,940 | 695,997 |
| R-squared | 0.949 | 0.951 | 0.952 | 0.951 | 0.954 | 0.955 | 0.952 | 0.954 | 0.955 |

## Table 19. Is China Unique: Suppliers

This table examines the US, Japan, and India's ownership on target firms' dependence on the US, Japan, and India's supply chains. The dependant variable is a dummy variable indicating whether the non-US (non-Japanese or non-Indian) firm is a supplier of a US (Japanese or Indian) company in the year according to FactSet Revere. XX_Owned equals one for firm i in year t if any of its direct shareholders or ultimate shareholders that maintain at least 25% ownership in each and all hierarchical levels is a company domiciled in XX, where XX refers to the US, Japan, or India, respectively. Other control variables are defined in Table A1 of the Appendix. The sample period is from 2012 to 2021. Standard errors are clustered at the firm level and reported in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

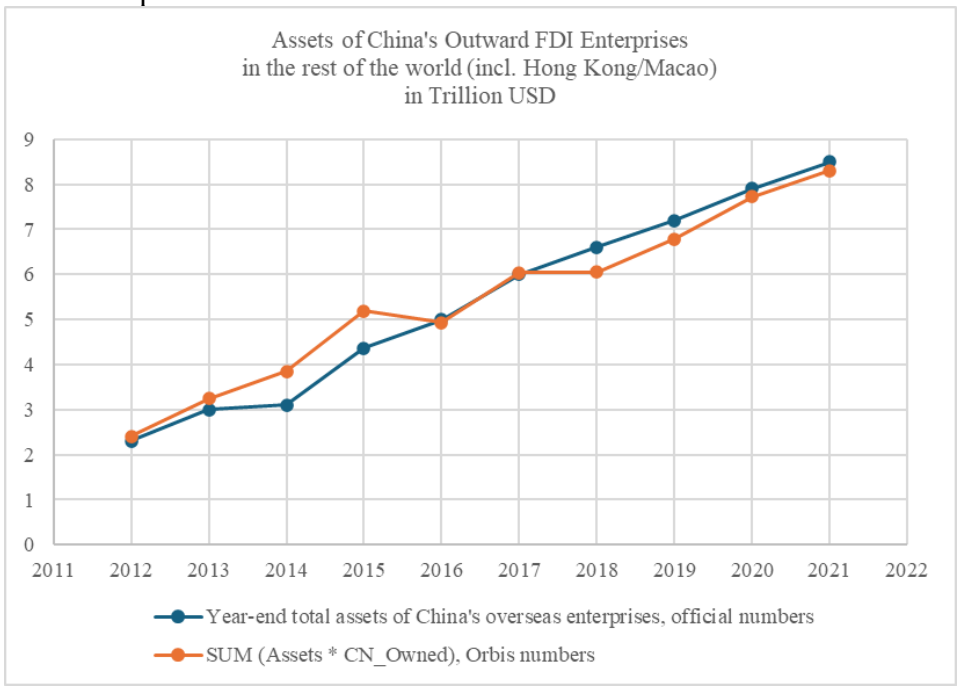
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
|---|---|---|---|---|---|---|---|---|---|
| | US_Owned | US_Owned | US_Owned | JP_Owned | JP_Owned | JP_Owned | IN_Owned | IN_Owned | IN_Owned |
| | USSupplier | USSupplier | USSupplier | JPSupplier | JPSupplier | JPSupplier | INSupplier | INSupplier | INSupplier |
| XX_Owned | 0.012*** | 0.010*** | 0.009*** | 0.005 | 0.006 | 0.008 | 0.023 | 0.026 | 0.022 |
| | (0.004) | (0.004) | (0.004) | (0.009) | (0.009) | (0.009) | (0.023) | (0.022) | (0.019) |
| Log(1+Assets) | 0.010*** | 0.010*** | 0.009*** | 0.011*** | 0.009*** | 0.006*** | 0.003** | 0.001 | 0.000 |
| | (0.003) | (0.003) | (0.003) | (0.002) | (0.002) | (0.002) | (0.001) | (0.001) | (0.001) |
| Log(1+Tangible) | 0.001 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | -0.000 | -0.000 |
| | (0.001) | (0.001) | (0.001) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| Log(1+FirmAge) | 0.023* | 0.033** | 0.041*** | 0.000 | -0.009 | -0.010 | -0.007 | -0.017*** | -0.014** |
| | (0.012) | (0.014) | (0.014) | (0.007) | (0.007) | (0.007) | (0.006) | (0.006) | (0.006) |
| Log(1+Debts) | 0.000 | 0.000 | -0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| HHI | 0.001 | 0.001 | 0.001 | 0.001 | -0.002 | -0.001 | -0.001 | -0.000 | -0.004 |
| | (0.008) | (0.008) | (0.009) | (0.004) | (0.004) | (0.005) | (0.004) | (0.004) | (0.005) |
| HHI*HHI | -0.000 | -0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | (0.001) | (0.001) | (0.001) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| Constant | -0.194*** | -0.216*** | -0.216*** | -0.195*** | -0.114*** | -0.069* | -0.020 | 0.047 | 0.055* |
| | (0.061) | (0.065) | (0.068) | (0.036) | (0.037) | (0.036) | (0.028) | (0.030) | (0.030) |
| Firm FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | No | No | Yes | No | No | Yes | No | No |
| Country*Year FE | No | Yes | Yes | No | Yes | Yes | No | Yes | Yes |
| Industry*Year FE | No | No | Yes | No | No | Yes | No | No | Yes |
| Observations | 109,691 | 109,542 | 109,006 | 109,410 | 109,261 | 108,662 | 124,441 | 124,292 | 123,781 |
| R-squared | 0.730 | 0.733 | 0.746 | 0.660 | 0.665 | 0.682 | 0.557 | 0.562 | 0.586 |

## Table 20. Is China Unique: Customers

This table examines the US, Japan, and India's ownership on target firms' dependence on the US, Japan, and India's supply chains. The dependant variable is a dummy variable indicating whether the non-US (non-Japanese or non-Indian) firm is a customer of a US (Japanese or Indian) company in the year according to FactSet Revere. XX_Owned equals one for firm i in year t if any of its direct shareholders or ultimate shareholders that maintain at least 25% ownership in each and all hierarchical levels is a company domiciled in XX, where XX refers to the US, Japan, or India, respectively. Other control variables are defined in Table A1 of the Appendix. The sample period is from 2012 to 2021. Standard errors are clustered at the firm level and reported in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
|---|---|---|---|---|---|---|---|---|---|
| | US_Owned | US_Owned | US_Owned | JP_Owned | JP_Owned | JP_Owned | IN_Owned | IN_Owned | IN_Owned |
| | USCustomer | USCustomer | USCustomer | JPCustomer | JPCustomer | JPCustomer | INCustomer | INCustomer | INCustomer |
| XX_Owned | 0.017*** | 0.015*** | 0.015*** | 0.000 | 0.002 | 0.003 | 0.054 | 0.044 | 0.040 |
| | (0.004) | (0.004) | (0.004) | (0.010) | (0.010) | (0.010) | (0.035) | (0.030) | (0.030) |
| Log(1+Assets) | 0.015*** | 0.017*** | 0.015*** | 0.003* | 0.001 | 0.001 | -0.004*** | -0.005*** | -0.004** |
| | (0.003) | (0.003) | (0.003) | (0.001) | (0.001) | (0.001) | (0.001) | (0.002) | (0.002) |
| Log(1+Tangible) | 0.001 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | (0.001) | (0.001) | (0.001) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| Log(1+FirmAge) | 0.039*** | 0.038** | 0.040** | -0.006 | -0.012 | -0.010 | -0.019** | -0.032*** | -0.021** |
| | (0.014) | (0.016) | (0.017) | (0.007) | (0.008) | (0.008) | (0.008) | (0.009) | (0.009) |
| Log(1+Debts) | 0.000 | 0.000 | -0.000 | 0.001 | 0.001* | 0.001 | 0.001* | 0.001 | 0.000 |
| | (0.001) | (0.001) | (0.001) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| HHI | 0.012 | 0.018* | 0.022** | 0.002 | 0.000 | -0.004 | -0.007 | -0.004 | -0.010 |
| | (0.010) | (0.010) | (0.010) | (0.005) | (0.005) | (0.006) | (0.006) | (0.006) | (0.007) |
| HHI*HHI | -0.001 | -0.001* | -0.002** | -0.000 | -0.000 | 0.000 | 0.001 | 0.000 | 0.001 |
| | (0.001) | (0.001) | (0.001) | (0.000) | (0.000) | (0.000) | (0.000) | (0.001) | (0.001) |
| Constant | -0.279*** | -0.314*** | -0.284*** | -0.003 | 0.049 | 0.048 | 0.167*** | 0.246*** | 0.184*** |
| | (0.072) | (0.076) | (0.079) | (0.031) | (0.035) | (0.036) | (0.034) | (0.038) | (0.039) |
| Firm FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | No | No | Yes | No | No | Yes | No | No |
| Country*Year FE | No | Yes | Yes | No | Yes | Yes | No | Yes | Yes |
| Industry*Year FE | No | No | Yes | No | No | Yes | No | No | Yes |
| Observations | 109,691 | 109,542 | 109,006 | 109,410 | 109,261 | 108,662 | 124,441 | 124,292 | 123,781 |
| R-squared | 0.712 | 0.716 | 0.728 | 0.610 | 0.614 | 0.635 | 0.602 | 0.611 | 0.637 |

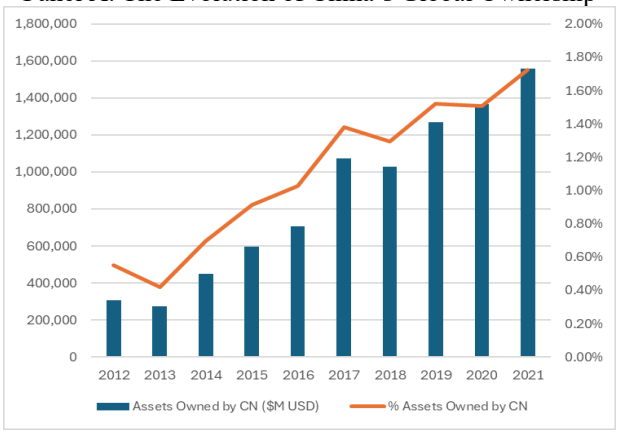
Figure 1. Smell Test: Comparing Orbis's Samples and Official Numbers



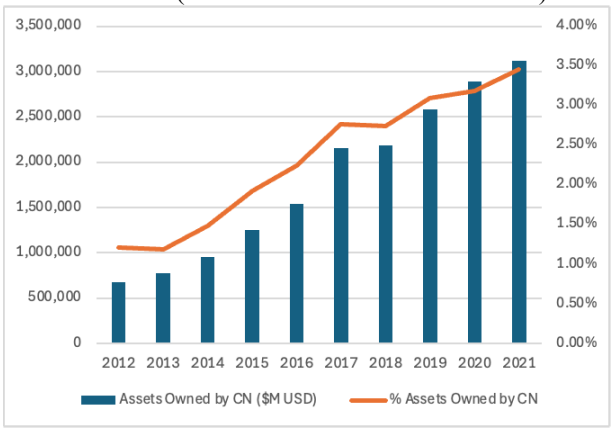

Notes: This figure plots the evolution of China's global ownership in Orbis and in the official data. The Orbis sample consists of all non-China firms with non-missing financial and ownership information between 2012 and 2021. In order to compare with the official data, unlike our final sample, firms incorporated or domiciling in China are excluded while firms domiciling in Hong Kong or Macau and golden share firms are retained. Meanwhile, the consolidated assets are used when a firm reports both consolidated and unconsolidated assets in the same financial year. Assets of firms with CN_Owned = 1 are aggregated at the global level. The official numbers of the total assets of China's overseas FDI enterprises are manually collected from the website of China's Ministry of Commerce. [10]

[10] FDI enterprises: "foreign enterprises that are directly owned or have 10% voting rights or equivalents controlled by (China's) domestic investors." http://fec.mofcom.gov.cn/article/tjsj/tjgb/ (mainly in Chinese).

Panel A. The Evolution of China's Global Ownership




Panel B. The Evolution of CN (incl. HK/MO/Golden share firms)'s Global Ownership




Panel C. The Evolution of US's Global Ownership

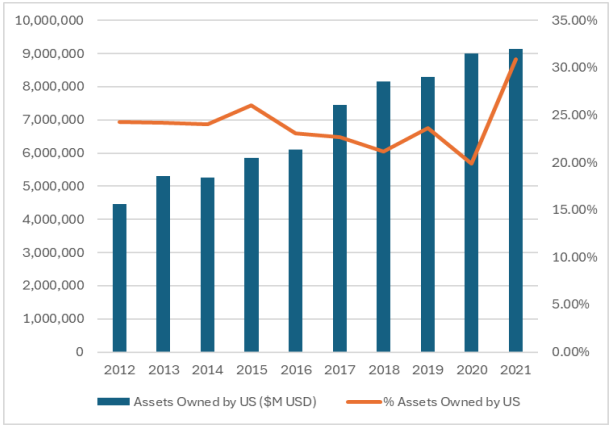



Figure 2. The Evolution of China's Global Ownership

Notes: This figure plots the evolution of China's (the US's) global ownership. The sample consists of all non-China (non-US) "Very Large" firms with non-missing financial and ownership information from Orbis between 2012 and 2021. Consistent with our final sample, firms incorporated or domiciling in China, firms domiciling in Hong Kong or Macau, and golden share firms (firms domiciling in the US) are excluded from the sample when calculating the global ownership of China (the US). Meanwhile, the unconsolidated assets are used when a firm reports both consolidated and unconsolidated assets in the same financial year. Total assets are winsorized at the 1st and 99th percentiles and log-transformed. Assets of firms with CN_Owned = 1 (US_Owned = 1) are aggregated at the global level. In Panel A, we define CN_Owned = 1 if at least one of the firm's direct shareholders or ultimate owners is registered or domicling in China. In Panel B, we define CN_Owned = 1 if at least one of the firm's direct shareholders or ultimate owners is registered or domicling in China, domiciling in Hong Kong or Macau, or a Golden Share company. In Panel C, we define US_Owned = 1 if at least one of the firm's direct shareholder or ultimate owners is domiciling in the US.The absolute values of global ownership are represented by the left Y axis. Global-level assets owned by Chinese shareholders (assets owned by US shareholders) are scaled by the aggregation of total assets of all firms to get the share of assets owned by Chinese shareholders (share of assets owned by US shareholders). The percentages of global ownership are represented by the right Y axis.


Figure 3. The Evolution of China's Global Ownership in Selected Industries

Notes: This figure plots the evolution of China's global ownership in six selected industries. The sample consists of all non-China "Very Large" firms with non-missing financial and ownership information from Orbis between 2012 and 2021 in the following six industries: "mining and quarrying (ISIC Rev 4/ NACE Rev 2 05 to 09)," "financial and insurance activities (ISIC Rev 4/ NACE Rev 2 64 to 66)," "wholesale and retail trade, repair of motor vehicles and motorcycles (ISIC Rev 4/ NACE Rev 2 45 to 47)," "IT and

other information services (ISIC Rev 4/ NACE Rev 2 62+63)," "construction (ISIC Rev 4/ NACE Rev 2 41 to 43)," and "real estate activities (ISIC Rev 4/ NACE Rev 2 68)." Consistent with our final sample, firms incorporated or domiciling in China, firms domiciling in Hong Kong or Macau, and golden share firms are excluded from the sample. Meanwhile, the unconsolidated assets are used when a firm reports both consolidated and unconsolidated assets in the same financial year. Total assets are winsorized at the 1st and 99th percentiles and log-transformed. Assets of firms with CN_Owned = 1 are aggregated within the respective industry. The absolute values of industry-level assets owned by Chinese shareholders are represented by the left Y axis. Industry-level assets owned by Chinese shareholders are scaled by the aggregation of total assets of all firms in that industry to get the share of assets owned by Chinese shareholders. The percentages of assets owned by Chinese shareholders to aggregated total assets are represented by the right Y axis.

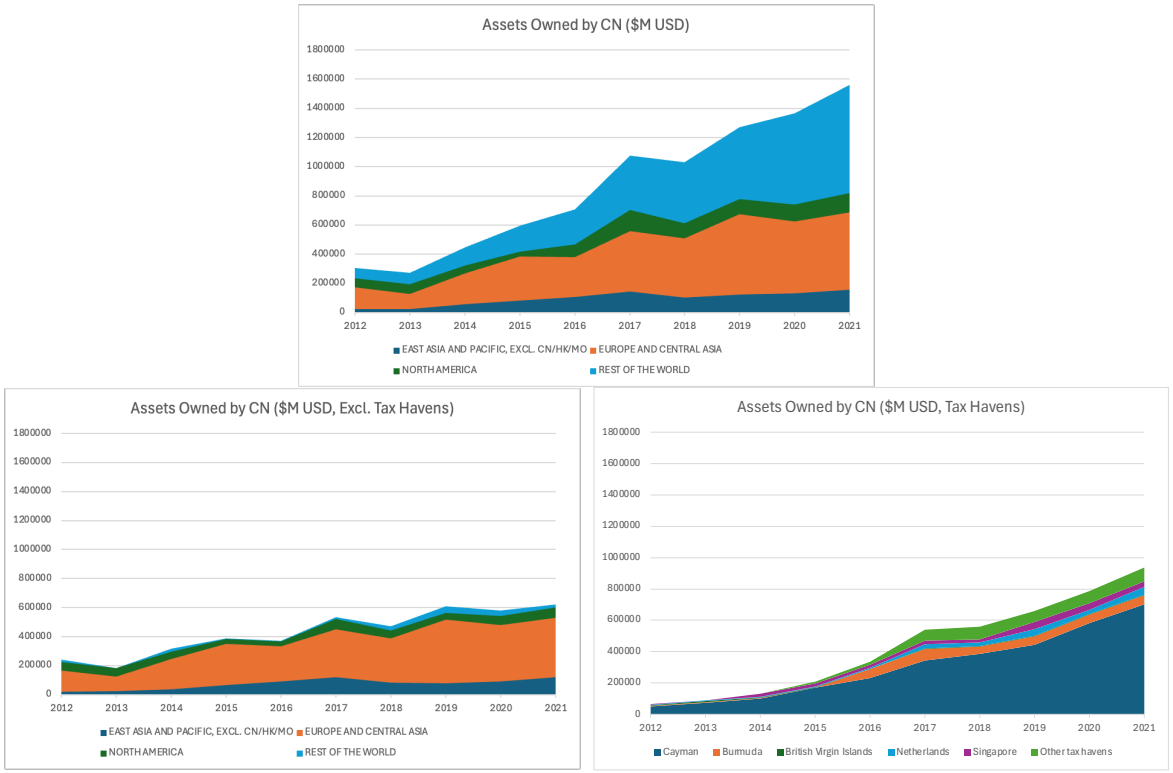



Figure 4. The Evolution of China's Global Ownership by Region

Notes: This figure plots the evolution of China's global ownership by region of the world. The sample consists of all non-China "Very Large" firms with non-missing financial and ownership information from Orbis between 2012 and 2021. Consistent with our final sample, firms incorporated or domiciling in China, firms domiciling in Hong Kong or Macau, and golden share firms are excluded from the sample. Meanwhile, the unconsolidated assets are used when a firm reports both consolidated and unconsolidated assets in the same financial year. Total assets are winsorized at the 1st and 99th percentiles. Assets of firms with CN_Owned = 1 are aggregated at the regional level. The world is classified into four regions: Asia (excluding China), Europe, Northern America, and the rest of the world. The classification of countries by region is in the appendix. The patterns of Northern America should be dealt with cautiously, as Orbis only provides non-missing information on listed firms in countries like the US and Canada.

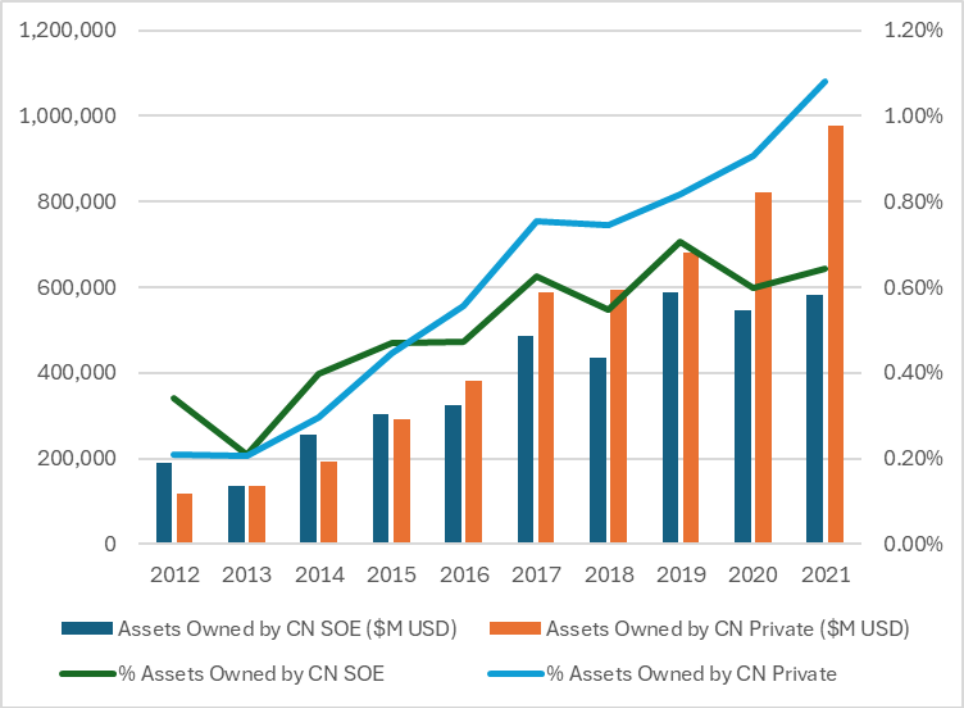



Figure 5. The Evolution of China's Global Ownership, SOE and Private Firms

Notes: This figure plots the evolution of China's global ownership by Chinese SOE ownership and Chinese private firms' ownership. The sample consists of all non-China "Very Large" firms with non-missing financial and ownership information from Orbis between 2012 and 2021. Consistent with our final sample, firms incorporated or domiciling in China, firms domiciling in Hong Kong or Macau, and golden share firms are excluded from the sample. Meanwhile, the unconsolidated assets are used when a firm reports both consolidated and unconsolidated assets in the same financial year. Total assets are winsorized at the 1st and 99th percentiles and log-transformed. Assets of firms with CN_SOEOwned = 1 (CN_PvtOwned = 1) are aggregated at the global level. The absolute values of global ownership are represented by the left Y axis. Global-level assets owned by Chinese SOEs and Chinese private firms are scaled by the aggregation of total assets of all firms to get the share of assets owned by Chinese SOEs and Chinese private firms, respectively. The percentages of global ownership are represented by the right Y axis.

Appendix Table. Variable Definitions

Firm-level variables

| | | |
|---|---|---|
| CN_Owned | CN_Owned = 1 if one of the firm's direct shareholders or ultimate shareholders (i.e., UO25 or UO50) is a Chinese company. China companies refer to firms incorporated or domiciling in China. | Orbis Ownership |
| CN_PvtOwned | CN_PvtOwned = CN_Owned - CN_SOEOwned. | Orbis Ownership |
| CN_SOEOwned | CNSOEOwend = 1 if one of the firm's direct shareholders or ultimate shareholders (i.e., UO25 or UO50) is a Chinese SOE or a Chinese government agency. Chinese government agencies refer to entities incorporated or domiciling in China and labeled as "Public authority, state, government" by Orbis. Chinese SOEs refer to firms incorporated or domiciling in China that have one of their ultimate owners (i.e., UO25 or UO50) to be a Chinese government agency. | Orbis Ownership |
| US_Owned | US_Owned = 1 if one of the firm's direct shareholders or ultimate shareholders (i.e., UO25 or UO50) is a US company. US companies refer to firms domiciling in the US. | Orbis Ownership |
| JP_Owned | JP_Owned = 1 if one of the firm's direct shareholders or ultimate shareholders (i.e., UO25 or UO50) is a Japan company. Japan companies refer to firms domiciling in Japan. | Orbis Ownership |
| IN_Owned | IN_Owned = 1 if one of the firm's direct shareholders or ultimate shareholders (i.e., UO25 or UO50) is an Indian company. Indian companies refer to firms domiciling in India. | Orbis Ownership |
| Log(1+RD), =0 if Missing | R&D expenses are winsorized at the 1st and 99th percentiles and log-transformed. Log(1+R&D) are treated as zero if missing. | Orbis Financials |
| Log(1+#GrantedPatents) | #GrantedPatents measure the number of patents applied by the focal firm that are eventually granted, which are winsorized at the 1st and 99th percentiles and log-transformed. To avoid double counting, following Liu and Ma (2021), duplicate applications in multiple jurisdictions are treated as one application, while patents applied by multiple firms are attributed to these firms assuming fractional and equal weight per firm. | Orbis Patent |
| Log(1+Assets) | Total assets are winsorized at the 1st and 99th percentiles and log-transformed. | Orbis Financials |
| Log(1+Fixed) | Fixed assets are winsorized at the 10th and 90th percentiles and log-transformed. | Orbis Financials |
| Log(1+Tangible) | Tangible fixed assets are winsorized at the 1st and 99th percentiles and log-transformed. | Orbis Financials |
| Log(1+Debts) | Total debts are winsorized at the 1st and 99th percentiles and log-transformed. Total debts are calculated as the summation of long-term debt, loans, and creditors. | Orbis Financials |

| | | |
|---|---|---|
| ROA USING NET INCOME (%) | ROA measured using income and P/L before tax are winsorized at the 1st and 99th percentiles. | Orbis Financials |
| Log(TFP) | Log(TFP) is calculated as log(1+VA)-(1-sL)×log(1+Fixed)-sL×log(1+Empl), and winsorized at the 1st and 99th percentiles. Log(1+VA), log(1+Fixed), and log(1+Empl) are the natural logarithms of value added, fixed assets, and employment, respectively. sL is the average share of the costs of employees over value added for all firms in the same country and 4-digit NACE Rev 2 sector in the same year. Value added is calculated as the summation of factor incomes going to employees (costs of employees) and to capital owners (EBITDA). | Orbis Financials |
| Log(1+Empl) | Employment is winsorized at the 1st and 99th percentiles and log-transformed. | Orbis Financials |
| CNCustomer | A binary variable that equals one if the firm is recorded in FactSet Revere as an entity to which a source company in China sells products or services in year t. Firms with missing supply chain information from FactSet Revere are dropped. | FactSet Revere |
| CNSupplier | A binary variable that equals one if the firm is recorded in FactSet Revere as an entity from which a source company in China purchases goods or services, an entity that provides paid manufacturing services to a source company in China, an entity that provides paid marketing and/or branding/advertising services to a source company in China, or an entity whom a source company in China pays to distribute its products/services in year t. Firms with missing supply chain information from FactSet Revere are dropped. | FactSet Revere |
| Log(1+FirmAge) | FirmAge is calculated as the difference between the current year and the year of incorporation before it is winsorized at the 1st and 99th percentiles and log-transformed. | Orbis Financials |

Country-sector-level variables

| | | |
|---|---|---|
| ΣCN_Owned_Assets/ΣAssets | CN_Owned_Assets = %CN_Owned × Assets, where Assets are winsorized at the 1st and 99th percentiles. %CN_Owned refer to the cash flow rights owned by a firm's direct shareholders or ultimate shareholders (i.e., UO25 or UO50) that are Chinese companies. China companies refer to firms incorporated or domiciling in China. CN_Owned_Assets is then aggregated to the country-industry-year level and scaled by total assets within the same country same industry in the same year. Country refers to domicile country, while sector refers to 2-digit NACIS Rev 2. | Orbis Ownership, Orbis Financials |

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|---|---|---|
| ΣCN_PvtOwned_Assets/ΣAssets | CN_PvtOwned_Assets = %CN_PvtOwned × Assets, where Assets are winsorized at the 1st and 99th percentiles. %CN_PvtOwned = %CN_Owned - %CN_SOEOwned. CN_PvtOwned_Assets are then aggregated to the country-industry-year level and scaled by total assets within the same country same industry in the same year. Country refers to domicile country, while sector refers to 2-digit NACIS Rev 2. | Orbis Ownership, Orbis Financials |
| ΣCN_SOEOwned_Assets/ΣAssets | CN_SOEOwned_Assets = %CN_SOEOwned × Assets, where Assets are winsorized at the 1st and 99th percentiles. %CN_SOEOwned refer to the cash flow rights owned by a firm's direct shareholders or ultimate shareholders (i.e., UO25 or UO50) that are Chinese SOE or a Chinese government agency. Chinese government agencies refer to entities incorporated or domiciling in China and labeled as "Public authority, state, government" by Orbis. Chinese SOEs refer to firms incorporated or domiciling in China that have one of their ultimate owners (i.e., UO25 or UO50) to be a Chinese government agency. CN_SOEOwned_Assets are then aggregated to the country-industry-year level and scaled by total assets within the same country same industry in the same year. Country refers to domicile country, while sector refers to 2-digit NACIS Rev 2. | Orbis Ownership, Orbis Financials |
| Log(1+ΣCN_Owned_Assets) | CN_Owned_Assets = %CN_Owned × Assets, where Assets are winsorized at the 1st and 99th percentiles. %CN_Owned refer to the cash flow rights owned by a firm's direct shareholders or ultimate shareholders (i.e., UO25 or UO50) that are Chinese companies. Chinese companies refer to firms incorporated or domiciling in China. CN_Owned_Assets are aggregated at the country-sector level and log-transformed. Country refers to domicile country, while sector refers to ISIC Rev 4 Divisions used in OECD input-output tables. | Orbis Ownership, Orbis Financials |
| Log(1+ΣCN_PvtOwned_Assets) | CN_PvtOwned_Assets = %CN_PvtOwned × Assets, where Assets are winsorized at the 1st and 99th percentiles. %CN_PvtOwned = %CN_Owned - %CN_SOEOwned. CN_PvtOwned_Assets are aggregated at the country-sector level and log-transformed. Country refers to domicile country, while sector refers to ISIC Rev 4 Divisions used in OECD input-output tables. | Orbis Ownership, Orbis Financials |

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|---|---|---|
| Log(1+ΣCN_SOEOwned_Assets) | CN_SOEOwned_Assets = %CN_SOEOwned × Assets, where Assets are winsorized at the 1st and 99th percentiles.%CN_SOEOwned refer to the cash flow rights owned by a firm's direct shareholders or ultimate shareholders (i.e., UO25 or UO50) that are Chinese SOE or a Chinese government agency. Chinese government agencies refer to entities incorporated or domiciling in China and labeled as "Public authority, state, government" by Orbis. Chinese SOEs refer to firms incorporated or domiciling in China that have one of their ultimate owners (i.e., UO25 or UO50) to be a Chinese government agency. CN_SOEOwned_Assets are aggregated at the country-sector level and log-transformed. Country refers to domicile country, while sector refers to ISIC Rev 4 Divisions used in OECD input-output tables. | Orbis Ownership, Orbis Financials |
| Log(1+∑Assets) | Total assets winsorized at the 1st and 99th percentiles are aggregated at the country-sector level and log-transformed. Country refers to domicile country, while sector refers to ISIC Rev 4 Divisions used in OECD input-output tables. | Orbis Financials |
| Log(1+∑Tangible) | Tangible fixed assets winsorized at the 1st and 99th percentiles are aggregated at the country-sector level and log-transformed. Country refers to domicile country, while sector refers to ISIC Rev 4 Divisions used in OECD input-output tables. | Orbis Financials |
| Log(1+∑Debt) | Total debts winsorized at the 1st and 99th percentiles are aggregated at the country-sector level and log-transformed. Country refers to domicile country, while sector refers to ISIC Rev 4 Divisions used in OECD input-output tables. Total debts are calculated as the summation of long-term debt, loans, and creditors. | Orbis Financials |
| HHI | Herfindahl index for each country each industry each year based on sales | Orbis Financials |
| HHI Squared | Square term of HHI | Orbis Financials |
| Log(1+∑R&D) | R&D expenses winsorized at the 1st and 99th percentiles are aggregated at the country-sector level and log-transformed. Country refers to domicile country, while sector refers to ISIC Rev 4 Divisions used in OECD input-output tables. | Orbis Financials |
| Blank_R&D | A binary variable that equals one if no firm in the country industry in that year reports non-missing R&D expenses. | Orbis Financials |
| Zero_R&D | A binary variable that equals one if no firm in the country industry in that year reports positive R&D expenses. | Orbis Financials |
| Log(1+∑EMPL) | Employment winsorized at the 1st and 99th percentiles are aggregated at the country-sector level and log-transformed. Country refers to domicile country, while sector refers to ISIC Rev 4 Divisions used in OECD input-output tables. | Orbis Financials |
| II_CN/II | Intermediate outputs to Chinese industries over the summation of intermediate outputs to all countries and industries for each country each industry each year according to the OECD Input-Output Tables | OECD Input-Output Tables |

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|---|---|---|
| IO_CN/IO | Intermediate inputs from Chinese industries over the summation of intermediate inputs from all countries and industries for each country each industry each year according to the OECD Input-Output Tables | OECD Input-Output Tables |
| Nature_Resources_Rent_Country | Total natural resources rents (% of GDP) for each country each year according to the World Bank | World Bank |
| Agriculture, hunting, forestry (indicator) | A binary variable that equals one if the industry's 2-digit ISIC Rev. 4 code (equivalent to 2- digit NACE Rev. 4 code) is 01 or 02. | Orbis Financials |
| Mining&quarrying - energy (indicator) | A binary variable that equals one if the industry's 2-digit ISIC Rev. 4 code (equivalent to 2- digit NACE Rev. 4 code) is 05 or 06. | Orbis Financials |
| Mining&quarrying - non-energy (indicator) | A binary variable that equals one if the industry's 2-digit ISIC Rev. 4 code (equivalent to 2- digit NACE Rev. 4 code) is 07 or 08. | Orbis Financials |
| Mining support service activities (indicator) | A binary variable that equals one if the industry's 2-digit ISIC Rev. 4 code (equivalent to 2- digit NACE Rev. 4 code) is 09. | Orbis Financials |
| Financial and insurance activities (indicator) | A binary variable that equals one if the industry's 2-digit ISIC Rev. 4 code (equivalent to 2- digit NACE Rev. 4 code) is 64, 65, 66. | Orbis Financials |