China's Global Ownership*

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March 2026

Abstract

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

JEL Classification: G30, G32, O3, F3

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Abstract

We study the global footprint and real effects of Chinese overseas corporate ownership. By assembling a comprehensive micro-level dataset of 161,773 firms across 159 countries (2012–2021), we independently reconstruct multi-layered ownership chains to trace capital through offshore tax havens to its ultimate origin. This approach reveals a global footprint substantially broader than official FDI statistics. Chinese-controlled foreign assets expanded at 20% annually, reaching $2.1 trillion or roughly 3% of global corporate assets by 2021. Chinese investors—particularly state-owned enterprises (SOEs)—strategically target R&D-intensive and supply-chain-linked firms. Following acquisition, target firms increase capital stock and R&D expenditures, yet these inputs fail to generate higher patent output and are accompanied by a significant decline in profitability. We document a novel 'innovation spillback' mechanism: while target innovation remains stagnant, Chinese parent firms experience a sharp acceleration in granted patents following their first developed-economy acquisition. Furthermore, a greater Chinese presence crowds out R&D at non-target peer firms, though aggregate industry-level innovation remains unchanged. China thus represents a distinctively state-driven model of global ownership that accepts weaker near-term performance to internalize technological capacity at home.

Introduction

Cross-border capital flows are increasingly defined by shifts in corporate ownership and control rather than traditional portfolio flows or greenfield investment. This transition is consequential because the identity and nature of the ultimate owner dictate the allocation of capital, the direction of innovation, and the configuration of global supply chains. China provides a unique laboratory to study these dynamics, as its global investment stock has surged from $317 billion in 2009 to over $2.7 trillion by 2021. Many of these investments are concentrated in sectors host countries regard as strategic—including advanced manufacturing, information and communication technologies, and natural resources—and a substantial share are executed by state-owned enterprises (SOEs). As a result, China's global footprint of corporate ownership and control has become central to global debates over industrial policy, national security, and the exercise of geoeconomic influence in a globalized economy.

Despite the intensity of this debate, the empirical evidence remains fragmented. Existing research and official statistics predominantly rely on aggregate Foreign Direct Investment (FDI) data, which are conceptually inadequate for identifying the ultimate locus of corporate control. Because FDI statistics are organized by the jurisdiction of the immediate investor, they reflect the last intermediary through which capital passes rather than the country where that investment originates. These standard measures fail to trace multi-layered ownership chains through offshore financial centers and provide limited visibility into whether controlling entities are state-owned or private. Such structural limitations are uniquely consequential in the Chinese context, where a substantial share of outward investment is routed through conduit jurisdictions such as the Cayman Islands and other offshore centers (Coppola et al., 2021; Clayton et al., 2023). Consequently, traditional FDI frameworks not only understate China's global corporate footprint but also obscure the specific governance mechanisms through which Chinese capital influences foreign firms.

This paper makes the conceptual jump from measuring capital flows to mapping the architecture of global ownership and control. By assembling a comprehensive micro-level dataset that looks through offshore conduits to identify ultimate owners , we address three fundamental

questions that existing aggregate data cannot answer: (i) where does Chinese capital actually sit within the global corporate network once multi-layered ownership chains are decompounded; (ii) who ultimately controls the firms receiving Chinese investment, and to what extent do the strategic mandates of state-owned enterprises differ from those of private entities ; and (iii) how does Chinese ownership influence firm-level investment, innovation, and supply-chain configurations, and what are the systemic implications for non-target peer firms operating in the same industry?

To provide systematic answers to these questions, we construct, to our knowledge, the most comprehensive micro-level dataset of China's global corporate ownership to date. By independently reconstructing ownership hierarchies, we trace both direct and ultimate Chinese shareholders through multi-layered chains and offshore financial centers. This granular approach allows us to operationalize the conceptual jump from equity to control, as we distinguish between simple ownership and effective controlling rights, separately classify Chinese state-owned enterprises (SOEs) and private investors, and isolate capital originating from mainland China versus Hong Kong and Macau. We integrate these ownership data with firm-level financial statements, international patent filings, and global supply-chain networks. Our final panel comprises 161,773 firms across 159 countries from 2012 to 2021, accounting for more than 80% of global corporate assets of non-financial firms.

Our analysis reveals several stylized facts that underscore the unprecedented scale and strategic nature of China's global corporate footprint. First, Chinese outward investment is the fastest-growing among major economies, expanding at an average annual rate of 20%. By 2021, Chinese entities controlled approximately $2.1 trillion in foreign assets, representing nearly 3% of global corporate assets. When including Hong Kong and Macau, 'Greater China' ranks as the second-largest source of outbound corporate control globally ($3.3 trillion), surpassed only by the United States. Second, this expansion is highly concentrated in knowledge-intensive and strategic sectors, led by manufacturing ($393 billion) and professional scientific activities ($260 billion). Third, the geographic distribution is heavily skewed toward advanced economies; Europe and North America together account for nearly 80% of Chinese-controlled assets. Notably, our

ownership-tracing approach reveals that 37.7% of these firms involve at least one intermediary in a tax haven, a pattern that standard FDI statistics fail to capture.

Moving beyond descriptive patterns, we document significant real effects of Chinese ownership on target firms, identifying a distinctively state-driven investment model. We find that Chinese investors—particularly SOEs—target R&D-intensive firms and further increase their capital stock by 7.3% and R&D expenditures by 6.6% following acquisition. However, this increase in inputs does not translate into higher patent output for the target firm and is accompanied by a 1.1% decline in return on assets (ROA). This disconnect suggests significant operational inefficiencies or, alternatively, a strategic prioritization of technology access over firm-level profitability. Consistent with this interpretation, we find evidence of innovation 'spillbacks': while target firms do not see patent gains, the Chinese parent firms experience a sharp increase in granted patents following their first developed-economy acquisition. Furthermore, private Chinese investors drive supply-chain integration by increasing the likelihood that targets become suppliers to Chinese entities, whereas SOE acquisitions show no such commercial vertical synergies.

To strengthen the causal interpretation of these findings, we leverage the *Made in China 2025* (MIC2025) initiative as a quasi-natural experiment. Launched in 2015, this state-led policy explicitly encouraged overseas acquisitions in ten strategic high-tech sectors to upgrade domestic industrial capabilities. Using a difference-in-differences design, we find that the introduction of MIC2025 led to a significant increase in Chinese ownership within targeted sectors, driven primarily by SOEs. The post-policy outcomes for these firms: increased R&D spending without commensurate patent gains and declining profitability, mirror our main results and reinforce the interpretation that Chinese ownership leads to meaningful but often inefficient changes in firm behavior.

Finally, we examine the broader systemic influence of Chinese investment and find that it reshapes host-country competitive dynamics. A higher concentration of Chinese SOEs in a country-industry crowds out R&D investment at non-target peer firms. However, aggregate industry-level innovation and profitability remain broadly unchanged, suggesting a redistribution

of innovative effort rather than an industry-wide decline. We also find that private Chinese investors drive vertical integration by increasing the probability that targets become suppliers to Chinese entities, a commercial synergy absent in SOE acquisitions. Compared to the market-based U.S. model and more cautious Indian investment patterns, China represents a unique state-driven paradigm that accepts substantial short-run performance costs to internalize global technological capacity.

These dual findings—innovation spillbacks to parents and crowding out of local peers—suggest that the impact of foreign state ownership is not merely a bilateral issue between an acquirer and a target, but a systemic shift in the global innovation equilibrium. By redistributing innovative effort from host-country market-based firms toward state-led entities that internalize gains at home, Chinese global ownership introduces a novel mechanism through which national industrial policies exert extraterritorial effects. Our work thus provides a foundation for an evidence-based debate on how global corporate networks can be utilized as instruments of geoeconomic strategy.

Our work provides the first systematic, global, firm-level analysis of the network of corporate ownership and control originating from a major emerging economy. We make three primary contributions to the literature:

First, we contribute to the literature on global capital flows and financial intermediation by addressing a systemic measurement gap. We show that conventional FDI statistics are conceptually inadequate because they stop at the immediate jurisdiction of the investor, misattributing a massive share of capital to offshore financial centers. By independently reconstructing multi-layered ownership hierarchies and tracing capital through tax havens to its ultimate origin, we build upon the work of Lane and Milesi-Ferretti (2007), Coppola et al. (2021), and Clayton et al. (2023). We demonstrate that looking through offshore conduits is essential for understanding the true locus of corporate control in the modern global economy.

Second, we advance research on state capitalism and corporate governance. While existing literature has long explored the performance and political objectives of domestic state-owned

enterprises (e.g., Megginson and Netter, 2001; Musacchio and Lazzarini, 2014), we document how state-led capital behaves when it crosses international borders. We show that Chinese SOEs follow a strategic paradigm distinct from the market-driven models of U.S. or European multinationals. By accepting weaker firm-level profitability and higher operational costs in exchange for technology access, these state-led investors challenge traditional theories of the firm that assume purely profit-maximizing objectives.

Third, we contribute to the literature on international technology transfer and the determinants of global mergers and acquisitions. We document a novel "innovation disconnect": while target firms bear the cost of increased R&D expenditures, the innovation benefits—measured by granted patents—do not materialize locally. Instead, we provide the first evidence of systematic innovation "spillbacks" to parent firms. This finding, coupled with the crowding out of R&D at local non-target peers, suggests that foreign state ownership can fundamentally reallocate the geography of innovation within an industry. This adds a strategic dimension to the classic M&A literature, which has traditionally emphasized drivers such as market access, financial market depth, investor protection, and tax optimization.[2]

Our paper proceeds as follows. Section 1 describes the data and identifies Chinese ownership. Section 2 presents stylized facts regarding the scale, sectoral distribution, and geographic concentration of China's global corporate footprint. Section 3 evaluates the real effects of Chinese investment on target firms' innovation, financial performance, and supply-chain integration. Section 4 provides causal evidence for these impacts by leveraging the 'Made in China 2025' initiative as a quasi-natural experiment. Section 5 compares our findings with other countries. Section 6 investigates systemic spillover effects on non-target peer firms, while Section 7 explores the innovation 'spillback' channel to Chinese parent firms. Section 8 concludes.

[2] Prior literature has identified several key drivers for cross-border acquisitions, including access to larger product markets (e.g., Yeaple, 2003; Di Giovanni, 2005) , access to deeper financial markets (e.g., Aguiar and Gopinath, 2005; Baker et al., 2009; Alquist et al., 2014) , access to stronger investor protection rights (e.g., Rossi and Volpin, 2004; Bris and Cabolis, 2008; Chari et al., 2010) , and favorable tax regimes or regulatory arbitrage (e.g., Huizinga and Voget, 2009). We extend this work by showing that state-linked investments are uniquely motivated by strategic objectives such as securing natural resources and facilitating technology transfer.

1. Identifying Chinese Ownership

1.1. Orbis Ownership and Financial Data

Our primary data source is Moody's Orbis (formerly Bureau van Dijk), which provides harmonized ownership and financial data for over 400 million public and private firms in 212 economies. We construct a panel spanning 2012 to 2021, a decade characterized by dramatic growth in China's global corporate footprint. To mitigate sample attrition bias, we utilize a series of annual Orbis downloads to build a robust panel dataset that retains firms that subsequently exit the database, following the established methodology in Kalemli-Ozcan et al. (2024).

The Orbis Ownership data provides the historical ownership information of corporations. For each firm in a given year, it reports the firm's name, identifier (*BVDID*), country of domicile, its direct shareholders, and their equity stakes. It also reports GUO25 and GUO50, which identify the global ultimate owner when *each and all* levels in the ownership hierarchical chain hold at least 25% or 50% of equity, respectively. [3]

To study China's outbound investment, we focus on non-Chinese firms. We exclude all entities whose *BVDID* starts with "CN" or whose *CTRYISO* code equals "CN," as well as firms domiciled in Hong Kong and Macau, which are under Chinese sovereignty but are separate economic jurisdictions. [4]

The Orbis Financials module provides firm-level financial statements. For multinational groups, Orbis often reports both consolidated and unconsolidated accounts. To avoid double-counting, we retain unconsolidated accounts when both are available. We also exclude financial firms, which frequently hold or finance vehicles that do not engage in actual business. Most firms in Orbis report unconsolidated accounts.

For each firm-year, Orbis classifies filings as "local registry filing" or "annual report." When both are available, we keep the local registry filing, which represents the predominant reporting

[3] Orbis uses DUO and GUO as the abbreviations of Domestic Ultimate Owner and Global Ultimate Owner, respectively. Since we focus on international investments in this paper, the concept of GUO is more relevant. We use the terms DUO, GUO, and UO interchangeably to abbreviate the term Ultimate Owner throughout the paper.

[4] 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.

format. We use the U.S. dollar version of these filings rather than local currencies to facilitate cross-country analyses. We restrict the sample to annual accounts, exclude filings covering fewer than 12 months, and, when fiscal year-ends change within a calendar year, keep the account with the latest closing date. For the remaining duplicates, we select the account with the most complete set of key variables, in particular, total assets.

From Orbis Financials, we collect firm-level variables in several categories. Financial position variables include total assets (*TOAS*), fixed assets (*FIAS*), long-term debts (*LTDB*), loans (*LOAN*), and creditors (*CRED*). [5] Performance metrics comprise R&D expenses (*RD*), sales (*TURN*), and return on assets (*ROA*). We also collect operational data, including the number of employees (*EMPL*) and the year of incorporation (*DATEINC_year*). We construct a new variable, *Debts*, as long-term debt plus loans plus creditors. At the industry-country-year level, we compute a Herfindahl index based on sales to measure market concentration. All raw variables are winsorized. For variables not expressed as ratios (R&D, total assets, fixed assets, debts), we then apply a logarithmic transformation after winsorization. Table A1 of the Appendix details variable definitions.

We merge ownership and financial data by *BVDID* and year, obtaining 119 million firm-year observations for 24 million firms in 168 countries. We then construct our main analysis sample in two steps. First, we require non-missing total assets. Second, we restrict to firms Orbis classifies as "*Very Large Company*." Although these account for about 1% of all firms in the Orbis dataset, they hold at least 80% of total assets among firms with non-missing ownership and asset information and thus represent the bulk of global corporate assets.

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 substantially better in the *Very Large Company* sample compared to the full sample. For instance, among all firms with non-missing assets and ownership information,

[5] "Creditors" in Orbis refer to “trade payables to suppliers and contractors."

97.06% of firm-years have missing R&D expenses, versus 82.76% in the *Very Large Company* subsample.

Our final sample contains 1,166,282 firm-year observations for 161,773 firms in 159 countries.

1.2. Methodology: Tracing Ultimate Ownership and Control

We identify Chinese ownership using a combination of direct shareholding data and independently reconstructed global ownership chains. While we first flag direct Chinese shareholders (those with a *BVDID* or *ISO* country code starting with "CN"), this approach fails to capture the significant portion of Chinese capital routed through multi-layered and offshore structures.

To overcome the known incompleteness of standard database flags, such as the Orbis *GUO25* indicator, we implement an algorithmic procedure to trace ownership layer-by-layer across all jurisdictions. Our reconstructed *GUO25* match 94% of Orbis's existing flags but identify 15% additional ultimate owners that the standard database fails to report. Crucially, this methodology allows us to compute precise voting and cash-flow rights at every tier of the hierarchy.

We then broaden our scope to identify *GUO10*, a 10% threshold that is particularly effective at uncovering ownership structures obscured by tax haven intermediaries. The impact of this refinement is substantial. Using Orbis's *GUO25*, we identify 4,049 firms with Chinese ultimate owners, 29.2% of which involve at least one tax haven intermediary. With our reconstructed *GUO25*, the number is highly comparable, with 3,959 firms, 30.0% involving tax havens. Under *GUO10*, the number rises to 6,242 Chinese-owned firms, with about 37.7% using tax haven conduits.

Two cases illustrate the importance of using *GUO10* and tracing through offshore entities. Rio Tinto, a UK mining conglomerate, is not flagged as Chinese-owned under Orbis's *GUO25*, but our *GUO10* links its 14% Singaporean shareholder, Shining Prospect PTE LTD, to the Aluminium Corporation of China, a Chinese SOE, making Rio Tinto qualified as both China-owned and Chinese-SOE-controlled under our definition. Bang & Olufsen, a Danish consumer electronics

firm, similarly appears non-Chinese under *GUO25*, but our *GUO10* links its 15.1% Bermudan shareholder, New Sparkle Roll International Group Limited, to a Chinese entity, revealing Chinese ultimate ownership.

Based on these reconstructed chains, we define two primary firm-level indicators:

- **CNOwn (Ownership):** Equals one if a firm if a firm has at least one direct Chinese shareholder or a Chinese global ultimate owner under the GUO10 definition.
- **CNOwn (Control):** Equals one if Equals one if a Chinese entity is the largest direct shareholder with at least 10% equity, or if the Chinese global ultimate owner maintains at least 10% equity at every tier of the ownership chain.

We further split Chinese investors into state and private categories using a two-step classification approach. First, we use Orbis entity type codes to identify Chinese government agencies, labeled as "public authority, state, government". Second, we define a Chinese SOE as any firm whose global ultimate owner is such a government entity; all other Chinese firms are classified as private.

We validate this classification approach by applying it to a sample of Chinese-domiciled firms and examining the resulting trends in SOE capital over time. The resulting SOE share of domestic assets under our 25% threshold is consistent with Allen et al. (2024), who use a 30% threshold and estimate that SOEs account for approximately 40% of China's domestic corporate assets.[6]

Using this classification, we construct two additional ownership variables. *CNOwn*SOE* is equal to one if a firm is owned by a Chinese government agency. *CNOwn*Pvt* is equal to one if the ultimate owner is a Chinese private firm. These indicators allow us to separately study the patterns and real effects of state versus private Chinese global ownership.

1.3. Other Data

International Patent Data

[6] Note that while we use a 10% threshold to identify whether a firm is under Chinese ownership or control, we adopt a stricter criterion when classifying Chinese state-owned enterprises. Specifically, a Chinese entity is labelled as a "China SOE" if its ultimate owner is a Chinese central or local government agency and it holds at least 25% equity at each tier of the Chinese ownership chain. This 25% threshold aligns with conventional definitions of significant control and helps avoid over-classifying firms with marginal state ties as SOEs. A detailed comparison with Allen et al. (2024) is presented in the Online Appendix Figure A2.

We obtain global patent data from the Orbis Patent module, which links Orbis firm identifiers to patent records from the Worldwide Patent Statistical Database (*PATSTAT*). PATSTAT reports application, publication, and grant information, plus inventor, applicant, and family identifiers, and covers roughly 168 million patent filings for about 2.4 million companies. The data have been widely used in prior studies, for example, Kong et al. (2022) and Moshirian et al. (2021).

Orbis Patent matches these records to both public and private firms, enabling us to link innovation outcomes to ownership and financial information. Our main innovation measure is *#GrantedPatents*, defined as the number of patents applied for by the firm that are granted within the following three years.

To avoid double-counting, we follow the methodology of Liu and Ma (2021): patent filings across multiple jurisdictions are counted once per family, and joint applications by multiple firms are apportioned equally across applicants using fractional counts. As a validation step, we aggregate applied and granted patents by office and year and compare these aggregates to the summary statistics in Liu and Ma (2021). Our data closely replicate their reported patterns (see Figure A1 in the Online Appendix).

Global Supply Chain Data

We obtain firm-level supply-chain links from FactSet Revere. A firm is classified as a customer of China if FactSet records that it purchases goods or services from a Chinese firm or receives licensed products, patents, intellectual property, or technology from a Chinese firm. A firm is classified as a supplier to China if FactSet records that it sells goods or services to a Chinese firm, provides paid manufacturing, marketing, branding, advertising, or distribution services, or licenses products, patents, intellectual property, or technology to a Chinese firm. [7]

We merge FactSet Revere with our Orbis sample by ISIN and calendar year; about 10% of firm-year observations are matched.

[7] In the supply chain data, we treat both firms in China and firms owned by Chinese entities as Chinese firms.

At the country-industry level, we use the OECD Input-Output Tables, which report intermediate input and output flows for 45 ISIC Rev. 4 industries in 76 countries (OECD, 2023). For each country-industry-year, we construct two measures: the China input share (intermediate inputs sourced from China divided by total intermediate inputs), *II_CN / II*, and the China output share (intermediate outputs sold to China divided by total intermediate outputs), *IO_CN / IO*. Because our firm-level industries also follow ISIC Rev. 4, we can merge these measures directly by country, industry, and year.

2. Stylized Facts of China's Global Corporate Ownership

In this section, we document key patterns in China's global corporate footprint. We first describe the scale and distribution of Chinese ownership across countries, regions, and industries. We then relate Chinese ownership to target-country and industry characteristics, focusing on innovation, supply-chain linkages, and natural resources.

2.1 Global Scale and Distribution

Using the ownership measures described in Section 1, we compute, for each firm, the total assets owned or controlled by Chinese investors, either through direct shareholding or ultimate ownership. Aggregating these firm-level assets, Table 1 reports China's global corporate footprint by country and industry, ranked by total asset value and by the share of local assets under Chinese ownership or control.

To quantify Chinese presence in a given country or sector, we assign the full asset value of a firm to China whenever it meets our Chinese-ownership or control threshold. We do not weight assets by cash-flow rights along the chain, which avoids double-counting the same assets through multiple intermediate entities. All country- and industry-level statistics therefore represent the share of local assets held by firms classified as Chinese-owned or Chinese-controlled.

[Insert Table 1 about here]

Country-level patterns. Panel A of Table 1 shows that Chinese ownership is highly concentrated in a small set of jurisdictions. On average over 2012-2021, firms owned by Chinese

shareholders account for 46% of total assets in the Cayman Islands, 22% in Bermuda, and 17% in the British Virgin Islands. These numbers highlight the central role of offshore financial centers in Chinese outbound investment. Significant ownership shares also appear in Portugal (14%) and Singapore (10%), which serve as gateways to the European Union and key Asian hubs.

Panel B ranks countries by the dollar value of assets held by Chinese shareholders. The Cayman Islands tops the list with USD 424 billion per year over 2012-2021, followed by the United Kingdom with USD 380 billion. Other advanced economies such as Australia, Singapore, and Bermuda also rank highly. These volumes reflect both China's extensive use of offshore and financial centers and its emphasis on investing in developed markets.

Industry-level patterns. Panels C and D of Table 1 summarize industry patterns. Chinese entities hold the highest average ownership shares in education (4.6%), accommodation and food services (4.5%), mining and quarrying (4.2%), transport (3.0%), and information and communication (3.0%). These shares point to a mix of traditional infrastructure-related sectors and capital-intensive service and knowledge industries.

In terms of asset volumes, Chinese investment is largest in manufacturing (average USD 393 billion), professional and scientific activities (USD 260 billion), and energy and utilities (USD 195 billion). Real estate ownership also rises sharply: Chinese-controlled real estate assets average USD 136 billion over the period, corresponding to roughly a 902% increase from 2012-2014 to 2019-2021. Overall, these patterns suggest a dual strategy that targets both heavy industrial sectors and emerging, service-based or knowledge-intensive domains.

[Insert Figures 1, 2, 3, 4, and 5 about here]

Evolution over time. Figure 1 plots the evolution of China's global corporate ownership among very large firms. Total assets owned by Chinese shareholders increase from USD 551 billion in 2012 to USD 2.5 trillion in 2021, implying an average annual growth rate of about 20%. For comparison, U.S. outbound corporate ownership grows from USD 10.0 trillion to USD 18.2 trillion over the same period, at an annual rate of about 7.0%. When Hong Kong and Macau are

included, Greater China's outbound holdings rise from USD 939 billion in 2012 to USD 4.27 trillion in 2021.

Figure 2 focuses on China's global control of the very large firm sample. Of the USD 551 billion assets owned by Chinese shareholders in 2012, Chinese investors control USD 364 billion, or about 0.58% of global corporate assets. By 2021, Chinese-controlled assets reach USD 2.1 trillion under the narrow (China-only) definition and USD 3.3 trillion for Greater China. This again corresponds to an average annual growth rate of 20%. As of 2021, Greater China ranks second globally in outbound corporate control, just behind the United States (USD 9.3 trillion) and comparable to the United Kingdom (USD 3.2 trillion).

Sectoral and regional trends. Figure 3 documents sectoral trends in China's overseas asset allocation. Ownership in resource-based industries such as mining and quarrying remains relatively stable over time, while substantial growth occurs in technology- and capital-intensive sectors. In particular, assets in information and communication increase sharply, and real estate assets under Chinese control grow at an exceptional rate, consistent with the patterns in Table 1.

Figure 4 shows the regional distribution of Chinese outbound corporate assets. As of 2021, Chinese investment is concentrated in Europe (41.6%) and North America (37.7%), with Asia accounting for 15.0% of total Chinese-held assets. This regional pattern underscores a strategic focus on advanced economies. At the same time, China's share of investment in Africa, Oceania, and South America declines from a peak of 17.1% to below 6.0% over the sample period. The share in Asia also falls modestly, from 18.1% in 2012 to 15.0% in 2021. In Figure A1 of the Appendix, we also zoom in on key tax havens and show that, as of 2021, firms in which Chinese entities hold ownership stakes account for 58.0% of total corporate assets in the Cayman Islands, 40.6% in Bermuda, and 15.0% in the British Virgin Islands. These numbers underscore the central role of offshore centers in China's global ownership network.

Ownership composition. Figure 5 traces the composition of China's global ownership by state versus private investors. Both components rise steeply over 2012-2021, but the expansion is driven primarily by private firms: their overseas asset holdings grow faster and reach clearly higher levels

than those of SOEs by the end of the sample. SOE-controlled assets also increase over time, yet at a more modest pace.

2.2 Targets of Chinese Overseas Investment

Our analysis begins with relating Chinese ownership to firm and industry characteristics. Table 2 reports summary statistics for the full sample and for firms with and without Chinese owners. Firms with Chinese owners are, on average, larger in terms of assets and sales, spend more on R&D, are slightly less likely to report blank R&D, and have lower ROA than other very large firms. They also appear more frequently as suppliers to or customers of Chinese firms in the FactSet Revere data, consistent with a stronger connection to Chinese production networks.

[Insert Tables 2 and 3 about here]

At the country-industry-year level, we study which sectors attract more Chinese capital by regressing the log of total assets owned by Chinese entities in industry j of country c in year t+1 on contemporaneous country-industry characteristics, including aggregate R&D, profitability, supply-chain linkages with China (from OECD input-output tables), and measures of natural resource abundance, controlling for size, leverage, and concentration, plus fixed effects.

The estimates in Table 3 show three robust patterns. First, country-industries with higher aggregate R&D expenditure attract significantly more Chinese-owned assets. A 10% increase in aggregate R&D is associated with approximately 0.88%-1.25% more Chinese-owned assets overall, 0.94%-1.30% more assets owned by private Chinese investors, and 0.23%-0.28% more assets owned by Chinese SOEs, holding other factors constant. These elasticities are statistically significant at conventional levels, indicating a systematic tilt of Chinese investment toward R&D-intensive sectors.

Second, Chinese investment is strongly tilted toward sectors that are more integrated with China in global value chains. Quantitatively, a one percentage point increase in a sector's output share to China (*IO_CN/IO*) is associated with roughly 6-11% more Chinese-owned assets overall or assets owned by private or SOE investors in the following year. By contrast, the China input

share (II_CN/II) is significantly positive for total Chinese-owned assets or private-owned assets, and significantly negative for SOE-owned assets. This asymmetry suggests that while both private and state investors follow downstream demand linkages to China, SOEs are relatively less likely to invest in sectors that already rely heavily on Chinese intermediate inputs.

Third, Chinese investment is systematically higher in countries with larger natural resource rents, but the difference between SOEs and private investors is modest. The coefficient on natural resource rents (as a share of GDP) is positive and statistically significant for all three dependent variables in Table 3. A one percentage point increase in natural resource rents is associated with roughly 1.5% more total Chinese-owned assets, 1.3% more assets held by private Chinese investors, and about 0.5% more assets held by Chinese SOEs, holding other factors constant.

In Columns (1), (3), and (5), we report indicator variables for the agriculture and mining sectors; in Columns (2), (4), and (6), we instead include a full set of sector fixed effects. Across specifications, we find a positive coefficient for the mining and quarrying (energy) sector only when the dependent variable is SOE-owned assets. This pattern is intuitive: because China is relatively resource-scarce in energy, the state has strong incentives to encourage SOEs to target energy-related sectors in overseas investment. Consistent with this view, SOE ownership is higher in these sectors.

3. The Real Impact of China's Ownership on Target Firms

Having established that Chinese investors strategically target certain industries, we now turn to the outcomes of these investments at the firm level. In this section, we evaluate how Chinese ownership affects the acquired firms' behavior, in particular, innovation input and output (R&D spending and patenting), firm growth (assets and employment), profitability and efficiency (ROA and other financial metrics), and supply chain integration. We also assess whether the effects differ when the investor is an SOE versus a private entity.

Formally, we estimate firm-level panel regressions that compare the changes in outcome variables for firms before and after becoming Chinese-owned (treatment group) to

contemporaneous changes in similar firms that remain without Chinese ownership (control group). This approach, akin to a propensity-score matched difference-in-differences, includes firm fixed effects to control for any time-invariant differences between target and non-target firms, and year fixed effects to account for macroeconomic trends. We also employ country-by-year and sector-by-year two-way fixed effects in the Appendix. The findings are robust across these alternative specifications. In essence, identification comes from within-firm changes around the event of Chinese acquisition, relative to peers, controlling for common shocks.

Specifically, we estimate the following panel regression model:

$$Y_{i,t} = \alpha + \beta_1 \times \text{CNOwn}_{i,t} + \text{Control} + \alpha^{FE} + \varepsilon_{i,t}.$$

The dependent variable $Y_{i,t}$ captures a range of firm-level outcomes and is grouped into three categories. The first captures innovation performance, using the logarithm of R&D expenditures ($Log(1 + R\&D)$) and the aggregated number of granted patents for firm i from year $t + 1$ to $t + 3$ ($\#GrantPatent$). The second group measures firm operations and financial outcomes: the logarithm of fixed assets ($Log(1 + Fixed)$), return on assets (*ROA*), and the logarithm of the number of employees ($Log(1 + Empl)$). The third group assesses supply chain integration, using two binary indicators: CNSupplier, which equals one if the firm supplies goods or services to a Chinese entity, and CNCustomer, which equals one if the firm purchases from or distributes Chinese goods.

Our key explanatory variable, *CNOwn*, is an indicator equal to one if a firm is owned by a Chinese entity, defined either through direct shareholding or ultimate ownership at or above the 10% threshold.

We control for a rich set of firm-level characteristics, including total assets, fixed assets, total debt, sales, employment, operating revenue, ROA, net profit, and cash flow. To account for market concentration, we include the Herfindahl index of industry sales and its squared term. When necessary, we omit highly collinear controls based on the specific outcome variable.

Recent work by Chen and Roth (2024) and Cohn et al. (2022) shows that for outcomes with a large mass at zero, transforming the variable using "one plus the outcome" (e.g., log(1 + y)) can

be problematic. In our setting, *#GrantPatent* has precisely this feature, so we follow Chen and Roth (2024) and estimate fixed-effects Poisson regressions instead of OLS. This concern is less severe for our other outcomes, which are either not integer-valued or not heavily concentrated at zero. For R&D, the variable is strictly positive but has many missing values, which we code as zero. By including a *Blank_R&D* indicator, following Koh and Reeb (2015), we can also capture treatment effects on the extensive margin, another concern emphasized by Chen and Roth (2024).

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

$$Y_{i,t} = \alpha + \beta_1 \times \mathrm{CNOwn}_{i,t} + \beta_2 \times \mathrm{CNOwn} * \mathrm{SOE}_{i,t} + \mathrm{Control} + \alpha^{FE} + \varepsilon_{i,t}.$$

Here the interaction term $CN_Own * SOE_{i,t}$ captures differential effects when the Chinese owner is a state-owned or government-related entity.

3.1. Innovation: R&D and Patents

We first examine innovation input. As discussed, many Chinese acquisitions involve firms with high R&D intensity. A central question is whether Chinese ownership further boosts these firms' innovation efforts and whether such efforts translate into measurable outputs like patents.

R&D expenses are frequently not reported in financial statements, particularly among firms operating in emerging markets. Rather than simply dropping these observations or treating missing values as true zeros, we follow the R&D-disclosure literature in treating non-reporting as **systematic**. Koh and Reeb (2015) show that missing R&D is pervasive and that assuming "no R&D" for non-reporters can bias inferences; Koh, Reeb, and Zhao (2018) document that managerial traits such as CEO confidence affect whether R&D is disclosed; and Koh et al. (2022) demonstrate that excluding firms with unreported R&D ("deleting unreported innovation") distorts estimates of the relation between R&D and firm outcomes. Guided by this evidence, our **baseline** sets missing R&D to zero and includes a **Blank_R&D** indicator to flag non-reporting firm-years,

and we treat specifications that drop missing R&D as **robustness checks** rather than primary estimates.

[Insert Table 4 about here]

Table 4 presents the results. Panel A explores different definitions and conditions of Chinese ownership, both with and without firm-level control variables. Across all specifications, we find that Chinese ownership is associated with a statistically significant increase in target firms' R&D expenditures. In the baseline panel regression (column 1, Ownership-Narrow), the coefficient on the Chinese ownership indicator implies that, on average, acquired firms increase R&D spending by about 6.6% relative to the control group of firms without Chinese investors. This effect is statistically significant at the 5% level. When we require Chinese shareholders to hold controlling stakes (Control-Narrow), the estimated R&D increase is larger (≈8.0%) and remains statistically significant (5% level), as shown in column 5. This amplified economic magnitude indicates that greater ownership stakes grant Chinese shareholders increased influence over decisions related to R&D expenditures.

When we broaden the definition of Chinese ownership to include ultimate investors in Hong Kong and Macau, the magnitude attenuates. For example, the coefficient declines to 0.045 in column 7 (Ownership-Broad). Even so, the effects are robust across specifications, with coefficients ranging between 0.039 to 0.162 after controlling for comprehensive firm-level characteristics, pointing to economically meaningful increases in R&D expenditures under Chinese investment.

Panel B further distinguishes the impact of overall Chinese ownership from SOEs by introducing *CNOwn* and *CNOwn*SOE* as independent variables. Our analysis reveals that the increase in R&D is particularly pronounced when the acquirer is a Chinese SOE. Under the control by Greater China investors, the coefficient for *CNOwn*SOE* is 0.291, significant at the 5% level.

This implies that Chinese state ownership elevates R&D expenses by approximately 29.1 percentage points compared to private Chinese ownership.

To pinpoint the origins of these effects, we stratify the sample into developed and emerging market economies based on the United Nations classification and restrict our analysis to firms ever owned by a Chinese shareholder, thus capturing the extensive margin of Chinese ownership influence.[8] The results reveal that the positive association between Chinese ownership and R&D investment predominantly occurs in developed countries and primarily for firms under SOE ownership, with insignificant effects noted in emerging markets. This pattern suggests that Chinese SOEs emphasize technology acquisition and innovation within developed economies, where institutional and economic contexts align with their strategic objectives. Conversely, the comparatively weaker effects observed in emerging markets underscore differences in the nature and goals of Chinese investments, contingent upon the local economic and institutional environment.

Additionally, in Appendix Table B1, we address concerns regarding potential biases from managerial discretion in disclosing R&D information before and after the Chinese acquisition. We conduct robustness tests by excluding observations with missing R&D data and repeating the regressions from Table 4. The findings remain consistent, demonstrating that Chinese ownership continues to be positively correlated with increased R&D expenditures, a relationship primarily driven by ownership from Chinese SOEs rather than private Chinese entities.

[Insert Table 5 about here]

Turning to innovation outputs, Table 5 examines the number of granted patents over the subsequent three-year window as the dependent variable, using Poisson models. In Panel A, under the narrow version of Chinese ownership, the coefficient on *CNOwn (Ownership)* is 0.067, and

[8] UN's definition: https://www.un.org/en/development/desa/policy/wesp/wesp_current/2014wesp_country_classification.pdf. We manually reclassify Singapore, South Korea, and Taiwan into the developed country list from the emerging market list given their advanced economy and technology. China (Mainland) and Hong Kong SAR are excluded from both lists. Please see Table A4 in the Appendix for details.

that of *CNOwn (Control)* is 0.107, with the former statistically insignificant and the latter significant at the 5% level. By contrast, under the broad version of Chinese ownership by incorporating investors from Hong Kong and Macau, the relation slightly strengthens: the coefficient on *CNOwn (Ownership)* is 0.052 with a standard error of 0.039, statistically insignificant, and that of *CNOwn (Control)* is 0.139 with a standard error of 0.051, significant at the 1% level.

Panel B further distinguishes ownership by SOEs versus private firms. Here, the coefficients for both *CNOwn* and *CNOwn*SOE* are consistently insignificant. These results suggest that although Chinese SOEs actively stimulate increased R&D spending in target firms, these investments do not necessarily result in a proportional rise in patent filings.

The absence of a significant relationship between Chinese ownership and patent output highlights a disconnect between investment inputs and innovation outcomes under Chinese ownership. In Section 7, we reconcile this disconnect by presenting evidence that patenting may instead increase at the Chinese parent level, particularly for SOEs acquiring developed-country targets.

3.2. Investment Efficiency, Profitability, and Employment

Next, we assess the impact of Chinese shareholders on efficiency, profitability, and employment, beginning with an analysis of ROA as a measure of profitability. Table 6 presents the corresponding regression results, indicating that the coefficient for *CNOwn* is -1.091, statistically significant at the 1% level. This result implies that the introduction of Chinese shareholders is associated with a reduction of 1.091 percentage points in ROA for targeted firms, suggesting a negative impact of Chinese ownership on profitability. For context, the mean and median ROA for firms without Chinese ownership in our sample are 4.0% and 3.5%, respectively, as shown in Table 2. Panel B differentiates between Chinese SOEs and private shareholders,

showing the coefficient for *CNOwn*SOE* is -1.338, significant at the 5% level. This indicates that the decline in profitability is predominantly driven by Chinese SOE ownership rather than private ownership.

[Insert Table 6 about here]

Additionally, Table 6 explores the impact of Chinese ownership on firm size, using total assets as the dependent variable. In Column (2) of Panel A, the coefficient for *CNOwn* is 0.073, statistically significant at the 1% level, reflecting a 7.3% increase in firm size linked to Chinese ownership. Further, Panel B reveals a coefficient of 0.094 for *CNOwn*SOE*, significant at the 10% level, whereas the overall coefficient for *CNOwn* is smaller, at 0.065, significant at the 1% level. These findings align with previous results on R&D, demonstrating that Chinese SOE ownership corresponds to a total firm size increase of 15.9% (6.5% + 9.4%), indicating a more substantial influence on firm growth compared to overall Chinese ownership. This underscores the strategic preference of SOEs to foster larger, more integrated enterprises.

Finally, we investigate the effect of Chinese ownership on employment. Column (3) of Panel A reports a coefficient of -0.024 for *CNOwn*, significant at the 5% level, indicating a 2.4% reduction in employment following Chinese acquisition. Panel B incorporates the *CNOwn*SOE* variable, resulting in a marginally significant coefficient of 0.044. This outcome suggests that reductions in workforce size are predominantly driven by private Chinese investors rather than SOEs.

In summary, our analysis highlights a pattern wherein Chinese ownership in non-China-incorporated firms contributes to inefficiencies characterized by increased investments and firm size without proportional enhancements in critical performance indicators, coupled with a decrease in employment. While Chinese shareholders, particularly SOEs, significantly boost R&D investments and firm growth, these increases do not translate effectively into higher patent outputs.

This indicates a disconnect between the resources allocated to innovation and the tangible outcomes realized, suggesting potential inefficiencies in the utilization of R&D investments under Chinese ownership. Furthermore, the notable reduction in profitability, especially pronounced under SOE ownership, highlights operational inefficiencies accompanying firm expansion and heightened R&D spending. These findings emphasize that although Chinese investments promote firm growth, they frequently do so at the expense of operational efficiency, posing challenges for firms to translate increased investment into profitable results.

3.3. Supply Chain

[Insert Table 7 about here]

In this subsection, We examine whether firms that become Chinese-owned (CNOwn) are subsequently more likely to integrate into Chinese supply chains. Using the FactSet Revere database, we identify whether a Chinese-owned firm, after acquisition, appears as a supplier to or customer of a Chinese entity or an entity controlled by a Chinese entity.

Panel A of Table 7 (*CNSupplier* as the dependent variable) shows that Chinese ownership is associated with a higher probability that targets become suppliers to Chinese firms, but this pattern is concentrated among private Chinese acquirers. Under the broad control definition, the coefficient on *CNOwn* is 0.036 and significant at the 5% level, implying an 3.6% increase in the probability that a privately owned Chinese acquirer integrates the target into its upstream supply chain. The coefficient on *CNOwn*SOE* is -0.063 and insignificant. Thus, for SOE acquisitions, the net impact on supplier relationships is no greater than the overall effect of Chinese ownership.

Panel B (*CNCustomer* as the dependent variable) shows only modest and statistically weaker increases in downstream linkages. The coefficients on *CNOwn* are 0.033 under narrow ownership (5% significance) and 0.018 under broad control (positive but small and statistically insignificant).

And the SOE interactions are again insignificant, implying little to no net increase in downstream ties for SOE acquisitions.

Taken together, the evidence points to supply-chain integration on the supplier margin as a phenomenon driven by private Chinese ownership, not by SOEs. This pattern is consistent with private acquirers pursuing commercial vertical synergies similar to those of other multinational buyers, whereas SOE acquisitions reflect different mandates, focused on technology acquisition and strategic assets, rather than embedding targets broadly into Chinese production networks.

4. Identification: The "Made in China 2025" Policy Shock

To address potential endogeneity and strengthen the causal interpretation of our results, we leverage the launch of the "Made in China 2025" (MIC2025) initiative in 2015 as a quasi-natural experiment. Announced as a state-led industrial policy, MIC2025 aimed to accelerate China's ascent in ten strategic high-tech fields, including next-generation IT, new-energy vehicles, advanced robotics and AI, aerospace, advanced materials, high-end rail, marine engineering, and biopharmaceuticals. Crucially, the policy explicitly encouraged outbound acquisitions, particularly by SOEs, as a primary mechanism to internalize advanced foreign technologies.

This top-down mandate generates plausibly exogenous variation in Chinese ownership that is likely independent of the idiosyncratic performance of individual foreign firms. We operationalize this using a DiD design:

$$Y_{i,t} = \alpha + \beta_1(TreatedSector \times Post2015) + \beta_2(TreatedSector \times Pre1) + \beta_3(TreatedSector \times Pre2) + \gamma Controls_{i,t} + FirmFE + Country \times YearFE + \varepsilon_{i,t}$$

where *Y* represents ownership or firm outcomes. To ensure a comparable sample, we focus on developed economies and technologically proximate sectors. We define *TreatedSector* as an indicator for firms in the ten MIC2025 sectors and *Post2015* for years ≥ 2015. To maintain a

balanced window and minimize confounds, our estimation sample covers 2012–2017, three years before and after the policy shock. To probe trends prior to the shock, we include lead-up indicators: Pre1 and Pre2 for 2013 and 2012, respectively. We include firm fixed effects to control for time-invariant firm characteristics and country*year two-way fixed effects to absorb any country-specific common shocks. We also estimate analogous regressions for *CNOwn*SOE* and *CNOwn*Pvt* to distinguish changes driven by state-controlled vs. private Chinese investors.

4.1. The Policy-Induced Shift in Ownership

The first-stage results in Table 8, Panel A confirm a sharp, policy-induced increase in Chinese ownership within targeted sectors. The coefficient on the interaction term is 0.003 ($p<0.10$), indicating a 0.3% absolute increase in the likelihood of Chinese ownership. Given the 2% baseline incidence in our sample, this represents a 10% relative increase in Chinese control.

[Insert Table 8 about here]

Disaggregating by investor type reveals that this rise is driven primarily by SOEs. The interaction coefficient for SOE ownership is 0.001 ($p<0.05$), while the effect for private investors is statistically insignificant. This pattern is consistent with the design of MIC2025, which positioned SOEs as the principal agents for executing strategic foreign acquisitions. Crucially, the coefficients for the pre-policy terms (Pre1, Pre2) are statistically insignificant, supporting the parallel trends assumption.

4.2. Reduced-Form Results: Strategic Trade-offs

In Panel B, we examine firm outcomes using the same DiD framework. Following the policy shock, treated firms exhibit a 4% increase in R&D spending ($p<0.05$) and a 5% increase in capital stock ($p<0.01$). However, this surge in inputs does not yield local innovative dividends; granted patents actually decline by 2% ($p<0.10$).

Furthermore, profitability (ROA) declines by 0.36 percentage points ($p<0.05$), while employment grows by 2% ($p<0.01$). Supply-chain outcomes also reflect a strategic shift, as the probability of a treated firm becoming a supplier to a Chinese entity increases by 1.7% ($p<0.05$). Across all outcomes, the lack of significant pre-2015 interaction terms affirms that these changes are driven by the MIC2025 initiative and subsequent Chinese investments rather than prior trends. Collectively, these results provide causal evidence that state-driven acquisitions prioritize technological and supply-chain internalization over immediate financial returns.

5. Is China Unique?

One important question in studying China's global investment is to understand whether China's investment patterns and impacts differ systematically from those of other major global economies. To assess this, we conduct parallel analyses using three comparison countries: the United States, Japan, and India. These countries are selected for distinct reasons. Most importantly, these are the top developed countries or emerging markets in terms of outward FDI stocks as of 2022. The United States, as the world's largest source of outbound investment, provides a benchmark for mature, market-driven global capital flows. Japan serves as a historical comparator, having pursued strategic overseas investment strategies during its industrial ascent in the 1960s and 1970s. India offers a relevant point of comparison as another significant emerging economy, representing the increasing phenomenon of "Global South" investments.

[Insert Table 9 about here]

Table 9 replicates our baseline regression analyses, replacing Chinese ownership measures with those for the U.S., Japan, and India. The results reveal both commonalities and important differences across investor countries. For reference, Chinese ownership significantly boosts R&D expenditures but fails to convert these investments into higher patent outputs, indicating inefficiencies in innovation. Moreover, Chinese ownership, particularly by SOEs, leads to lower

profitability, as evidenced in reduced return on assets. These findings suggest that Chinese investors, especially SOEs, prioritize objectives such as long-term control, technological advancement, or market penetration, often at the expense of short-term operational efficiency and profitability.

U.S. ownership, by contrast, tends to expand firm size through increased fixed asset investment while having limited effects on R&D and patent output and no systematic adverse impact on profitability. U.S. investors thus appear closer to a commercial, market-driven benchmark: they increase scale and capital intensity, but do not exhibit the same willingness as Chinese SOEs to trade off profitability for investment and innovation-related objectives.

Japan's outbound investment exhibits patterns that are qualitatively similar to China's in some dimensions, but generally less pronounced. Japanese controlling ownership is associated with higher R&D spending and some deterioration in profitability, without clear gains in patent productivity. This suggests that Japanese investors also emphasize technology and asset growth over short-run returns, but the magnitudes are smaller and the patterns are not driven by state ownership or industrial-policy shocks of the kind we document for China.

Indian investors, however, display a more conservative stance. We find no systematic increase in R&D or patent output and insignificant effects on profitability. This cautious investment strategy primarily seeks market presence and expansion rather than aggressive technological upgrading or asset accumulation.

Overall, these comparisons indicate that China is not unique in every dimension: Japan shares a similar trade-off between investment and profitability, albeit in a milder form. What distinguishes China is the scale and intensity of this pattern and its state-led nature. SOE-led Chinese investments show larger increases in R&D and capital stock, sharper declines in profitability, and distinctive supply-chain effects. Relative to the more commercially oriented U.S. benchmark and the more

cautious Indian pattern, China's outward investment strategy stands out for relying heavily on state investors and accepting substantial short-run performance costs in pursuit of technology and asset-based growth.

6. Spillovers to Non-Targeted Firms

This section investigates whether Chinese ownership in an industry affects other firms in the same country and industry that are never acquired by Chinese investors. In particular, we ask whether an increase in Chinese controlling stakes in a given industry influences the R&D, innovation, and performance of non-target peer firms.

We estimate firm-level panel regressions for non-China-owned companies, regressing their outcomes (R&D, patenting, profitability, size, and supply-chain links) on the share of industry assets controlled by Chinese owners. For firm *i* in country *c*, industry *s*, and year *t*, the baseline specification is:

$$Log(1 + R\&D)_{i,c,s,t} = \alpha + \beta_1 \times \Sigma\text{CN_Owned_Assets}/\Sigma Assets_{c,s,t} + \text{Blank_R\&D}_{i,t} + Control_{i,t} + \alpha^{FE} + \varepsilon_{i,c,s,t}. \quad (6)$$

The key independent variable $\Sigma\text{CN_Owned_Assets}/\Sigma Assets_{c,s,t}$ measures the industry share of assets under Chinese control in country *c*, industry *s*, and year *t*. We restrict the sample to firms that are never directly Chinese-owned and include high-dimensional fixed effects such as country–year and industry–year fixed effects, so that β_1 captures how changes in Chinese presence within an industry are associated with adjustments in peers' innovation policies, holding constant broader macro and industry trends.

[Insert Table 10 about here]

The regression results provide evidence of a significant crowding-out effect of Chinese ownership on peer firms' R&D investment. As reported in Panel A of Table 10, the coefficient on the Chinese ownership share is about -0.213, significant at the 1% level. Thus, as a larger fraction of industry assets is controlled by Chinese investors, non-target firms cut R&D spending by a

meaningful amount. Notably, this negative spillover is specific to innovative investment: we do not find a correspondingly large effect on peers' capital expenditures, employment, profitability, or CNSupplier at the firm level.

We next examine whether these spillovers depend on the type of Chinese investor. Panel B of Table 10 decomposes the Chinese ownership share into SOE and private components. The negative R&D spillover is strongest under SOE presence: the coefficient on the SOE asset share is roughly -1.32, significant at the 5% level. The corresponding coefficient for private Chinese ownership, about -0.27 (1% significance), is smaller but still economically and statistically meaningful. Thus, both SOE and private Chinese ownership are associated with reduced peer-firm R&D, but the crowding-out is much stronger in industries where SOEs hold larger stakes, roughly four times the magnitude of the private effect.

[Insert Table 11 about here]

Despite these firm-level reductions in R&D, we find no evidence that Chinese ownership reduces aggregate innovation or performance at the country–industry level. In Table 11, we aggregate outcomes to the country–industry–year level and regress industry-wide measures (average R&D, total patents, profitability, size) on the Chinese ownership share. The coefficient on Chinese control for the average R&D spending in the industry is small (around 0.04) and statistically insignificant. Similarly, we find no significant impact on industry-level patent counts, ROA, or firm size. Disaggregating by investor type in Panel B leads to the same conclusion: neither SOE nor private Chinese ownership significantly shifts aggregate R&D or performance indicators at the industry level.

Taken together, these results paint a nuanced picture. At the firm level, non-target peers, especially in industries with strong SOE presence, respond to Chinese entry by cutting R&D and, in some cases, losing supply-chain links to Chinese buyers. At the industry level, however, overall innovation and performance remain roughly unchanged. The most natural interpretation, consistent with our findings in Section 3, is that Chinese-owned firms compensate for peer

cutbacks by increasing their own R&D and investment, so that the net effect on industry-wide innovation is close to zero.

From a policy perspective, this suggests that while Chinese ownership can generate negative spillovers for individual firms, these do not translate into broad declines in industry-level innovation or efficiency. Industry equilibrium appears to adjust such that aggregate outcomes in R&D, patenting, and profitability are largely preserved.

7. The Innovation Spillback Channel

Our previous findings of increased R&D inputs alongside stagnant patent outputs at target firms suggest a strategic reallocation of intangible assets. In this section, we investigate whether the innovative benefits of these acquisitions are internalized by the Chinese parent firms, a mechanism we term "innovation spillback."

Measuring this is difficult because R&D for Chinese firms in Orbis is often reported only on a consolidated basis, so post-acquisition increases can mechanically reflect the target's pre-existing R&D. To avoid this issue, we focus on granted patents and construct simple event-time profiles around the year of a Chinese firm's first foreign acquisition. We consider large non-financial Chinese firms (including Hong Kong, Macau, and golden share firms) that have ever owned at least one large foreign subsidiary outside China, yielding about 1,317 firms and 9,099 firm-years. We then classify them by whether their first foreign target is located in a developed or non-developed host country. This design compares Chinese firms before and after their first foreign acquisition and contrasts spillbacks from developed versus non-developed destinations.

[Insert Figure 6 about here]

The patterns are striking. Panel A of Figure 6 shows that firms whose first foreign acquisition is in a developed country already exhibit higher patenting in the pre-event years and then experience a pronounced increase in granted patents at the time of the first deal: average #GrantedPatents (summed over years $t+1$ to $t+3$) rises by about 120%, from approximately 90 to 198, from the year before to the event year. In contrast, firms whose first acquisition is in a non-

developed country display a much flatter profile: patenting is lower throughout and shows only modest changes around the first acquisition. This suggests that entering developed markets via acquisitions is associated with a discrete acceleration in the Chinese parent's total patenting, whereas expansions into non-developed markets have a limited impact.

Panels B and C introduce the SOE–private split. Among SOEs, the contrast between developed and non-developed targets is particularly striking. When an SOE's first foreign acquisition is in a developed country, average granted patents increase by approximately 5.0 times, from about 73 to 367, between event years -1 and 0. Over the same window, SOEs whose first foreign expansion is into non-developed countries show almost no change, with grants rising only from 41 to 50. For private firms, the patterns are more muted but broadly consistent with this story: first acquisitions in developed countries are associated with a sizeable, though smaller, increase in grants (from about 95 to 155), whereas first acquisitions in non-developed countries produce only a modest rise (from about 70 to 95).

These unconditional patterns, subject to the measurement caveats above, suggest that strategic outward FDI into developed economies is associated with stronger patent growth at the Chinese parents, especially for SOEs. In other words, some of the returns to Chinese acquisitions may appear as home-country innovation rather than as higher patenting in the acquired firms. This spillback mechanism offers a plausible reconciliation of our earlier results: Chinese ownership raises R&D at targets and reallocates innovative activity away from non-target peers, but the net gains in patenting may largely be harvested in the parents' own patent portfolios rather than in host-country firms.

8. Conclusions

This paper provides the first systematic, firm-level analysis of the global network of Chinese corporate ownership. By reconstructing multi-layered ownership chains and tracing capital through offshore financial centers, we reveal a global footprint that is substantially larger and more strategically concentrated than indicated by official FDI statistics. Our findings demonstrate that

Chinese global ownership—particularly when driven by state-owned enterprises—represents a distinct paradigm of international investment that prioritizes long-term technological internalization over short-term firm-level profitability.

Our empirical results document a striking "innovation disconnect": while Chinese-acquired firms see significant increases in R&D investment and capital expenditure, these inputs fail to generate local innovative outputs or improved financial performance. Instead, we provide evidence of systematic innovation "spillbacks," where the primary beneficiaries of these investments are the parent firms in China. This redistribution of innovative effort, coupled with the crowding out of R&D at host-country peer firms, suggests that state-led capital can fundamentally reallocate the geography of intangible assets within an industry.

These findings have significant implications for the ongoing debate over geoeconomic influence and the future of the global innovation equilibrium. Our evidence suggests that when state-led capital crosses international borders, it does not merely seek market access or tax optimization; it acts as an instrument of national industrial policy. This "visible hand" of state capitalism introduces a novel mechanism through which national strategic objectives exert extraterritorial effects, potentially creating a long-term productivity drag in host economies while consolidating technological capabilities at home.

By providing a rigorous empirical foundation for these dynamics, our work highlights the necessity for researchers and policymakers to look beyond aggregate capital flows. Understanding the modern global economy requires mapping the underlying architecture of ownership and control, where the identity and mandates of the ultimate owner are the primary determinants of firm behavior and market outcomes.

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Table 1. China's Global Ownership

Notes: This table presents descriptive statistics on China's global ownership. The data includes non-financial, non-Chinese "Very Large" firms from Orbis (2012-2021). Firms based in mainland China, Hong Kong, Macau, or with "golden shares" are excluded. Chinese ownership with control (CNOwn with control) identifies firms whose largest direct shareholders with at least 10% ownership or ultimate shareholders (UO10) are Chinese entities. Assets are winsorized at the 1st and 99th percentiles. Panels A and B rank countries by the percentage and absolute value (USD billions) of assets owned by Chinese shareholders, including mean, standard deviation, minimum, maximum, and growth rates between early (2012-2014) and late (2019-2021) periods, respectively. Panels C and D present the same statistics at the industry level, ranking industries by the percentage and absolute value of assets owned by Chinese shareholders, respectively.

Panel A. Top 5 Countries in terms of % Assets Owned by CN

ISO	Country	Mean	STD	Min	Max
KY	Cayman	46.25%	10.85%	24.50%	57.89%
BM	Bermuda	22.07%	15.55%	2.50%	40.57%
VG	British Virgin Islands	16.76%	7.56%	7.61%	35.45%
PT	Portugal	13.78%	5.91%	0.06%	17.85%
SG	Singapore	10.02%	1.65%	7.36%	12.31%

Panel B. Top 5 Countries in terms of Assets Owned by CN ($Bil USD)

ISO	Country	2012-2021	2012-2014	2019-2021	Growth Rate
KY	Cayman	424	121	791	552%
GB	UK	380	301	485	61%
AU	Australia	148	89	126	41%
SG	Singapore	120	60	196	227%
BM	Bermuda	113	13	190	1394%

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

NACE	Sector	Mean	STD	Min	Max
P	Education	4.55%	5.09%	0.62%	12.54%
I	Accom and food service	4.46%	3.02%	1.19%	10.70%
B	Mining and quarrying	4.21%	1.56%	1.75%	7.18%
H	Transportation and storage	3.06%	0.64%	2.07%	3.90%
J	Information and communication	2.97%	1.28%	1.19%	4.79%
L	Real estate activities	2.93%	2.00%	0.51%	6.24%
D	Energy & AC Supply	2.89%	0.79%	1.12%	3.63%
M	Prof. Sci. & Tech.	2.85%	0.61%	1.90%	3.65%
A	Agriculture, forestry and fishing	2.78%	0.71%	1.77%	4.27%
F	Construction	2.76%	1.24%	0.93%	4.28%

Panel D. Top 10 Industries in terms of Assets Owned by CN ($Bil USD)

NACE	Sector	2012-2021	2012-2014	2019-2021	Growth Rate
C	Manufacturing	393	153	606	296%
M	Prof. Sci. & Tech.	260	184	351	91%
D	Energy & AC Supply	195	120	251	109%
B	Mining and quarrying	184	128	180	41%
J	Information and communication	172	72	290	300%
G	Trade & Vehicle Repair	168	64	258	305%
H	Transportation and storage	138	97	185	91%
L	Real estate activities	136	28	278	902%
N	Accom and food service	104	29	182	538%
F	Construction	83	32	126	298%

Table 2. Summary Statistics of Variables

Notes: This table presents descriptive statistics on key variables used in the analysis, covering mean, median, standard deviation, 25th percentile (Q1), and 75th percentile (Q3) distributions. The data includes non-financial, non-Chinese "Very Large" firms from Orbis (2012-2021). Firms based in mainland China, Hong Kong, Macau, or with "golden shares" are excluded. CNOwn identifies firms whose direct or ultimate shareholders (UO10) are Chinese entities; CNOwn*SOE identifies direct or ultimate ownership by Chinese government entities (UO25). With control, Chinese entities must be the largest direct shareholders with at least 10% ownership or ultimate shareholders. The narrow definition includes entities in mainland China, while the broad definition includes entities in mainland China, Hong Kong, Macau, or with "golden shares." Panels A and B report statistics for the entire sample, while Panel C focuses on firms with and without Chinese ownership (with control and broad definition). Panel D presents country-sector-level characteristics, with sectors defined by OECD-ISIC classifications. Variables are detailed in Table A1 of the Appendix.

Panel A. Orbis Ownership

Variables	N	Mean	Median	STD	P25	P75
CNOwn, Control, Broad	1,166,282	2.0%	0.0%	14.0%	0.0%	0.0%
CNOwn, Control, Narrow	1,166,282	1.1%	0.0%	10.3%	0.0%	0.0%
CNOwn, Ownership, Broad	1,166,282	2.5%	0.0%	15.6%	0.0%	0.0%
CNOwn, Ownership, Narrow	1,166,282	1.3%	0.0%	11.1%	0.0%	0.0%

Panel B. Orbis Fundamentals & Orbis Patents

Variables	N	Mean	Median	STD	P25	P75
Log(1+R&D), R&D=0 if Missing	1,166,282	1.0	0.0	3.8	0.0	0.0
Blank_R&D	1,166,282	0.8	1.0	0.4	1.0	1.0
#GrantedPatents	1,166,282	5.5	0.0	120.7	0.0	0.0
Log(1+Assets)	1,166,282	18.4	18.6	2.2	17.4	19.7
Log(1+Fixed)	1,165,446	16.7	17.4	4.0	15.6	19.1
Log(1+Debts)	1,139,701	16.1	17.0	4.3	15.2	18.4
ROA Using P/L before tax (%)	1,089,540	3.9	3.5	14.1	0.0	9.2
Log(1+Empl)	779,321	5.2	5.5	1.8	4.0	6.7
Log(1+OpeRev)	1,060,866	17.5	18.5	3.9	16.8	19.4
Log(1+Sales)	812,460	17.7	18.5	2.3	16.7	19.4
CashFlow/Assets	801,811	0.0	0.1	0.2	0.0	0.1
P/L/Assets	1,102,272	0.0	0.0	0.3	0.0	0.1
HHI	1,166,282	0.2	0.1	3.7	0.0	0.2
CNCustomer	124,027	8.7%	0.0%	28.2%	0.0%	0.0%
CNSupplier	117,005	8.8%	0.0%	28.3%	0.0%	0.0%
Customer	124,027	83.6%	100.0%	37.0%	100.0%	100.0%
Supplier	117,005	85.1%	100.0%	35.7%	100.0%	100.0%

Panel C. CNOwn = 1 vs. CNOwn = 0

	CNOwn=1			CNOwn=0		
	Mean	Median	Std	Mean	Median	Std
Log(1+R&D), =0 if Missing	1.9	0.0	5.1	1.0	0.0	3.8
Blank_R&D	0.7	1.0	0.5	0.8	1.0	0.4
#GrantedPatents	4.3	0.0	64.9	5.5	0.0	121.8
Log(1+Assets)	18.7	18.8	2.2	18.4	18.6	2.2
Log(1+Fixed)	16.7	17.6	4.4	16.7	17.4	4.0
Log(1+Debts)	15.6	17.1	5.4	16.1	17.0	4.2
ROA Using P/L before tax (%)	0.6	2.3	16.7	4.0	3.5	14.0
Log(1+Empl)	5.4	5.6	1.8	5.2	5.5	1.8
Log(1+OpeRev)	17.5	18.6	4.3	17.5	18.5	3.9
Log(1+Sales)	18.1	18.6	2.2	17.7	18.5	2.3
CashFlow/Assets	0.0	0.0	0.3	0.0	0.1	0.2
P/L/Assets	-0.1	0.0	0.4	0.0	0.0	0.3
HHI	0.3	0.1	0.3	0.2	0.1	3.8
CNCustomer	21.0%	0.0%	40.8%	8.0%	0.0%	27.2%

CNSupplier	20.7%	0.0%	40.5%	8.2%	0.0%	27.4%
Customer	83.5%	100.0%	37.1%	83.6%	100.0%	37.0%
Supplier	83.1%	100.0%	37.5%	85.2%	100.0%	35.5%

Panel D: Country-(OECD-ISIC)Sector Characteristics, Full Sample

Variables	N	Mean	Median	STD	P25	P75
ln(1+ΣCNOwn*Assets), Control, Broad	31,035	3.7	0.0	7.8	0.0	0.0
ln(1+ΣCNOwn*Assets), Control, Narrow	31,035	2.5	0.0	6.7	0.0	0.0
ln(1+ΣCNOwn*Assets), Ownership, Broad	31,035	4.4	0.0	8.3	0.0	0.0
ln(1+ΣCNOwn*Assets), Ownership, Narrow	31,035	2.9	0.0	7.0	0.0	0.0
ln(1+ΣCNOwn*Pvt*Assets), Control, Broad	31,035	3.5	0.0	7.6	0.0	0.0
ln(1+ΣCNOwn*Pvt*Assets), Control, Narrow	31,035	2.2	0.0	6.3	0.0	0.0
ln(1+ΣCNOwn*Pvt*Assets), Ownership, Broad	31,035	4.2	0.0	8.2	0.0	0.0
ln(1+ΣCNOwn*Pvt*Assets), Ownership, Narrow	31,035	2.6	0.0	6.7	0.0	0.0
ln(1+ΣCNOwn*SOE*Assets), Control, Broad	31,035	0.8	0.0	3.9	0.0	0.0
ln(1+ΣCNOwn*SOE*Assets), Control, Narrow	31,035	0.8	0.0	3.9	0.0	0.0
ln(1+ΣCNOwn*SOE*Assets), Ownership, Broad	31,035	0.8	0.0	3.9	0.0	0.0
ln(1+ΣCNOwn*SOE*Assets), Ownership, Narrow	31,035	0.8	0.0	3.9	0.0	0.0
Log(1+∑Assets)	31,035	21.2	21.4	2.8	19.5	23.3
Log(1+∑Fixed)	31,035	20.5	20.8	3.3	18.8	22.8
Log(1+∑Debts)	31,035	19.3	20.0	4.4	17.8	22.0
HHI	31,035	0.5	0.4	0.4	0.1	0.9
Log(1+∑R&D)	31,035	3.0	0.0	6.5	0.0	0.0
Log(1+∑Sales)	31,035	18.3	20.3	6.2	17.9	21.6
Log(1+OpeRev)	31,035	20.2	20.8	4.1	18.8	22.7
Log(1+∑EMPL)	31,035	6.1	7.5	3.9	2.1	8.9
II_CN/II	21,359	2.5%	1.5%	3.0%	0.8%	3.0%
IO_CN/IO	21,359	2.1%	0.5%	4.6%	0.1%	2.0%
Nature_Resources_Rent_Country	30,164	3.7	1.0	7.3	0.2	3.5
Agriculture, hunting, forestry (indicator)	31,035	2.7%	0.0%	16.2%	0.0%	0.0%
Mining&quarrying - energy (indicator)	31,035	2.1%	0.0%	14.2%	0.0%	0.0%
Mining&quarrying - non-energy (indicator)	31,035	2.4%	0.0%	15.2%	0.0%	0.0%
Mining support service activities (indicator)	31,035	2.2%	0.0%	14.5%	0.0%	0.0%
Blank_R&D	31,035	0.5	1.0	0.5	0.0	1.0

Table 3. Targets of China's Global Ownership

Notes: This table presents OLS regression results analyzing the determinants of China's global ownership. The data includes non-financial, non-Chinese "Very Large" firms from Orbis. Firms based in mainland China, Hong Kong, Macau, or with "golden shares" are excluded. The analysis is restricted to firms in sectors with available OECD input-output data and World Bank data on natural resource rents. CNOwn identifies firms whose direct or ultimate shareholders (UO10) are Chinese entities (mainland China, Hong Kong, Macau, or with "golden shares"); CNOwn*SOE identifies direct or ultimate ownership by Chinese government entities (UO25); CNOwn*Pvt denotes private Chinese ownership, indicating non-SOE Chinese ownership. "CNOwn*Assets," "CNOwn*SOE*Assets," and "CNOwn*Pvt*Assets" represent firm assets weighted by ownership categories: all Chinese entities, state-owned enterprises, and private firms, respectively. Assets are winsorized at the 1st and 99th percentiles and log-transformed after aggregation at the country-sector level. Control variables are detailed in Table A1 of the Appendix. The sample covers the period from 2012 to 2021. Standard errors clustered at the country-sector level are in parentheses. Significance levels: *** p<0.01, ** p<0.05, * p<0.1.

	Ownership (Broad)					
	(1)	(2)	(3)	(4)	(5)	(6)
	Log(1+ΣCNOwn*Assets)		Log(1+ΣCNOwn*Pvt*Assets)		Log(1+ΣCNOwn*SOE*Assets)	
Log(1+∑R&D), RD = 0 if Missing	0.125***	0.088***	0.130***	0.094***	0.028**	0.023*
	(0.023)	(0.022)	(0.023)	(0.022)	(0.014)	(0.014)
Log(1+∑Assets)	1.285***	1.051***	1.221***	1.007***	0.463***	0.332***
	(0.099)	(0.092)	(0.096)	(0.090)	(0.053)	(0.048)
Log(1+∑Fixed)	-0.249***	-0.162***	-0.237***	-0.155***	-0.118***	-0.067***
	(0.056)	(0.050)	(0.053)	(0.048)	(0.026)	(0.022)
Log(1+∑Debts)	0.043	0.019	0.032	0.013	0.015	-0.002
	(0.034)	(0.034)	(0.033)	(0.033)	(0.010)	(0.011)
Log(1+∑Empl)	0.200***	0.122***	0.200***	0.119***	0.029	0.008
	(0.036)	(0.035)	(0.035)	(0.035)	(0.018)	(0.017)
II_CN/II	14.973***	5.278	15.755***	5.509	-3.342**	-2.631
	(4.133)	(5.639)	(4.104)	(5.622)	(1.524)	(2.121)
IO_CN/IO	10.487***	10.697***	9.442***	10.153***	6.246***	6.431**
	(2.623)	(2.889)	(2.588)	(2.812)	(2.159)	(2.623)
Nature_Resources_Rent_Country	0.147***	0.144***	0.133***	0.131***	0.048***	0.047***
	(0.022)	(0.021)	(0.021)	(0.020)	(0.012)	(0.011)
Agriculture, hunting, forestry (indicator)	-0.262		-0.575		0.431	
	(0.554)		(0.541)		(0.265)	
Mining&quarrying - energy (indicator)	0.967		0.381		1.207*	
	(0.827)		(0.767)		(0.642)	
Mining&quarrying - non-energy (indicator)	-0.065		-0.028		0.073	
	(0.816)		(0.796)		(0.473)	
Mining support service activities (indicator)	0.325		0.027		0.525	
	(0.745)		(0.724)		(0.441)	
HHI	-12.578***	-10.719***	-11.839***	-10.118***	-2.877***	-1.828***
	(1.210)	(1.148)	(1.187)	(1.121)	(0.705)	(0.691)
HHI*HHI	11.369***	10.012***	10.747***	9.502***	2.961***	2.104***
	(1.047)	(0.991)	(1.029)	(0.970)	(0.603)	(0.576)
Blank_R&D	-1.066***	-0.715***	-1.136***	-0.753***	-0.085	-0.037
	(0.291)	(0.275)	(0.283)	(0.265)	(0.160)	(0.157)
Constant	-19.294***	-15.193***	-18.166***	-14.501***	-7.256***	-5.123***
	(1.393)	(1.388)	(1.361)	(1.354)	(0.820)	(0.804)
Country FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Sector FE	No	Yes	No	Yes	No	Yes
Observations	21,016	21,016	21,016	21,016	21,016	21,016
R-squared	0.395	0.427	0.386	0.420	0.150	0.180

Table 4. China's Ownership and Innovation

Note: This table presents OLS regression analyses examining the relationship between Chinese ownership and firm-level innovation, measured by the logarithm of R&D expenditures. Missing R&D expenditures are treated as zero and indicated by Blank_R&D. CNOwn identifies firms whose direct or ultimate shareholders (UO10) are Chinese entities; CNOwn*SOE identifies direct or ultimate ownership by Chinese government entities (UO25). With control, Chinese entities must be the largest direct shareholders with at least 10% ownership or ultimate shareholders. The narrow definition includes entities in mainland China, while the broad definition includes entities in mainland China, Hong Kong, Macau, or with "golden shares." Control variables are detailed in Table A1 of the Appendix. The sample covers the period from 2012 to 2021. Standard errors clustered at the firm level are in parentheses. Significance levels: *** p<0.01, ** p<0.05, * p<0.1.

Panel A: Overall

	Ownership				Control			
	Narrow		Broad		Narrow		Broad	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Log(1+R&D)							
CNOwn	0.066**	0.102*	0.039*	0.070*	0.078**	0.162***	0.045*	0.093*
	(0.030)	(0.054)	(0.021)	(0.040)	(0.032)	(0.060)	(0.024)	(0.050)
Log(1+Assets)		0.067***		0.067***		0.067***		0.067***
		(0.010)		(0.010)		(0.010)		(0.010)
Log(1+Fixed)		0.007*		0.007*		0.007*		0.007*
		(0.004)		(0.004)		(0.004)		(0.004)
Log(1+Debts)		0.001		0.001		0.001		0.001
		(0.002)		(0.002)		(0.002)		(0.002)
Log(1+Sales)		0.022***		0.022***		0.022***		0.022***
		(0.007)		(0.007)		(0.007)		(0.007)
Log(1+Empl)		0.060***		0.060***		0.060***		0.060***
		(0.009)		(0.009)		(0.009)		(0.009)
Log(1+OpeRev)		0.026***		0.026***		0.026***		0.026***
		(0.006)		(0.006)		(0.006)		(0.006)
ROA		-0.002***		-0.002***		-0.002***		-0.002***
		(0.001)		(0.001)		(0.001)		(0.001)
P/L/Assets		0.018		0.019		0.018		0.019
		(0.102)		(0.102)		(0.102)		(0.102)
CashFlow/Assets		-0.092		-0.092		-0.092		-0.092
		(0.096)		(0.096)		(0.096)		(0.096)
HHI		-0.094		-0.094		-0.092		-0.094
		(0.062)		(0.062)		(0.062)		(0.062)
HHI*HHI		0.000		0.000		0.000		0.000
		(0.000)		(0.000)		(0.000)		(0.000)
Blank_R&D	-6.393***	-7.936***	-6.393***	-7.936***	-6.393***	-7.936***	-6.393***	-7.936***
	(0.070)	(0.125)	(0.070)	(0.125)	(0.070)	(0.125)	(0.070)	(0.125)
Constant	6.324***	5.477***	6.323***	5.476***	6.323***	5.476***	6.323***	5.475***
	(0.058)	(0.189)	(0.058)	(0.189)	(0.058)	(0.189)	(0.058)	(0.189)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,156,441	437,885	1,156,441	437,885	1,156,441	437,885	1,156,441	437,885
R-squared	0.931	0.968	0.931	0.968	0.931	0.968	0.931	0.968

Panel B: SOE versus Private

	Ownership (Broad)			Control (Broad)		
	All	Developed	Emerging	All	Developed	Emerging
	(1)	(2)	(3)	(4)	(5)	(6)
			Log(1+R&D)			
CNOwn	0.052	-0.055	0.108	0.070	-0.093**	0.253
	(0.041)	(0.040)	(0.106)	(0.052)	(0.040)	(0.183)
CNOwn*SOE	0.305**	0.176*	0.060	0.291**	0.203**	-0.032
	(0.139)	(0.095)	(0.114)	(0.141)	(0.095)	(0.159)
Log(1+Assets)	0.067***	0.064***	0.142**	0.067***	0.064***	0.142**
	(0.010)	(0.010)	(0.063)	(0.010)	(0.010)	(0.063)
Log(1+Fixed)	0.007*	0.006	-0.037	0.007*	0.006	-0.037
	(0.004)	(0.004)	(0.032)	(0.004)	(0.004)	(0.032)
Log(1+Debts)	0.001	-0.000	0.002	0.001	-0.000	0.002
	(0.002)	(0.002)	(0.017)	(0.002)	(0.002)	(0.017)
Log(1+Sales)	0.022***	0.011	0.091	0.022***	0.011	0.091
	(0.007)	(0.007)	(0.060)	(0.007)	(0.007)	(0.060)
Log(1+Empl)	0.060***	0.054***	0.123***	0.060***	0.054***	0.122***
	(0.009)	(0.009)	(0.046)	(0.009)	(0.009)	(0.046)
Log(1+OpeRev)	0.026***	0.038***	-0.052	0.026***	0.038***	-0.052
	(0.006)	(0.006)	(0.048)	(0.006)	(0.006)	(0.048)
ROA	-0.002***	-0.002***	0.005	-0.002***	-0.002***	0.005
	(0.001)	(0.001)	(0.006)	(0.001)	(0.001)	(0.006)
P/L/Assets	0.017	0.080	-1.719*	0.018	0.080	-1.724*
	(0.102)	(0.112)	(0.980)	(0.102)	(0.112)	(0.980)
CashFlow/Assets	-0.091	-0.169*	0.625	-0.091	-0.169*	0.632
	(0.096)	(0.096)	(0.805)	(0.096)	(0.096)	(0.805)
HHI	-0.094	0.022	-0.184	-0.094	0.022	-0.185
	(0.062)	(0.064)	(0.233)	(0.062)	(0.064)	(0.233)
HHI*HHI	0.000	-0.000	0.035	0.000	-0.000	0.035
	(0.000)	(0.000)	(0.039)	(0.000)	(0.000)	(0.039)
Blank_R&D	-7.936***	-8.104***	-4.507***	-7.936***	-8.104***	-4.507***
	(0.125)	(0.126)	(0.861)	(0.125)	(0.126)	(0.861)
Constant	5.477***	6.192***	-1.765**	5.476***	6.193***	-1.770**
	(0.189)	(0.197)	(0.857)	(0.189)	(0.197)	(0.857)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	437,885	386,060	26,685	437,885	386,060	26,685
R-squared	0.968	0.974	0.897	0.968	0.974	0.897

Table 5. China's Ownership and Granted Patents

Notes: This table presents Poisson regression analyses examining the relationship between Chinese ownership and target firms' patenting activity, specifically measuring the number of patents applied for by the firm from year t+1 to t+3 that are eventually granted. To prevent double-counting, duplicate patent applications across multiple jurisdictions are consolidated into a single application, and patents applied for by multiple firms are proportionally attributed among the applicants. CNOwn identifies firms whose direct or ultimate shareholders (UO10) are Chinese entities; CNOwn*SOE identifies direct or ultimate ownership by Chinese government entities (UO25). With control, Chinese entities must be the largest direct shareholders with at least 10% ownership or ultimate shareholders. The narrow definition includes entities in mainland China, while the broad definition includes entities in mainland China, Hong Kong, Macau, or with "golden shares." Control variables are detailed in Table A1 of the Appendix. The sample covers the period from 2012 to 2021. Standard errors clustered at the firm level are in parentheses. Significance levels: *** p<0.01, ** p<0.05, * p<0.1.

Panel A: Overall

	Ownership				Control			
	Narrow		Broad		Narrow		Broad	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	#GrantedPatents							
CNOwn	0.067	-0.034	0.052	0.009	0.107**	-0.006	0.139***	0.069
	(0.056)	(0.070)	(0.039)	(0.046)	(0.053)	(0.063)	(0.051)	(0.069)
Log(1+Assets)		0.248***		0.248***		0.248***		0.247***
		(0.064)		(0.064)		(0.064)		(0.064)
Log(1+Fixed)		0.058		0.058		0.058		0.058
		(0.046)		(0.046)		(0.046)		(0.046)
Log(1+Debts)		0.004		0.004		0.004		0.004
		(0.006)		(0.006)		(0.006)		(0.006)
Log(1+Sales)		-0.014		-0.014		-0.014		-0.014
		(0.020)		(0.020)		(0.020)		(0.020)
Log(1+Empl)		-0.004		-0.004		-0.004		-0.004
		(0.025)		(0.025)		(0.025)		(0.025)
Log(1+OpeRev)		0.026		0.026		0.026		0.026
		(0.016)		(0.016)		(0.016)		(0.016)
ROA		0.006***		0.006***		0.006***		0.006***
		(0.002)		(0.002)		(0.002)		(0.002)
P/L/Assets		-0.722*		-0.722*		-0.722*		-0.718*
		(0.402)		(0.402)		(0.402)		(0.402)
CashFlow/Assets		0.556		0.555		0.556		0.548
		(0.361)		(0.361)		(0.361)		(0.361)
HHI		1.860***		1.855***		1.857***		1.854***
		(0.646)		(0.647)		(0.646)		(0.646)
HHI*HHI		-1.183**		-1.178**		-1.180**		-1.177**
		(0.571)		(0.572)		(0.571)		(0.571)
Constant	6.303***	-0.726	6.302***	-0.721	6.303***	-0.723	6.302***	-0.717
	(0.000)	(0.737)	(0.001)	(0.736)	(0.000)	(0.737)	(0.001)	(0.736)
FirmFE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
YearFE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	211,986	118,610	211,986	118,610	211,986	118,610	211,986	118,610
Log-likelihood	-715992	-437822	-715981	-437827	-715941	-437829	-715844	-437800

Panel B: SOE versus Private

	Ownership				Control			
	Narrow		Broad		Narrow		Broad	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	#GrantedPatents							
CNOwn	0.061	-0.039	0.049	0.008	0.104*	-0.012	0.138**	0.068
	(0.060)	(0.072)	(0.040)	(0.046)	(0.057)	(0.066)	(0.055)	(0.071)
CNOwn*SOE	0.073	0.113	0.089	0.073	0.033	0.089	0.016	0.031
	(0.085)	(0.103)	(0.073)	(0.090)	(0.084)	(0.102)	(0.082)	(0.101)
Log(1+Assets)		0.248***		0.248***		0.248***		0.247***
		(0.064)		(0.064)		(0.064)		(0.064)
Log(1+Fixed)		0.058		0.058		0.058		0.058
		(0.046)		(0.046)		(0.046)		(0.046)
Log(1+Debts)		0.004		0.004		0.004		0.004
		(0.006)		(0.006)		(0.006)		(0.006)
Log(1+Sales)		-0.014		-0.014		-0.014		-0.014
		(0.020)		(0.020)		(0.020)		(0.020)
Log(1+Empl)		-0.004		-0.004		-0.004		-0.004
		(0.025)		(0.025)		(0.025)		(0.025)
Log(1+OpeRev)		0.026		0.026		0.026		0.026
		(0.016)		(0.016)		(0.016)		(0.016)
ROA		0.006***		0.006***		0.006***		0.006***
		(0.002)		(0.002)		(0.002)		(0.002)
P/L/Assets		-0.722*		-0.722*		-0.722*		-0.718*
		(0.402)		(0.402)		(0.402)		(0.402)
CashFlow/Assets		0.557		0.555		0.556		0.548
		(0.361)		(0.361)		(0.361)		(0.361)
HHI		1.861***		1.856***		1.858***		1.854***
		(0.646)		(0.647)		(0.646)		(0.646)
HHI*HHI		-1.184**		-1.179**		-1.181**		-1.177**
		(0.571)		(0.572)		(0.571)		(0.571)
Constant	6.303***	-0.726	6.302***	-0.721	6.303***	-0.723	6.302***	-0.717
	(0.000)	(0.737)	(0.001)	(0.736)	(0.000)	(0.737)	(0.001)	(0.736)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	211,986	118,610	211,986	118,610	211,986	118,610	211,986	118,610
Log-likelihood	-715987	-437818	-715973	-437826	-715940	-437826	-715844	-437800

Table 6. China's Ownership and Other Firm-Level Outcomes

Notes: This table reports OLS regression analyses examining the relationship between Chinese ownership and target firms' profitability, investment, and employment. Dependent variables include the logarithm of firm-level fixed assets, return on assets (ROA) measured using income and profit/loss (P/L) before tax, and the logarithm of the firm-level number of employees. CNOwn with control identifies firms whose largest direct shareholders with at least 10% ownership or ultimate shareholders (UO10) are Chinese entities (mainland China, Hong Kong, Macau, or with "golden shares"); CNOwn*SOE with control identifies the largest direct (≥10%) or ultimate ownership by Chinese government entities (UO25). Control variables are detailed in Table A1 of the Appendix. The sample covers the period from 2012 to 2021. Standard errors clustered at the firm level are in parentheses. Significance levels: *** p<0.01, ** p<0.05, * p<0.1.

Panel A: Overall

	Control (Broad)		
	(1)	(2)	(3)
	ROA	Log(1+Fixed)	Log(1+Empl)
CNOwn	-1.091***	0.073***	-0.024**
	(0.274)	(0.022)	(0.012)
Log(1+Assets)	1.446***		
	(0.093)		
Log(1+Fixed)	-0.686***		
	(0.041)		
Log(1+Debts)	-0.386***		
	(0.014)		
Log(1+Sales)	2.806***		
	(0.060)		
Log(1+Empl)	-1.329***		
	(0.063)		
ROA		-0.008***	0.000
		(0.001)	(0.000)
P/L/Assets		0.499***	-0.498***
		(0.100)	(0.045)
CashFlow/Assets		0.440***	0.614***
		(0.099)	(0.040)
HHI	0.309	0.030***	0.005
	(0.346)	(0.010)	(0.005)
HHI*HHI	-0.000	-0.000***	-0.000
	(0.000)	(0.000)	(0.000)
Constant	-48.090***	17.310***	5.337***
	(1.452)	(0.004)	(0.002)
Firm FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Observations	539,197	769,057	559,919
R-squared	0.636	0.908	0.955

Panel B: SOE versus Private

	Control (Broad)		
	(1)	(2)	(3)
	ROA	Log(1+Fixed)	Log(1+Empl)
CNOwn	-0.974***	0.065***	-0.028**
	(0.284)	(0.022)	(0.012)
CNOwn*SOE	-1.338**	0.094*	0.044*
	(0.590)	(0.056)	(0.024)
Log(1+Assets)	1.446***		
	(0.093)		
Log(1+Fixed)	-0.686***		
	(0.041)		
Log(1+Debts)	-0.386***		
	(0.014)		
Log(1+Sales)	2.806***		
	(0.060)		
Log(1+Empl)	-1.330***		
	(0.063)		
ROA		-0.008***	0.000
		(0.001)	(0.000)
P/L/Assets		0.499***	-0.498***
		(0.100)	(0.045)
CashFlow/Assets		0.440***	0.614***
		(0.099)	(0.040)
HHI	0.308	0.030***	0.005
	(0.346)	(0.010)	(0.005)
HHI*HHI	-0.000	-0.000***	-0.000
	(0.000)	(0.000)	(0.000)
Constant	-48.093***	17.310***	5.337***
	(1.452)	(0.004)	(0.002)
Firm FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Observations	539,197	769,057	559,919
R-squared	0.636	0.908	0.955

Table 7. China's Ownership and Supply Chain

Notes: This table presents OLS regression analyses examining the relationship between Chinese ownership and the supply chain relationships of non-China firms. The dependent variables are binary indicators reflecting whether a non-Chinese firm becomes a supplier or a customer of a Chinese firm, as identified by FactSet Revere. CNOwn identifies firms whose direct or ultimate shareholders (UO10) are Chinese entities; CNOwn*SOE identifies direct or ultimate ownership by Chinese government entities (UO25). With control, Chinese entities must be the largest direct shareholders with at least 10% ownership or ultimate shareholders. The narrow definition includes entities in mainland China, while the broad definition includes entities in mainland China, Hong Kong, Macau, or with "golden shares." Control variables are detailed in Table A1 of the Appendix. The sample covers the period from 2012 to 2021. Standard errors clustered at the firm level are in parentheses. Significance levels: *** p<0.01, ** p<0.05, * p<0.1.

Panel A: CNSupplier

	Ownership				Control			
	Narrow		Broad		Narrow		Broad	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
CNOwn	0.041**	0.037**	0.029**	0.027**	0.041**	0.037**	0.039***	0.036**
	(0.019)	(0.019)	(0.012)	(0.012)	(0.018)	(0.017)	(0.015)	(0.014)
CNOwn*SOE		0.057		0.072		0.054		0.063
		(0.055)		(0.054)		(0.056)		(0.054)
Log(1+Assets)	0.011**	0.011**	0.010**	0.010**	0.011**	0.011**	0.010**	0.010**
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
Log(1+Fixed)	0.005**	0.005**	0.005**	0.005**	0.005**	0.005**	0.005**	0.005**
	(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
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Log(1+Sales)	-0.002	-0.002	-0.002	-0.002	-0.002	-0.002	-0.002	-0.002
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Log(1+Empl)	-0.003	-0.003	-0.003	-0.003	-0.003	-0.003	-0.003	-0.003
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Log(1+OpeRev)	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
ROA	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)
P/L/Assets	-0.015	-0.015	-0.015	-0.015	-0.015	-0.015	-0.015	-0.015
	(0.027)	(0.027)	(0.027)	(0.027)	(0.027)	(0.027)	(0.027)	(0.027)
CashFlow/Assets	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010
	(0.026)	(0.026)	(0.026)	(0.026)	(0.026)	(0.026)	(0.026)	(0.026)
Supplier	0.040***	0.040***	0.040***	0.040***	0.040***	0.040***	0.040***	0.040***
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Customer	0.008***	0.008***	0.008***	0.008***	0.008***	0.008***	0.008***	0.008***
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
HHI	0.026	0.026	0.025	0.025	0.027	0.027	0.025	0.025
	(0.031)	(0.031)	(0.031)	(0.031)	(0.031)	(0.031)	(0.031)	(0.031)
HHI*HHI	-0.006	-0.006	-0.006	-0.006	-0.007	-0.006	-0.006	-0.006
	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)
Constant	-0.261***	-0.261***	-0.261***	-0.261***	-0.263***	-0.262***	-0.261***	-0.261***
	(0.078)	(0.078)	(0.078)	(0.078)	(0.078)	(0.078)	(0.078)	(0.078)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	79,053	79,053	79,053	79,053	79,053	79,053	79,053	79,053
R-squared	0.602	0.602	0.602	0.602	0.602	0.602	0.602	0.602

Panel B: CNCustomer

	Ownership				Control			
	Narrow		Broad		Narrow		Broad	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
CNOwn	0.033**	0.036**	0.017	0.018	0.034*	0.039*	0.016	0.018
	(0.016)	(0.016)	(0.011)	(0.011)	(0.019)	(0.021)	(0.015)	(0.016)
CNOwn*SOE		-0.057		-0.039		-0.062		-0.041
		(0.058)		(0.056)		(0.059)		(0.056)
Log(1+Assets)	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
Log(1+Fixed)	-0.003	-0.003	-0.003	-0.003	-0.003	-0.003	-0.003	-0.003
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Log(1+Debts)	0.002**	0.002**	0.002**	0.002**	0.002**	0.002**	0.002**	0.002**
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Log(1+Sales)	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Log(1+Empl)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Log(1+OpeRev)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
ROA	-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)
P/L/Assets	0.091***	0.091***	0.091***	0.091***	0.090***	0.090***	0.091***	0.091***
	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)
CashFlow/Assets	-0.075**	-0.075***	-0.075**	-0.075**	-0.074**	-0.075**	-0.075**	-0.075**
	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)
Supplier	0.007**	0.007**	0.007**	0.007**	0.007**	0.007**	0.007**	0.007**
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Customer	0.028***	0.028***	0.028***	0.028***	0.028***	0.028***	0.028***	0.028***
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
HHI	0.013	0.014	0.013	0.013	0.014	0.015	0.013	0.013
	(0.030)	(0.030)	(0.030)	(0.030)	(0.030)	(0.030)	(0.030)	(0.030)
HHI*HHI	-0.004	-0.004	-0.004	-0.004	-0.004	-0.004	-0.004	-0.004
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
Constant	0.054	0.054	0.055	0.055	0.053	0.053	0.055	0.055
	(0.073)	(0.073)	(0.073)	(0.073)	(0.073)	(0.073)	(0.073)	(0.073)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	79,053	79,053	79,053	79,053	79,053	79,053	79,053	79,053
R-squared	0.616	0.616	0.616	0.616	0.616	0.616	0.616	0.616

Table 8. Identification: MIC2025

Notes: This table employs a two-stage identification strategy to analyze the impact of China's "Made in China 2025" (MIC2025) policy on Chinese ownership in foreign firms and subsequent firm outcomes. The analysis focuses on firms in countries and sectors explicitly targeted by MIC2025, detailed in Table A2 of the Appendix. The first-stage regressions assess determinants of Chinese ownership, including overall Chinese ownership (CNOwn), private ownership (CNOwn*Pvt), and state-owned enterprise ownership (CNOwn*SOE). The key independent variable is the interaction of TreatedSector with Post2015, capturing the policy shock. The second stage examines the policy's reduced-form effects on firm-level outcomes: R&D expenditures (logarithm of reported R&D, with missing values treated as zero and indicated by Blank_R&D), granted patents (from year t+1 to t+3, adjusted to avoid double counting), profitability (ROA based on income and profit/loss before tax), investment (logarithm of fixed assets), employment (logarithm of the number of employees), and supply chain relationships (binary indicators for being suppliers or customers of Chinese firms as reported by FactSet Revere). All regressions include firm and country*year fixed effects. Control variables are detailed in Table A1 of the Appendix. The sample covers the period from 2012 to 2017, three years before and three years after the shock. Non-count outcomes are estimated with OLS regressions, while count outcomes (granted patents) are estimated with Poisson regressions. Standard errors clustered at the sector*year level are in parentheses. Significance levels: *** p<0.01, ** p<0.05, * p<0.1.

Panel A: Chinese ownership

	Control (Broad)		
	(1)	(2)	(3)
	CNOwn	CNOwn*Pvt	CNOwn*SOE
TreatedSector*Post2015	0.003*	0.002	0.001**
	(0.002)	(0.002)	(0.000)
TreatedSector*Pre1	-0.004	-0.004	0.000
	(0.003)	(0.003)	(0.000)
TreatedSector*Pre2	-0.004	-0.004	0.000
	(0.003)	(0.003)	(0.000)
Log(1+Assets)	-0.002	-0.001	-0.000
	(0.001)	(0.001)	(0.001)
Log(1+Fixed)	0.001	0.000	0.000
	(0.001)	(0.001)	(0.000)
Log(1+Debts)	-0.000	-0.000	0.000
	(0.000)	(0.000)	(0.000)
Log(1+Sales)	0.002***	0.003***	-0.000
	(0.001)	(0.001)	(0.000)
Log(1+Empl)	-0.001*	-0.001*	-0.000
	(0.001)	(0.001)	(0.000)
Log(1+OpeRev)	-0.001***	-0.001***	-0.000
	(0.000)	(0.000)	(0.000)
ROA	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)
PL/Assets	0.020*	0.020*	0.001
	(0.011)	(0.011)	(0.002)
CashFlow/Assets	-0.016	-0.015	-0.000
	(0.012)	(0.013)	(0.002)
HHI	0.008**	0.007*	0.001
	(0.004)	(0.004)	(0.001)
HHI*HHI	-0.000**	-0.000*	-0.000
	(0.000)	(0.000)	(0.000)
Blank_R&D	-0.005**	-0.005**	0.000
	(0.002)	(0.002)	(0.000)
Supplier	-0.001	-0.000	-0.000
	(0.001)	(0.001)	(0.000)
Customer	-0.002*	-0.002	-0.000
	(0.001)	(0.001)	(0.000)
Constant	0.005	0.005	0.000
	(0.025)	(0.024)	(0.005)

FirmFE	Yes	Yes	Yes
Country*YearFE	Yes	Yes	Yes
Observations	108,965	108,965	108,965
R-squared	0.657	0.632	0.538

Panel B: Firm-level outcomes

	(1) Log(1+R&D)	(2) #GrantedPatents	(3) ROA	(4) Log(1+Fixed)	(5) Log(1+Empl)	(6) CNCustomer	(7) CNSupplier
TreatedSector*Post2015	0.035**	-0.024*	-0.363**	0.045***	0.023***	0.004	0.017**
	(0.015)	(0.013)	(0.170)	(0.016)	(0.008)	(0.007)	(0.008)
TreatedSector*Pre1	0.009	-0.001	0.076	-0.016	-0.007	0.007	-0.010
	(0.017)	(0.014)	(0.239)	(0.023)	(0.011)	(0.011)	(0.012)
TreatedSector*Pre2	0.035	0.012	0.049	-0.043	-0.019	0.013	-0.019
	(0.032)	(0.022)	(0.229)	(0.028)	(0.014)	(0.020)	(0.014)
Log(1+Assets)	0.132***	0.200***	2.450***			-0.013**	0.001
	(0.019)	(0.033)	(0.290)			(0.006)	(0.008)
Log(1+Fixed)	-0.016**	-0.000	-0.890***			-0.000	0.002
	(0.007)	(0.021)	(0.110)			(0.003)	(0.004)
Log(1+Debts)	0.002	0.002	-0.401***			0.000	0.001
	(0.003)	(0.005)	(0.030)			(0.001)	(0.001)
Log(1+Sales)	0.063***	-0.010	3.168***			0.001	-0.001
	(0.013)	(0.013)	(0.220)			(0.003)	(0.004)
Log(1+Empl)	0.095***	0.016	-2.217***			-0.013**	-0.001
	(0.016)	(0.019)	(0.207)			(0.005)	(0.006)
Log(1+OpeRev)	0.012	0.008				-0.000	0.003
	(0.009)	(0.008)				(0.001)	(0.002)
ROA	-0.002**	0.003*		-0.008***	0.000	0.000	0.001***
	(0.001)	(0.002)		(0.001)	(0.001)	(0.000)	(0.000)
PL/Assets	-0.160	-0.600**		0.956***	-0.484***	0.006	-0.015
	(0.180)	(0.276)		(0.147)	(0.085)	(0.048)	(0.050)
CashFlow/Assets	0.092	0.695***		-0.061	0.498***	-0.025	-0.038
	(0.168)	(0.244)		(0.152)	(0.068)	(0.046)	(0.046)
HHI	-0.058	0.900***	0.712	-0.007	0.006	0.095	0.136
	(0.080)	(0.275)	(0.522)	(0.023)	(0.010)	(0.126)	(0.118)
HHI*HHI	0.000	-0.666**	-0.000	0.000	-0.000	-0.089	-0.034
	(0.000)	(0.284)	(0.000)	(0.000)	(0.000)	(0.108)	(0.101)
Blank_R&D	-10.083***						
	(0.257)						
Supplier						0.002	0.025***
						(0.004)	(0.005)
Customer						0.003	0.003
						(0.003)	(0.004)
Constant	6.784***	2.131***	-64.862***	17.558***	5.419***	0.384***	-0.061
	(0.386)	(0.509)	(5.378)	(0.011)	(0.005)	(0.125)	(0.144)
FirmFE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country*YearFE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	108,965	50,192	125,626	164,421	136,456	22,616	22,616
R-squared	0.984	-167541	0.718	0.927	0.971	0.661	0.668

Table 9. Is China Unique?

Notes: This table compares the impacts of ownership by the US, Japan, and India on target firms' firm-level outcomes: R&D expenditures (logarithm of reported R&D, with missing values treated as zero and indicated by Blank_R&D), granted patents (from year t+1 to t+3, adjusted to avoid double counting), profitability (ROA based on income and profit/loss before tax), investment (logarithm of fixed assets), employment (logarithm of the number of employees), and supply chain relationships (binary indicators for being suppliers or customers of firms from the specified country XX as reported by FactSet Revere). XX ownership with control (XXOwn with control) identifies firms whose largest direct shareholders with at least 10% ownership or ultimate shareholders (UO10) are XX entities. Control variables are detailed in Table A1 of the Appendix. The sample covers the period from 2012 to 2021. Non-count outcomes are estimated with OLS regressions, while count outcomes (granted patents) are estimated with Poisson regressions. Standard errors clustered at the firm level are in parentheses. Significance levels: *** p<0.01, ** p<0.05, * p<0.1.

Panel A: XX = US

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Log(1+R&D)	#GrantedPatents	ROA	Log(1+Fixed)	Log(1+Empl)	XXSupplier	XXCustomer
XX_Owned	0.004	0.111	0.020	0.038***	0.015***	0.041***	0.016
	(0.013)	(0.068)	(0.102)	(0.010)	(0.005)	(0.013)	(0.012)
Log(1+Assets)	0.070***	0.396***	0.774***			0.020**	0.014
	(0.012)	(0.064)	(0.085)			(0.009)	(0.009)
Log(1+Fixed)	0.011**	0.032	-0.623***			0.013***	0.011**
	(0.004)	(0.038)	(0.038)			(0.004)	(0.005)
Log(1+Debts)	0.002	0.002	-0.352***			0.001	0.002
	(0.002)	(0.006)	(0.013)			(0.001)	(0.001)
Log(1+Sales)	0.037***	0.022	3.080***			0.004	0.008*
	(0.009)	(0.028)	(0.057)			(0.005)	(0.005)
Log(1+Empl)	0.061***	-0.052*	-0.926***			0.005	0.015***
	(0.011)	(0.029)	(0.044)			(0.005)	(0.005)
Log(1+OpeRev)	0.020***	0.048				-0.000	-0.004
	(0.007)	(0.029)				(0.003)	(0.003)
ROA	-0.001**	0.004**		-0.009***	-0.001*	-0.000	-0.001**
	(0.001)	(0.002)		(0.001)	(0.000)	(0.000)	(0.000)
P/L/Assets	-0.005	-0.799***		0.158**	-0.336***	0.021	-0.005
	(0.069)	(0.296)		(0.079)	(0.042)	(0.041)	(0.045)
CashFlow/Assets	-0.140	0.725**		0.789***	0.513***	-0.038	0.041
	(0.093)	(0.355)		(0.092)	(0.041)	(0.049)	(0.052)
HHI	0.173**	3.715***	-0.002	0.034***	0.005	0.084**	-0.088**
	(0.080)	(0.727)	(0.281)	(0.010)	(0.005)	(0.036)	(0.036)
HHI*HHI	-0.000**	-3.090***	-0.000	-0.000***	-0.000	-0.015***	0.012***
	(0.000)	(0.694)	(0.000)	(0.000)	(0.000)	(0.005)	(0.004)
Blank_R&D	-7.369***						
	(0.127)						
Supplier						0.252***	0.029***
						(0.007)	(0.006)
Customer						0.034***	0.229***
						(0.005)	(0.006)
Constant	4.415***	-4.386***	-43.902***	17.203***	5.289***	-0.688***	-0.553***
	(0.215)	(1.069)	(1.320)	(0.004)	(0.002)	(0.140)	(0.134)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	418,858	108,388	592,369	742,878	540,174	59,831	59,831
R-squared	0.949	-409570	0.627	0.904	0.954	0.711	0.704

Panel B: XX = JP

	(1) Log(1+R&D)	(2) Log(1+#Patents)	(3) ROA	(4) Log(1+Fixed)	(5) Log(1+Empl)	(6) XXSupplier	(7) XXCustomer
XX_Owned	0.097***	0.130	-0.511***	0.051***	0.010	0.081***	0.069***
	(0.035)	(0.084)	(0.191)	(0.018)	(0.010)	(0.025)	(0.027)
Log(1+Assets)	0.092***	0.301***	1.035***			0.018***	0.002
	(0.011)	(0.074)	(0.089)			(0.007)	(0.006)
Log(1+Fixed)	0.015***	0.068	-0.634***			0.008**	0.003
	(0.005)	(0.045)	(0.039)			(0.004)	(0.003)
Log(1+Debts)	0.003	-0.002	-0.395***			0.001	0.001
	(0.002)	(0.008)	(0.013)			(0.001)	(0.001)
Log(1+Sales)	0.028***	0.006	3.071***			-0.001	-0.006
	(0.008)	(0.025)	(0.060)			(0.005)	(0.004)
Log(1+Empl)	0.059***	-0.020	-0.958***			0.005	0.001
	(0.010)	(0.036)	(0.046)			(0.005)	(0.005)
Log(1+OpeRev)	0.028***	0.017				0.003	0.001
	(0.006)	(0.011)				(0.002)	(0.002)
ROA	-0.003***	0.009***		-0.007***	-0.001**	-0.000	-0.000
	(0.001)	(0.003)		(0.001)	(0.000)	(0.000)	(0.000)
P/L/Assets	0.096	-0.706*		0.155**	-0.204***	0.025	0.007
	(0.139)	(0.399)		(0.065)	(0.055)	(0.030)	(0.029)
CashFlow/Assets	-0.120	0.222		0.703***	0.387***	-0.021	0.008
	(0.127)	(0.315)		(0.080)	(0.047)	(0.032)	(0.031)
HHI	0.184**	2.823***	-0.258	0.035***	0.005	-0.021	-0.008
	(0.081)	(0.818)	(0.291)	(0.010)	(0.005)	(0.039)	(0.030)
HHI*HHI	-0.000**	-2.099***	0.000	-0.000***	-0.000	0.003	0.001
	(0.000)	(0.747)	(0.000)	(0.000)	(0.000)	(0.010)	(0.003)
Blank_R&D	-9.054***						
	(0.131)						
Supplier						0.131***	0.028***
						(0.006)	(0.005)
Customer						0.023***	0.084***
						(0.005)	(0.004)
Constant	5.631***	-2.549**	-47.808***	17.249***	5.335***	-0.516***	0.047
	(0.213)	(1.046)	(1.381)	(0.003)	(0.002)	(0.109)	(0.090)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	411,751	99,348	550,928	743,920	533,812	61,383	61,383
R-squared	0.969	-373343	0.642	0.906	0.955	0.674	0.653

Panel C: XX = IN

	(1) Log(1+R&D)	(2) Log(1+#Patents)	(3) ROA	(4) Log(1+Fixed)	(5) Log(1+Empl)	(6) XXSupplier	(7) XXCustomer
XX_Owned	-0.004	-0.003	-0.533	-0.149***	-0.029	-0.039	0.013
	(0.034)	(0.104)	(0.468)	(0.056)	(0.021)	(0.046)	(0.068)
Log(1+Assets)	0.090***	0.348***	1.008***			0.007*	-0.002
	(0.012)	(0.067)	(0.086)			(0.004)	(0.004)
Log(1+Fixed)	0.012***	0.054	-0.637***			0.001	-0.000
	(0.005)	(0.043)	(0.038)			(0.002)	(0.002)
Log(1+Debts)	0.002	-0.000	-0.380***			0.000	0.000
	(0.002)	(0.006)	(0.013)			(0.001)	(0.001)
Log(1+Sales)	0.033***	0.007	3.248***			-0.002	-0.005**
	(0.009)	(0.022)	(0.058)			(0.002)	(0.002)
Log(1+Empl)	0.064***	-0.036	-1.008***			0.003	0.002
	(0.010)	(0.026)	(0.045)			(0.003)	(0.002)
Log(1+OpeRev)	0.027***	0.027*				-0.000	0.002**
	(0.006)	(0.016)				(0.001)	(0.001)
ROA	-0.002***	0.006***		-0.007***	-0.001**	-0.000	-0.000**
	(0.001)	(0.002)		(0.001)	(0.000)	(0.000)	(0.000)
P/L/Assets	0.104	-0.683**		0.156**	-0.232***	0.020	0.016
	(0.132)	(0.319)		(0.064)	(0.052)	(0.019)	(0.016)
CashFlow/Assets	-0.190	0.497		0.731***	0.417***	-0.007	-0.013
	(0.124)	(0.305)		(0.079)	(0.045)	(0.018)	(0.017)
HHI	0.176**	3.267***	-0.095	0.034***	0.005	0.031	0.020
	(0.080)	(0.732)	(0.285)	(0.010)	(0.005)	(0.025)	(0.024)
HHI*HHI	-0.000**	-2.575***	0.000	-0.000***	-0.000	-0.007*	-0.002
	(0.000)	(0.685)	(0.000)	(0.000)	(0.000)	(0.004)	(0.003)
Blank_R&D	-7.911***						
	(0.125)						
Supplier						0.023***	0.001
						(0.002)	(0.002)
Customer						0.002	0.010***
						(0.002)	(0.002)
Constant	4.673***	-3.122***	-50.654***	17.354***	5.363***	-0.119*	0.144**
	(0.212)	(0.904)	(1.340)	(0.003)	(0.002)	(0.063)	(0.058)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	447,892	122,692	621,562	729,439	569,938	82,602	82,602
R-squared	0.964	-491742	0.643	0.906	0.955	0.609	0.629

Table 10. The Crowding-Out Effect of China's Control on Non-Targeted Firms

Notes: This table presents regression results examining the spillover (crowding-out) effects of Chinese ownership on outcomes across peer firms without Chinese ownership within the same country-industry-year group. Dependent variables include R&D expenditures (logarithm of reported R&D, with missing values treated as zero and indicated by Blank_R&D), granted patents (from year t+1 to t+3, adjusted to avoid double counting), profitability (ROA based on income and profit/loss before tax), investment (logarithm of fixed assets), employment (logarithm of the number of employees), and supply chain relationships (binary indicators for being suppliers or customers of Chinese firms as reported by FactSet Revere). The data includes non-financial, non-Chinese "Very Large" firms from Orbis. Firms based in mainland China, Hong Kong, Macau, or with "golden shares" are excluded, as well as those ever owned by Chinese entities. R&D expenditures and assets are winsorized at the 1st and 99th percentiles and log-transformed; missing R&D expenditures are set to zero and indicated by Blank_R&D. Chinese-owned assets (CNOwn*Assets and CNOwn*SOE*Assets) are aggregated at the country-sector level and log-transformed. CNOwn with control identifies firms whose largest direct shareholders with at least 10% ownership or ultimate shareholders (UO10) are Chinese entities (mainland China, Hong Kong, Macau, or with "golden shares"); CNOwn*SOE with control identifies the largest direct (≥10%) or ultimate ownership by Chinese government entities (UO25); CNOwn*Pvt denotes private Chinese ownership, indicating non-SOE Chinese ownership. Control variables are detailed in Table A1 of the Appendix. The sample covers the period from 2012 to 2021. Non-count outcomes are estimated with OLS regressions, while count outcomes (granted patents) are estimated with Poisson regressions. Standard errors clustered at the country-sector-year level are in parentheses. Significance levels: *** p<0.01, ** p<0.05, * p<0.1.

Panel A: Overall — Control (Broad)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Log(1+R&D)	#GrantedPatents	ROA	Log(1+Fixed)	Log(1+Empl)	CNSupplier	CNCustomer
%CNOwn*Assets	-0.213***	-0.254	0.289	-0.037	-0.000	-0.041	-0.039
	(0.080)	(0.209)	(0.585)	(0.041)	(0.029)	(0.033)	(0.042)
Log(1+∑Assets_NonCN)	-0.002	0.108**	-0.135			-0.008*	-0.014**
	(0.014)	(0.050)	(0.089)			(0.004)	(0.006)
Log(1+Assets)	0.059***	0.268***	1.451***			0.013***	0.003
	(0.008)	(0.027)	(0.095)			(0.004)	(0.004)
Log(1+Fixed)	-0.001	0.006	-0.644***			0.003	-0.002
	(0.003)	(0.017)	(0.037)			(0.002)	(0.002)
Log(1+Debts)	-0.000	0.004	-0.372***			0.000	0.001*
	(0.002)	(0.004)	(0.014)			(0.001)	(0.001)
Log(1+Sales)	0.026***	-0.006	2.690***			-0.000	0.000
	(0.006)	(0.013)	(0.067)			(0.002)	(0.003)
Log(1+Empl)	0.066***	0.012	-1.405***			-0.004	0.002
	(0.008)	(0.020)	(0.061)			(0.003)	(0.003)
Log(1+OpeRev)	0.017***	0.010				0.001	0.001
	(0.005)	(0.006)				(0.001)	(0.001)
ROA	-0.001***	0.007***		-0.008***	-0.000	0.000**	-0.001***
	(0.000)	(0.002)		(0.001)	(0.000)	(0.000)	(0.000)
PL/Assets	0.037	-0.783***		0.480***	-0.532***	-0.041	0.069**
	(0.094)	(0.287)		(0.093)	(0.044)	(0.028)	(0.028)
CashFlow/Assets	-0.151*	0.488*		0.404***	0.653***	0.017	-0.050*
	(0.087)	(0.253)		(0.091)	(0.038)	(0.027)	(0.028)
HHI	0.002	3.107***	-0.374	-0.036**	-0.020**	-0.003	-0.030
	(0.084)	(0.456)	(0.507)	(0.018)	(0.009)	(0.029)	(0.035)
HHI*HHI	-0.003	-2.399***	0.131	0.003	0.006	0.001	0.000
	(0.019)	(0.486)	(0.183)	(0.012)	(0.006)	(0.005)	(0.007)
Blank_R&D	-8.249***						
	(0.283)						
Supplier						0.030***	-0.010***
						(0.003)	(0.004)
Customer						0.005*	0.037***
						(0.002)	(0.002)
Constant	6.211***	-2.884**	-43.116***	17.310***	5.334***	-0.069	0.378**
	(0.409)	(1.362)	(2.597)	(0.004)	(0.002)	(0.113)	(0.160)

Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country*Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector*Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	416,404	112,683	513,162	724,753	532,654	72,411	60,896
R-squared	0.972	-381133	0.645	0.911	0.957	0.595	0.626

Panel B: SOE versus Private

	Control (Broad)						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Log(1+R&D)	#GrantedPatents	ROA	Log(1+Fixed)	Log(1+Empl)	CNSupplier	CNCustomer
%CNOwn*Pvt*Assets	-0.272***	-0.327	0.194	-0.077*	-0.030	-0.034	-0.032
	(0.095)	(0.244)	(0.691)	(0.044)	(0.032)	(0.032)	(0.044)
%CNOwn*SOE*Assets	-1.316**	0.075	5.055	0.140	0.273	-0.286	-0.052
	(0.546)	(1.674)	(4.429)	(0.385)	(0.219)	(0.321)	(0.352)
Log(1+∑Assets_NonCN)	-0.003	0.107**	-0.134			-0.008*	-0.014**
	(0.014)	(0.051)	(0.089)			(0.004)	(0.006)
Log(1+Assets)	0.059***	0.268***	1.451***			0.013***	0.003
	(0.008)	(0.027)	(0.095)			(0.004)	(0.004)
Log(1+Fixed)	-0.001	0.006	-0.644***			0.003	-0.002
	(0.003)	(0.017)	(0.037)			(0.002)	(0.002)
Log(1+Debts)	-0.000	0.004	-0.372***			0.000	0.001*
	(0.002)	(0.004)	(0.014)			(0.001)	(0.001)
Log(1+Sales)	0.026***	-0.006	2.690***			-0.000	0.000
	(0.006)	(0.013)	(0.067)			(0.002)	(0.003)
Log(1+Empl)	0.066***	0.012	-1.406***			-0.004	0.002
	(0.008)	(0.020)	(0.061)			(0.003)	(0.003)
Log(1+OpeRev)	0.017***	0.010				0.001	0.001
	(0.005)	(0.006)				(0.001)	(0.001)
ROA	-0.001***	0.007***		-0.008***	-0.000	0.000**	-0.001***
	(0.000)	(0.002)		(0.001)	(0.000)	(0.000)	(0.000)
PL/Assets	0.037	-0.785***		0.480***	-0.532***	-0.041	0.069**
	(0.094)	(0.287)		(0.093)	(0.044)	(0.028)	(0.028)
CashFlow/Assets	-0.151*	0.490*		0.404***	0.653***	0.017	-0.050*
	(0.087)	(0.253)		(0.091)	(0.038)	(0.027)	(0.028)
HHI	0.002	3.101***	-0.377	-0.036**	-0.021**	-0.002	-0.030
	(0.084)	(0.457)	(0.507)	(0.018)	(0.009)	(0.029)	(0.035)
HHI*HHI	-0.003	-2.396***	0.131	0.003	0.006	0.001	0.000
	(0.019)	(0.487)	(0.183)	(0.012)	(0.006)	(0.005)	(0.007)
Blank_R&D	-8.249***						
	(0.283)						
Supplier						0.030***	-0.010***
						(0.003)	(0.004)
Customer						0.005*	0.037***
						(0.002)	(0.002)
Constant	6.225***	-2.871**	-43.147***	17.311***	5.334***	-0.071	0.374**
	(0.408)	(1.364)	(2.597)	(0.004)	(0.002)	(0.113)	(0.160)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country*Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector*Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	416,404	112,683	513,162	724,753	532,654	72,411	60,896
R-squared	0.972	-381123	0.645	0.911	0.957	0.595	0.626

Table 11. The Overall Impact of China's Control on Target Firms' Industries

Notes: This table presents regression results examining the spillover (overall) effects of Chinese ownership on outcomes across all firms within the same country-industry-year group. Dependent variables include R&D expenditures (logarithm of reported R&D, with missing values treated as zero and indicated by Blank_R&D), granted patents (from year t+1 to t+3, adjusted to avoid double counting), profitability (ROA based on income and profit/loss before tax), investment (logarithm of fixed assets), employment (logarithm of the number of employees), and supply chain relationships (binary indicators for being suppliers or customers of Chinese firms as reported by FactSet Revere). The data includes non-financial, non-Chinese "Very Large" firms from Orbis. Firms based in mainland China, Hong Kong, Macau, or with "golden shares" are excluded. R&D expenditures and assets are winsorized at the 1st and 99th percentiles and log-transformed; missing R&D expenditures are set to zero and indicated by Blank_R&D. Chinese-owned assets (CNOwn*Assets and CNOwn*SOE*Assets) are aggregated at the country-sector level and log-transformed. CNOwn with control identifies firms whose largest direct shareholders with at least 10% ownership or ultimate shareholders (UO10) are Chinese entities (mainland China, Hong Kong, Macau, or with "golden shares"); CNOwn*SOE with control identifies the largest direct (≥10%) or ultimate ownership by Chinese government entities (UO25); CNOwn*Pvt denotes private Chinese ownership, indicating non-SOE Chinese ownership. Control variables are detailed in Table A1 of the Appendix. The sample covers the period from 2012 to 2021. Non-count outcomes are estimated with OLS regressions, while count outcomes (granted patents) are estimated with Poisson regressions. Standard errors clustered at the country-sector-year level are in parentheses. Significance levels: *** p<0.01, ** p<0.05, * p<0.1.

Panel A: Overall — Control (Broad)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Log(1+R&D)	#GrantedPatents	ROA	Log(1+Fixed)	Log(1+Empl)	CNSupplier	CNCustomer
%CNOwn*Assets	0.035	-0.063	0.648	-0.003	0.006	-0.000	-0.014
	(0.093)	(0.169)	(0.516)	(0.035)	(0.023)	(0.023)	(0.033)
Log(1+∑Assets_NonCN)	-0.010	0.108**	-0.017			-0.002	-0.009***
	(0.014)	(0.048)	(0.053)			(0.002)	(0.003)
Log(1+Assets)	0.062***	0.263***	1.534***			0.011***	0.007
	(0.008)	(0.026)	(0.094)			(0.004)	(0.004)
Log(1+Fixed)	-0.000	0.002	-0.659***			0.002	-0.006**
	(0.003)	(0.016)	(0.037)			(0.002)	(0.003)
Log(1+Debts)	-0.000	0.004	-0.383***			0.000	0.002***
	(0.002)	(0.004)	(0.013)			(0.001)	(0.001)
Log(1+Sales)	0.029***	-0.015	2.719***			-0.000	-0.000
	(0.006)	(0.011)	(0.065)			(0.002)	(0.003)
Log(1+Empl)	0.074***	0.013	-1.398***			-0.003	0.002
	(0.008)	(0.019)	(0.060)			(0.002)	(0.003)
Log(1+OpeRev)	0.018***	0.023***				0.002*	0.001
	(0.005)	(0.007)				(0.001)	(0.001)
ROA	-0.001***	0.006***		-0.008***	0.000	0.000*	-0.001**
	(0.000)	(0.001)		(0.001)	(0.000)	(0.000)	(0.000)
PL/Assets	0.084	-0.682**		0.512***	-0.524***	-0.015	0.099***
	(0.097)	(0.271)		(0.089)	(0.042)	(0.028)	(0.028)
CashFlow/Assets	-0.179*	0.535**		0.387***	0.638***	-0.007	-0.087***
	(0.092)	(0.250)		(0.088)	(0.036)	(0.026)	(0.028)
HHI	0.083	2.821***	-0.356	-0.036*	-0.021**	-0.006	-0.042
	(0.089)	(0.453)	(0.501)	(0.018)	(0.009)	(0.027)	(0.035)
HHI*HHI	-0.023	-2.048***	0.108	0.005	0.007	0.000	0.001
	(0.023)	(0.466)	(0.183)	(0.012)	(0.006)	(0.005)	(0.007)
Blank_R&D	-8.129***						
	(0.282)						
Supplier						0.037***	-0.008**
						(0.003)	(0.003)
Customer						0.005**	0.047***
						(0.002)	(0.002)
Constant	6.052***	-2.784**	-47.874***	17.325***	5.341***	-0.168*	0.207*
	(0.414)	(1.309)	(1.974)	(0.004)	(0.002)	(0.086)	(0.107)

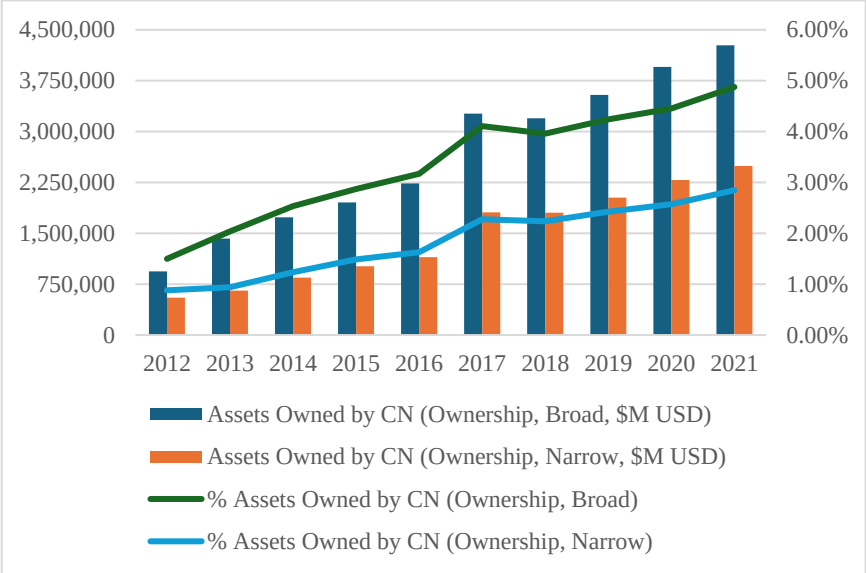
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country*Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector*Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	436,045	118,001	534,760	763,768	556,907	78,771	66,184
R-squared	0.970	-404032	0.645	0.910	0.956	0.612	0.637

Panel B: SOE versus Private

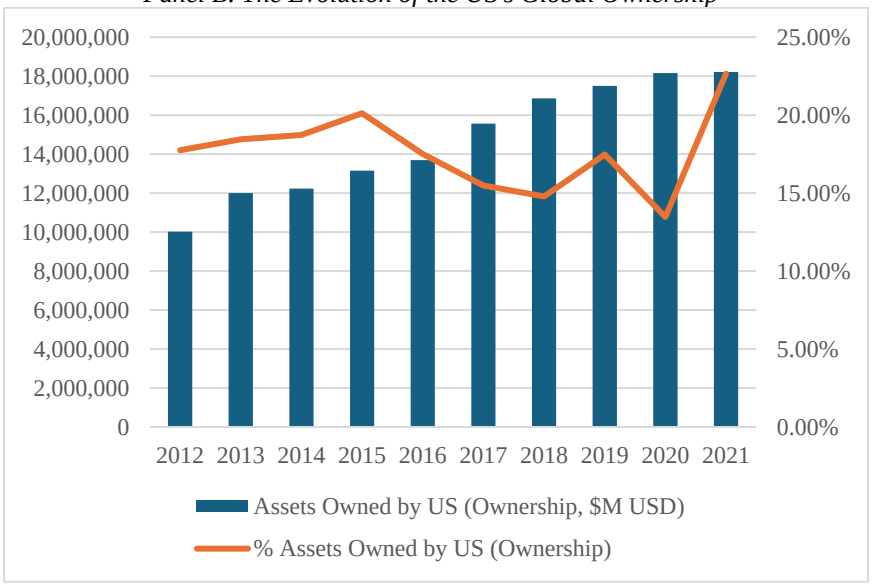
	Control (Broad)						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Log(1+R&D)	#GrantedPatents	ROA	Log(1+Fixed)	Log(1+Empl)	CNSupplier	CNCustomer
%CNOwn*Pvt*Assets	-0.003	-0.102	0.932	-0.015	-0.017	-0.022	-0.016
	(0.109)	(0.197)	(0.596)	(0.038)	(0.025)	(0.024)	(0.035)
%CNOwn*SOE*Assets	-1.073	0.416	1.461	-0.070	0.276	-0.196	0.396
	(0.679)	(1.497)	(4.288)	(0.362)	(0.196)	(0.286)	(0.343)
Log(1+∑Assets_NonCN)	-0.011	0.107**	-0.016			-0.002	-0.009***
	(0.014)	(0.048)	(0.053)			(0.002)	(0.003)
Log(1+Assets)	0.062***	0.263***	1.534***			0.011***	0.007
	(0.008)	(0.026)	(0.094)			(0.004)	(0.004)
Log(1+Fixed)	0.000	0.002	-0.659***			0.002	-0.006**
	(0.003)	(0.016)	(0.037)			(0.002)	(0.003)
Log(1+Debts)	-0.000	0.004	-0.382***			0.000	0.002***
	(0.002)	(0.004)	(0.013)			(0.001)	(0.001)
Log(1+Sales)	0.029***	-0.015	2.719***			-0.000	-0.000
	(0.006)	(0.011)	(0.065)			(0.002)	(0.003)
Log(1+Empl)	0.074***	0.013	-1.398***			-0.003	0.002
	(0.008)	(0.019)	(0.060)			(0.002)	(0.003)
Log(1+OpeRev)	0.018***	0.023***				0.002*	0.001
	(0.005)	(0.007)				(0.001)	(0.001)
ROA	-0.001***	0.006***		-0.008***	0.000	0.000*	-0.001**
	(0.000)	(0.001)		(0.001)	(0.000)	(0.000)	(0.000)
PL/Assets	0.083	-0.683**		0.512***	-0.524***	-0.015	0.099***
	(0.097)	(0.271)		(0.089)	(0.042)	(0.028)	(0.028)
CashFlow/Assets	-0.178*	0.537**		0.387***	0.638***	-0.007	-0.087***
	(0.092)	(0.250)		(0.088)	(0.036)	(0.026)	(0.028)
HHI	0.082	2.813***	-0.358	-0.036*	-0.021**	-0.005	-0.044
	(0.089)	(0.453)	(0.501)	(0.018)	(0.009)	(0.027)	(0.035)
HHI*HHI	-0.023	-2.044***	0.108	0.005	0.008	-0.000	0.001
	(0.023)	(0.466)	(0.183)	(0.012)	(0.006)	(0.005)	(0.007)
Blank_R&D	-8.129***						
	(0.282)						
Supplier						0.037***	-0.008**
						(0.003)	(0.003)
Customer						0.005**	0.047***
						(0.002)	(0.002)
Constant	6.064***	-2.767**	-47.908***	17.326***	5.341***	-0.165*	0.210*
	(0.414)	(1.311)	(1.973)	(0.004)	(0.002)	(0.086)	(0.108)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country*Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector*Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	436,045	118,001	534,760	763,768	556,907	78,771	66,184
R-squared	0.970	-404029	0.645	0.910	0.956	0.612	0.637

Figure 1. The Evolution of China's Global Ownership

Panel A. The Evolution of China's Global Ownership



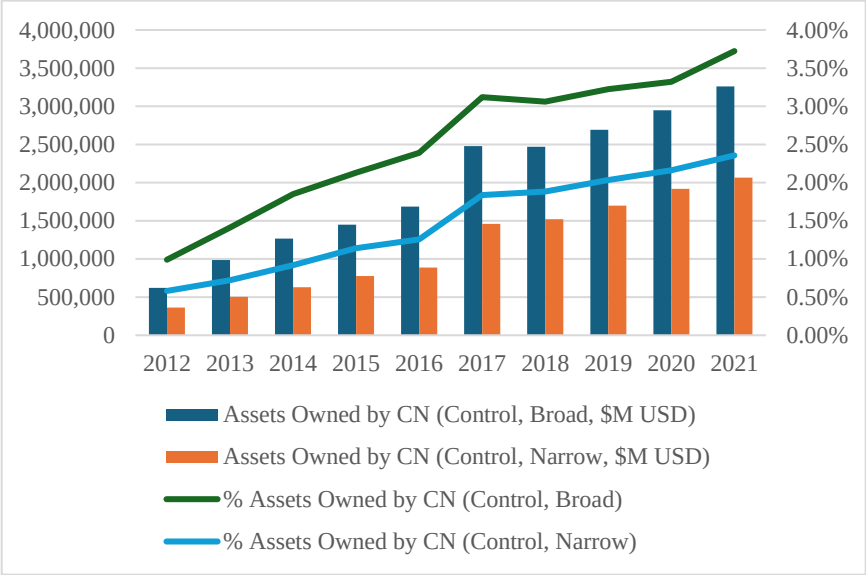
Panel B. The Evolution of the US's Global Ownership



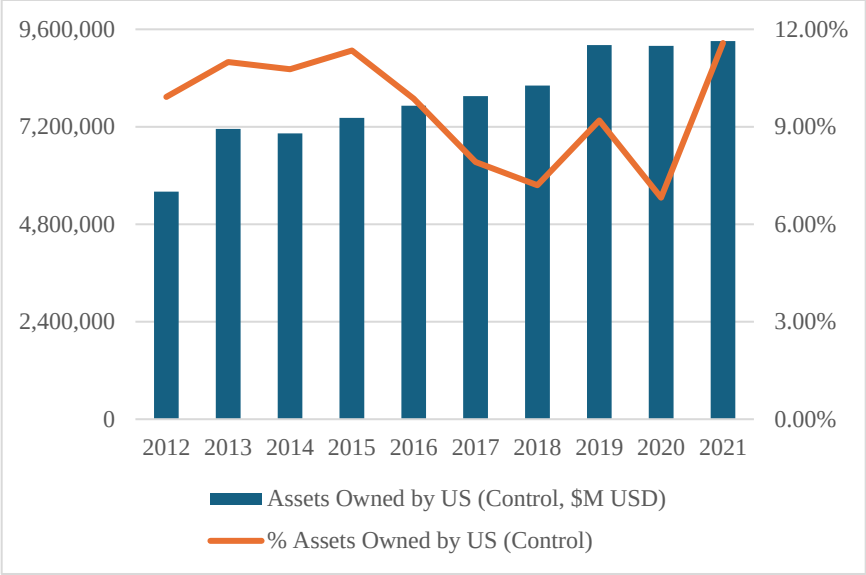
Notes: This figure plots the evolution of global ownership by Chinese and US entities. The data includes non-financial, non-Chinese (non-US) "Very Large" firms from Orbis (2012-2021). Firms based in mainland China, Hong Kong, Macau, or with "golden shares" (firms based in the US) are excluded. Assets are winsorized at the 1st and 99th percentiles and aggregated. CNOwn or USOwn identifies firms whose direct or ultimate shareholders (UO10) are Chinese entities (mainland China, Hong Kong, Macau, or with "golden shares") or US entities. Panel A represents Chinese ownership, and Panel B represents US ownership. Absolute asset values are displayed on the left Y-axis, while the percentages of global control are represented on the right Y-axis.

Figure 2. The Evolution of China's Global Control

Panel A. The Evolution of China's Global Control

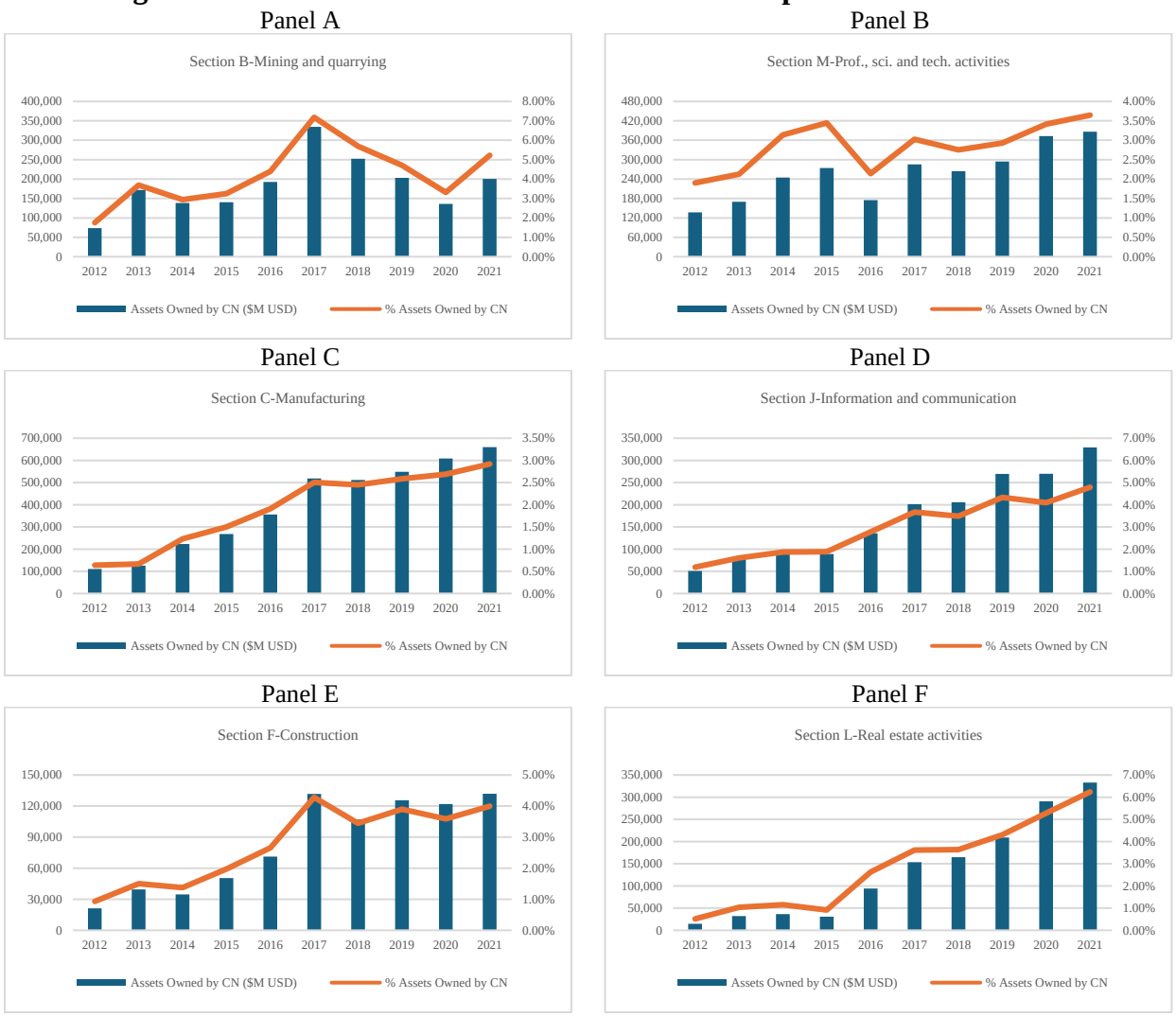


Panel B. The Evolution of the US's Global Control



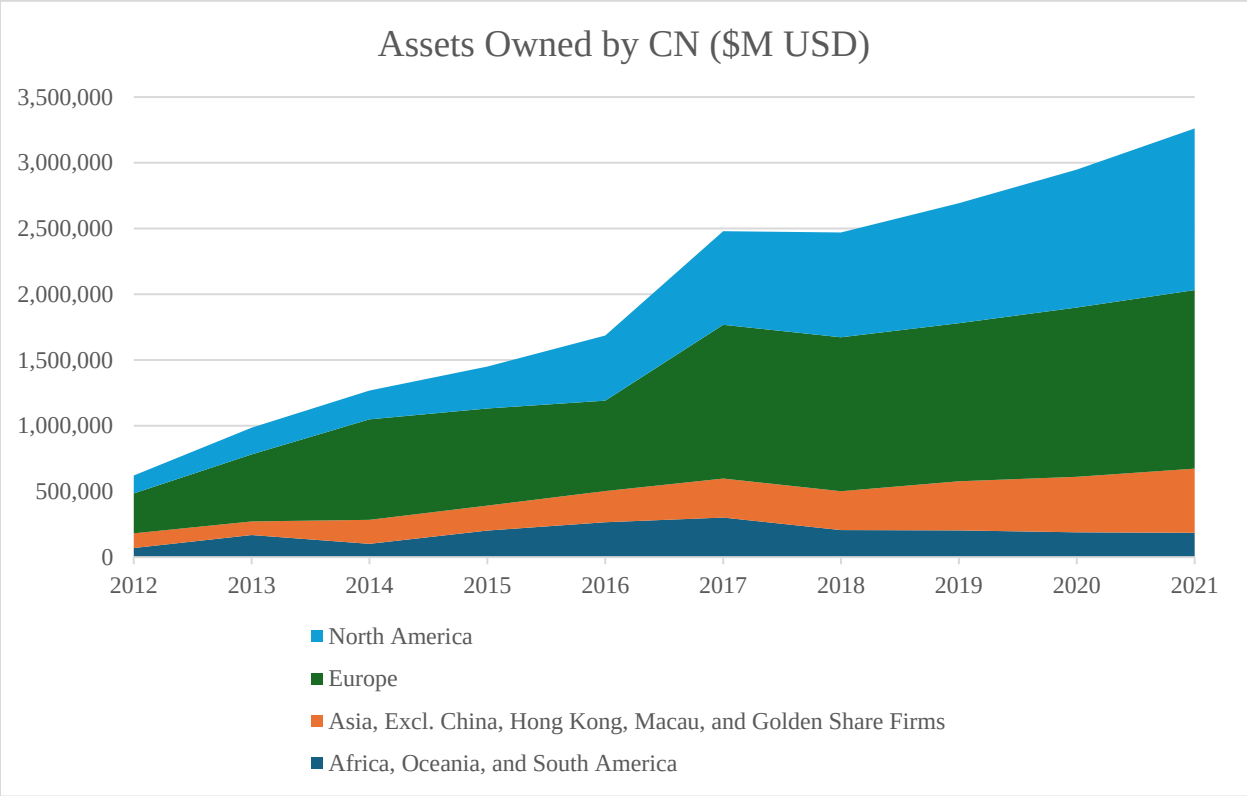
Notes: This figure plots the evolution of global control by Chinese and US entities. The data includes non-financial, non-Chinese (non-US) "Very Large" firms from Orbis (2012-2021). Firms based in mainland China, Hong Kong, Macau, or with "golden shares" (firms based in the US) are excluded. Assets are winsorized at the 1st and 99th percentiles and aggregated. CNOwn or USOwn with control identifies firms whose largest direct shareholders with at least 10% ownership or ultimate shareholders (UO10) are Chinese entities (mainland China, Hong Kong, Macau, or with "golden shares") or US entities. Absolute asset values (million USD) are displayed on the left Y-axis, while the percentages of global control are represented on the right Y-axis.

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



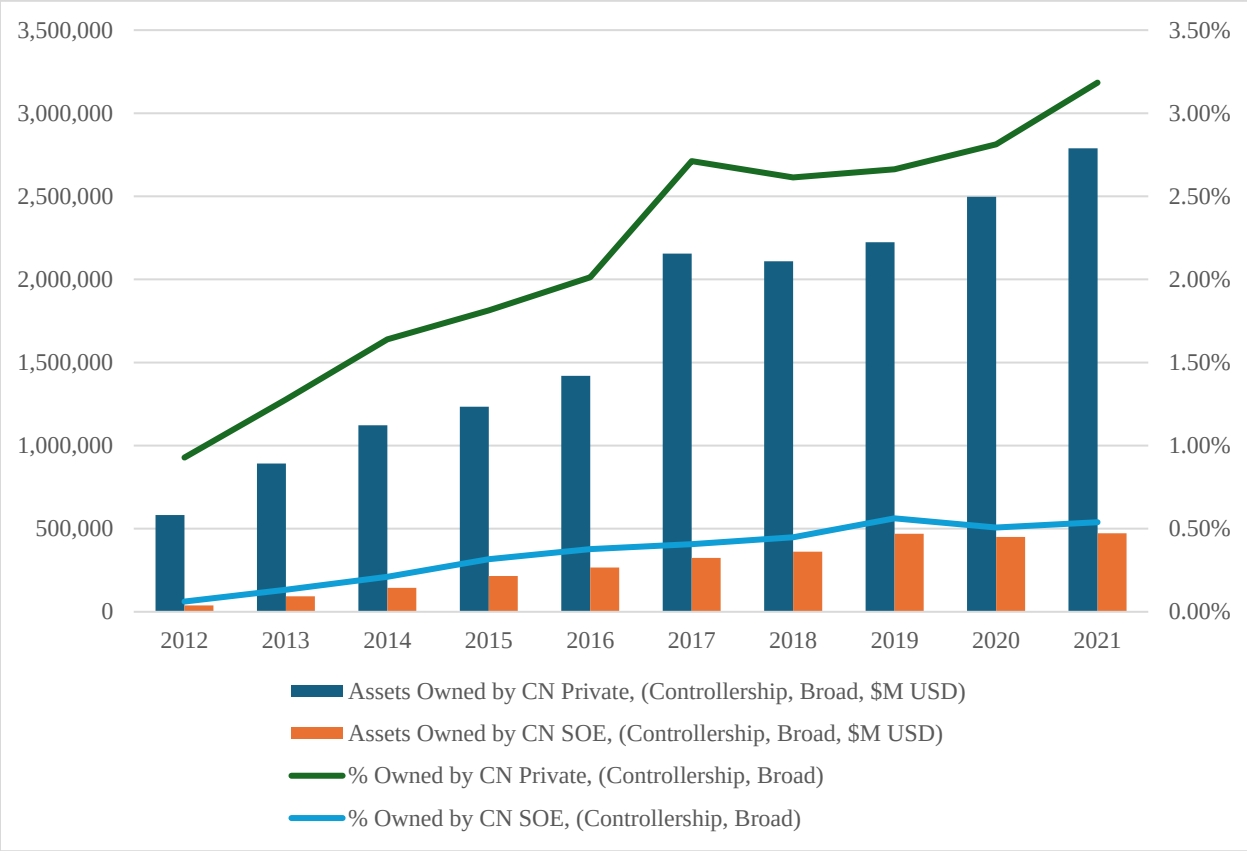
Notes: This figure plots the evolution of China's global ownership across six selected industries: mining and quarrying (Panel A), professional, scientific, and technical activities (Panel B), manufacturing (Panel C), information and communication (Panel D), construction (Panel E), and real estate activities (Panel F). The data includes non-financial, non-Chinese "Very Large" firms from Orbis (2012-2021). Firms based in mainland China, Hong Kong, Macau, or with "golden shares" are excluded. Assets are winsorized at the 1st and 99th percentiles and aggregated within the respective industry. CNOwn with control identifies firms whose largest direct shareholders with at least 10% ownership or ultimate shareholders (UO10) are Chinese entities (mainland China, Hong Kong, Macau, or with "golden shares"). Absolute asset values (million USD) are displayed on the left Y-axis, while the percentages of global control are represented on 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, segmented by world regions. The data includes non-financial, non-Chinese "Very Large" firms from Orbis (2012-2021). Firms based in mainland China, Hong Kong, Macau, or with "golden shares" are excluded. Assets are winsorized at the 1st and 99th percentiles and aggregated within the respective region. CNOwn with control identifies firms whose largest direct shareholders with at least 10% ownership or ultimate shareholders (UO10) are Chinese entities (mainland China, Hong Kong, Macau, or with "golden shares"). The regions analyzed include Asia (excluding China), Europe, North America, and the Rest of the World (Africa, Oceania, and South America). Country classifications by region are detailed in Table A3 of the Appendix. Interpret data for North America cautiously, as Orbis provides complete information predominantly for publicly listed firms in the US and Canada.

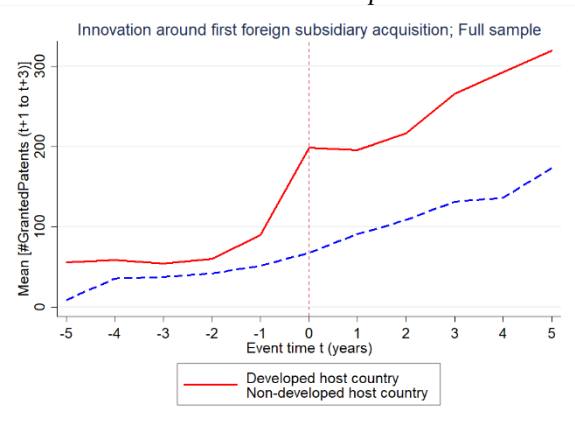
Figure 5. China's Global Control: SOE vs Private



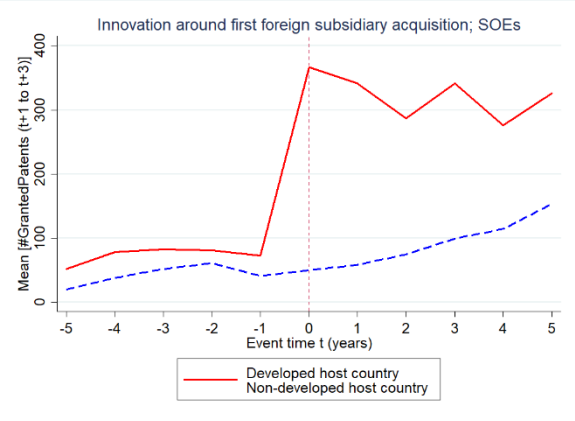
Notes: This figure plots the evolution of China's global ownership, segmented into state-owned enterprises (SOEs) and private firms. The data includes non-financial, non-Chinese "Very Large" firms from Orbis (2012-2021). Firms based in mainland China, Hong Kong, Macau, or with "golden shares" are excluded. Assets are winsorized at the 1st and 99th percentiles and aggregated. CNOwn with control identifies firms whose largest direct shareholders with at least 10% ownership or ultimate shareholders (UO10) are Chinese entities (mainland China, Hong Kong, Macau, or with "golden shares"); CNOwn*SOE with control identifies the largest direct (≥10%) or ultimate ownership by Chinese government entities (UO25); CNOwn*Pvt denotes private Chinese ownership, indicating non-SOE Chinese ownership. Absolute asset values (million USD) are displayed on the left Y-axis, while the percentages of global control are represented on the right Y-axis.

Figure 6. Granted Patents Surrounding Foreign Acquisitions

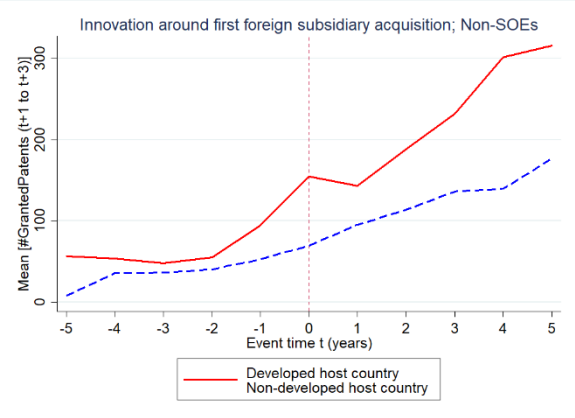
Panel A. Full Sample



Panel B. SOEs



Panel C. Non-SOEs



Notes: This figure plots the evolution of Chinese firms' patenting activities surrounding foreign acquisitions, specifically measuring the number of patents applied for by the firm within the following three years that are eventually granted. The data includes non-financial, Chinese "Very Large" firms from Orbis (2012-2021). Chinese firms include firms based in mainland China, Hong Kong, and Macau. Foreign acquisitions are identified using *CNOwn* with control, which identifies firms whose largest direct shareholders with at least 10% ownership or ultimate shareholders (UO10) are Chinese entities. Foreign acquisitions are categorized into those in developed host countries and those in non-developed host countries. Year t0 is the year when the first foreign acquisition in the respective group is made. Panel A reports the pattern for the full sample, Panel B for the SOEs, and Panel C for the non-SOEs.

Appendix

Table A1. Variable definition.

Variable	Definition
CNOwn, Control, Broad	CNOwn = 1 if one of the firm's direct or ultimate shareholders (i.e., UO10) is a Chinese company and if there is a direct shareholder, the direct shareholder is also the largest shareholder with at least 10% cashflow rights. Chinese companies include firms incorporated or domiciling in China, Hong Kong, or Macau, as well as golden share firms.
CNOwn, Control, Narrow	CNOwn = 1 if one of the firm's direct or ultimate shareholders (i.e., UO10) is a Chinese company and if there is a direct shareholder, the direct shareholder is also the largest shareholder with at least 10% cashflow rights. Under the narrow definition, only firms incorporated or domiciling in China are treated as Chinese firms.
CNOwn, Ownership, Broad	CNOwn = 1 if one of the firm's direct or ultimate shareholders (i.e., UO10) is a Chinese company. Chinese companies include firms incorporated or domiciling in China, Hong Kong, or Macau, as well as golden share firms.
CNOwn, Ownership, Narrow	CNOwn = 1 if one of the firm's direct or ultimate shareholders (i.e., UO10) is a Chinese company. Under the narrow definition, only firms incorporated or domiciling in China are treated as Chinese firms.
CNOwn*SOE, Control, Broad	CNOwn*SOE = 1 if one of the firm's direct or ultimate shareholders (i.e., UO25) is a Chinese government agency and if there is a direct shareholder, the direct shareholder is also the largest shareholder with at least 10% cashflow rights. Chinese government agencies include entities incorporated or domiciling in China and labeled as "Public authority, state, government" by Orbis.
CNOwn*SOE, Control, Narrow	CNOwn*SOE = 1 if one of the firm's direct or ultimate shareholders (i.e., UO25) is a Chinese government agency and if there is a direct shareholder, the direct shareholder is also the largest shareholder with at least 10% cashflow rights. Under the narrow definition, only firms incorporated or domiciling in China are treated as Chinese firms.
CNOwn*SOE, Ownership, Broad	CNOwn*SOE = 1 if one of the firm's direct or ultimate shareholders (i.e., UO25) is a Chinese government agency. Chinese government agencies include entities incorporated or domiciling in China and labeled as "Public authority, state, government" by Orbis. Broad definition includes Hong Kong, Macau, and golden share firms.
CNOwn*SOE, Ownership, Narrow	CNOwn*SOE = 1 if one of the firm's direct or ultimate shareholders (i.e., UO25) is a Chinese government agency. Narrow definition includes only firms incorporated or domiciling in China.
US_Owned, Control	US_Owned = 1 if one of the firm's direct or ultimate shareholders (i.e., UO10) is a US company and if there is a direct shareholder, the direct shareholder is the largest shareholder with at least 10% cashflow rights.
US_Owned, Ownership	US_Owned = 1 if one of the firm's direct or ultimate shareholders (i.e., UO10) is a US company.
JP_Owned, Control	JP_Owned = 1 if one of the firm's direct or ultimate shareholders (i.e., UO10) is a Japanese company and if there is a direct shareholder, the direct shareholder is the largest shareholder with at least 10% cashflow rights.
JP_Owned, Ownership	JP_Owned = 1 if one of the firm's direct or ultimate shareholders (i.e., UO10) is a Japanese company.
IN_Owned, Control	IN_Owned = 1 if one of the firm's direct or ultimate shareholders (i.e., UO10) is an Indian company and if there is a direct shareholder, the direct shareholder is the largest shareholder with at least 10% cashflow rights.
IN_Owned, Ownership	IN_Owned = 1 if one of the firm's direct or ultimate shareholders (i.e., UO10) is an Indian company.
Log(1+R&D), Dropped if Missing	R&D expenses are winsorized at the 1st and 99th percentiles and log-transformed. R&D is deleted if missing.
Log(1+R&D), R&D=0 if Missing	R&D expenses are winsorized at the 1st and 99th percentiles and log-transformed. R&D is treated as zero if missing.
Blank_R&D	A binary variable that equals one if R&D expenses are not reported for a firm in a given year.
#GrantedPatents	The number of granted patents in the following three years. Duplicate applications in multiple jurisdictions are treated as one application, and jointly applied patents are fractionally attributed across firms.

Log(1+Assets)	Total assets are winsorized at the 1st and 99th percentiles and log-transformed.
Log(1+Fixed)	Fixed assets are winsorized at the 10th and 90th percentiles and log-transformed.
Log(1+Debts)	Total debts, defined as the summation of long-term debt, loans, and creditors, are winsorized at the 1st and 99th percentiles and log-transformed.
ROA Using P/L before tax (%)	Return on assets is calculated using profit and loss before tax, and winsorized at the 1st and 99th percentiles.
TFP	TFP is the exponential of the residuals of regressing Log(1+VA) on Log(1+Fixed) and 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. Value added is imputed as the summation of factor incomes going to employees (costs of employees) and to capital owners (EBITDA) when the value added variable in Orbis is missing. The regressions are conducted for each of the NACE Rev.2 2-digit sector using data up to each year.
Log(1+Empl)	Employment is winsorized at the 1st and 99th percentiles and log-transformed.
CNCustomer	Equals one if the firm is recorded as a customer of a source company (or, reversely, be supplied by a target company) in China (ISIN starts with CN, BVDID starts with CN, or Orbis domicile country = CN) or a source company with CNOwn = 1 (narrow definition and Control), zero if the firm is other country's customer or is not a customer, missing if the firm does not have supplier or customer information up to year t, based on FactSet Revere. Customers are • (Direct definition) firms listed in FactSet as (i) purchasing goods or services from a source company or (ii) to whom a source company licenses products, patents, intellectual property, and technology. • (Reverse definition) firms recorded in FactSet as those (i) a target company sells goods or services to; (ii) provides paid manufacturing services to; (iii) offers paid marketing to, brands, or advertises services to; (iv) receives payment from for distribution services; or (v) from whom a target company licenses products, patents, intellectual property, or technology.
CNSupplier	Equals one if the firm is recorded as a supplier to a source company (or, reversely, has a customer that is a target company) in China (ISIN starts with CN, BVDID starts with CN, or Orbis domicile country = CN) or a source company with CNOwn = 1 (narrow definition and Control), zero if the firm is other country's supplier or is not a supplier, missing if the firm does not have supplier or customer information up to year t, based on FactSet Revere. Suppiers are • (Direct definition) firms recorded in FactSet as: (i) selling goods or services to a source company; (ii) providing paid manufacturing services; (iii) offering paid marketing, branding, or advertising services; (iv) receiving payment from a source company for distribution services; or (v) from whom a source company licenses products, patents, intellectual property, or technology. • (Reverse definition) firms listed in FactSet as those (i) a target company purchases goods or services from or (ii) to whom a target company licenses products, patents, intellectual property, and technology.
USCutomer	Equals one if the firm is recorded as a customer of a source company (or, reversely, be supplied by a target company) in the US (ISIN starts with US) or a source company with USOwn = 1 (Control), zero if the firm is other country's customer or is not a customer, missing if the firm does not have supplier or customer information up to year t, based on FactSet Revere. Customers are • (Direct definition) firms listed in FactSet as (i) purchasing goods or services from a source company or (ii) to whom a source company licenses products, patents, intellectual property, and technology. • (Reverse definition) firms recorded in FactSet as those (i) a target company sells goods or services to; (ii) provides paid manufacturing services to; (iii) offers paid marketing to, brands, or advertises services to; (iv) receives payment from for distribution services; or (v) from whom a target company licenses products, patents, intellectual property, or technology.

USSupplier	Equals one if the firm is recorded as a supplier to a source company (or, reversely, has a customer that is a target company) in the US (ISIN starts with US) or a source company with USOwn = 1 (Control), zero if the firm is other country's supplier or is not a supplier, missing if the firm does not have supplier or customer information up to year t, based on FactSet Revere. Suppiers are • (Direct definition) firms recorded in FactSet as: (i) selling goods or services to a source company; (ii) providing paid manufacturing services; (iii) offering paid marketing, branding, or advertising services; (iv) receiving payment from a source company for distribution services; or (v) from whom a source company licenses products, patents, intellectual property, or technology. • (Reverse definition) firms listed in FactSet as those (i) a target company purchases goods or services from or (ii) to whom a target company licenses products, patents, intellectual property, and technology.
JPCustomer	Equals one if the firm is recorded as a customer of a source company (or, reversely, be supplied by a target company) in Japan (ISIN starts with JP) or a source company with JPOwn = 1 (Control), zero if the firm is other country's customer or is not a customer, missing if the firm does not have supplier or customer information up to year t, based on FactSet Revere. Customers are • (Direct definition) firms listed in FactSet as (i) purchasing goods or services from a source company or (ii) to whom a source company licenses products, patents, intellectual property, and technology. • (Reverse definition) firms recorded in FactSet as those (i) a target company sells goods or services to; (ii) provides paid manufacturing services to; (iii) offers paid marketing to, brands, or advertises services to; (iv) receives payment from for distribution services; or (v) from whom a target company licenses products, patents, intellectual property, or technology.
JPSupplier	Equals one if the firm is recorded as a supplier to a source company (or, reversely, has a customer that is a target company) in Japan (ISIN starts with JP) or a source company with JPOwn = 1 (Control), zero if the firm is other country's supplier or is not a supplier, missing if the firm does not have supplier or customer information up to year t, based on FactSet Revere. Suppiers are • (Direct definition) firms recorded in FactSet as: (i) selling goods or services to a source company; (ii) providing paid manufacturing services; (iii) offering paid marketing, branding, or advertising services; (iv) receiving payment from a source company for distribution services; or (v) from whom a source company licenses products, patents, intellectual property, or technology. • (Reverse definition) firms listed in FactSet as those (i) a target company purchases goods or services from or (ii) to whom a target company licenses products, patents, intellectual property, and technology.
INCustomer	Equals one if the firm is recorded as a customer of a source company (or, reversely, be supplied by a target company) in India (ISIN starts with IN) or a source company with INOwn = 1 (Control), zero if the firm is other country's customer or is not a customer, missing if the firm does not have supplier or customer information up to year t, based on FactSet Revere. Customers are • (Direct definition) firms listed in FactSet as (i) purchasing goods or services from a source company or (ii) to whom a source company licenses products, patents, intellectual property, and technology. • (Reverse definition) firms recorded in FactSet as those (i) a target company sells goods or services to; (ii) provides paid manufacturing services to; (iii) offers paid marketing to, brands, or advertises services to; (iv) receives payment from for distribution services; or (v) from whom a target company licenses products, patents, intellectual property, or technology.
INSupplier	Equals one if the firm is recorded as a supplier to a source company (or, reversely, has a customer that is a target company) in India (ISIN starts with IN) or a source company with INOwn = 1

	(Control), zero if the firm is other country's supplier or is not a supplier, missing if the firm does not have supplier or customer information up to year t, based on FactSet Revere. Suppiers are • (Direct definition) firms recorded in FactSet as: (i) selling goods or services to a source company; (ii) providing paid manufacturing services; (iii) offering paid marketing, branding, or advertising services; (iv) receiving payment from a source company for distribution services; or (v) from whom a source company licenses products, patents, intellectual property, or technology. • (Reverse definition) firms listed in FactSet as those (i) a target company purchases goods or services from or (ii) to whom a target company licenses products, patents, intellectual property, and technology.
Customer	Equals one if the firm is recorded as a customer of a source company (or, reversely, be supplied by a target company), zero if the firm is not a customer, based on FactSet Revere. Customers are • (Direct definition) firms listed in FactSet as (i) purchasing goods or services from a source company or (ii) to whom a source company licenses products, patents, intellectual property, and technology. • (Reverse definition) firms recorded in FactSet as those (i) a target company sells goods or services to; (ii) provides paid manufacturing services to; (iii) offers paid marketing to, brands, or advertises services to; (iv) receives payment from for distribution services; or (v) from whom a target company licenses products, patents, intellectual property, or technology.
Supplier	Equals one if the firm is recorded as a supplier to a source company (or, reversely, has a customer that is a target company), zero if the firm is not a supplier, based on FactSet Revere. Suppiers are • (Direct definition) firms recorded in FactSet as: (i) selling goods or services to a source company; (ii) providing paid manufacturing services; (iii) offering paid marketing, branding, or advertising services; (iv) receiving payment from a source company for distribution services; or (v) from whom a source company licenses products, patents, intellectual property, or technology. • (Reverse definition) firms listed in FactSet as those (i) a target company purchases goods or services from or (ii) to whom a target company licenses products, patents, intellectual property, and technology.
Log(1+OpeRev)	Operating revenue is winsorized and log-transformed. Source: Orbis Financials.
Log(1+Sales)	Sales are winsorized and log-transformed. Source: Orbis Financials.
CashFlow/Assets	Ratio of cash flow to assets, winsorized at the 1st and 99th percentiles.
P/L/Assets	Profit and loss before tax divided by total assets, winsorized at the 1st and 99th percentiles.
HHI*HHI	Square of the Herfindahl-Hirschman Index (HHI) at the country-industry-year level based on firm-level sales.
HHI	Herfindahl-Hirschman Index at the country-industry-year level based on firm-level sales.
ln(1+ΣCNOwn*Assets), Control, Broad	CNOwn_Assets = CNOwn × Assets, aggregated at the country-sector-year level where CNOwn is defined under the Control-broad definition. The variable is log-transformed after winsorization.
ln(1+ΣCNOwn*Assets), Control, Narrow	CNOwn_Assets = CNOwn × Assets, aggregated at the country-sector-year level where CNOwn is defined under the Control-narrow definition. The variable is log-transformed after winsorization.
ln(1+ΣCNOwn*Assets), Ownership, Broad	CNOwn_Assets = CNOwn × Assets, aggregated at the country-sector-year level where CNOwn is defined under the ownership-broad definition. The variable is log-transformed after winsorization.
ln(1+ΣCNOwn*Assets), Ownership, Narrow	CNOwn_Assets = CNOwn × Assets, aggregated at the country-sector-year level where CNOwn is defined under the ownership-narrow definition. The variable is log-transformed after winsorization.
ln(1+ΣCNOwn*Pvt*Assets), Control, Broad	CNOwn*Pvt_Assets = (CNOwn - CNOwn*SOE) × Assets, aggregated at the country-sector-year level where ownership is defined under the Control-broad definition. The variable is log-transformed after winsorization.
ln(1+ΣCNOwn*Pvt*Assets), Control, Narrow	CNOwn*Pvt_Assets = (CNOwn - CNOwn*SOE) × Assets, aggregated at the country-sector-year level under the Control-narrow definition. The variable is log-transformed after winsorization.

ln(1+ΣCNOwn*Pvt*Assets), Ownership, Broad	CNOwn*Pvt_Assets = (CNOwn - CNOwn*SOE) × Assets, aggregated at the country-sector-year level under the ownership-broad definition. The variable is log-transformed after winsorization.
ln(1+ΣCNOwn*Pvt*Assets), Ownership, Narrow	CNOwn*Pvt_Assets = (CNOwn - CNOwn*SOE) × Assets, aggregated at the country-sector-year level under the ownership-narrow definition. The variable is log-transformed after winsorization.
ln(1+ΣCNOwn*SOE*Assets), Control, Broad	CNOwn*SOE_Assets = CNOwn*SOE × Assets, aggregated at the country-sector-year level where ownership is defined under the Control-broad definition. The variable is log-transformed after winsorization.
ln(1+ΣCNOwn*SOE*Assets), Control, Narrow	CNOwn*SOE_Assets = CNOwn*SOE × Assets, aggregated at the country-sector-year level under the Control-narrow definition. The variable is log-transformed after winsorization.
ln(1+ΣCNOwn*SOE*Assets), Ownership, Broad	CNOwn*SOE_Assets = CNOwn*SOE × Assets, aggregated at the country-sector-year level under the ownership-broad definition. The variable is log-transformed after winsorization.
ln(1+ΣCNOwn*SOE*Assets), Ownership, Narrow	CNOwn*SOE_Assets = CNOwn*SOE × Assets, aggregated at the country-sector-year level under the ownership-narrow definition. The variable is log-transformed after winsorization.
%CNOwn*Assets, Control, Broad	CNOwn_Assets = CNOwn × Assets, aggregated at the country-sector-year level where CNOwn is defined under the Control-broad definition.
%CNOwn*Assets, Control, Narrow	CNOwn_Assets = CNOwn × Assets, aggregated at the country-sector-year level where CNOwn is defined under the Control-narrow definition.
%CNOwn*Assets, Ownership, Broad	CNOwn_Assets = CNOwn × Assets, aggregated at the country-sector-year level where CNOwn is defined under the ownership-broad definition.
%CNOwn*Assets, Ownership, Narrow	CNOwn_Assets = CNOwn × Assets, aggregated at the country-sector-year level where CNOwn is defined under the ownership-narrow definition.
%CNOwn*Pvt*Assets, Control, Broad	CNOwn*Pvt_Assets = (CNOwn - CNOwn*SOE) × Assets, aggregated at the country-sector-year level where ownership is defined under the Control-broad definition.
%CNOwn*Pvt*Assets, Control, Narrow	CNOwn*Pvt_Assets = (CNOwn - CNOwn*SOE) × Assets, aggregated at the country-sector-year level under the Control-narrow definition.
%CNOwn*Pvt*Assets, Ownership, Broad	CNOwn*Pvt_Assets = (CNOwn - CNOwn*SOE) × Assets, aggregated at the country-sector-year level under the ownership-broad definition.
%CNOwn*Pvt*Assets, Ownership, Narrow	CNOwn*Pvt_Assets = (CNOwn - CNOwn*SOE) × Assets, aggregated at the country-sector-year level under the ownership-narrow definition.
%CNOwn*SOE*Assets, Control, Broad	CNOwn*SOE_Assets = CNOwn*SOE × Assets, aggregated at the country-sector-year level where ownership is defined under the Control-broad definition.
%CNOwn*SOE*Assets, Control, Narrow	CNOwn*SOE_Assets = CNOwn*SOE × Assets, aggregated at the country-sector-year level under the Control-narrow definition.
%CNOwn*SOE*Assets, Ownership, Broad	CNOwn*SOE_Assets = CNOwn*SOE × Assets, aggregated at the country-sector-year level under the ownership-broad definition.
%CNOwn*SOE*Assets, Ownership, Narrow	CNOwn*SOE_Assets = CNOwn*SOE × Assets, aggregated at the country-sector-year level under the ownership-narrow definition.
Log(1+∑Assets)	Total assets are aggregated at the country-sector-year level and log-transformed. Source: Orbis Financials.
Log(1+∑Fixed)	Fixed assets are aggregated at the country-sector-year level and log-transformed. Source: Orbis Financials.
Log(1+∑Debts)	Total debts (long-term debt, loans, and creditors) are aggregated at the country-sector-year level and log-transformed. Source: Orbis Financials.
Log(1+∑R&D)	R&D expenses are treated as zero if missing, aggregated at the country-sector-year level, and log-transformed. Source: Orbis Financials.
Blank_RD (country-sector)	A binary variable that equals one if no firm in a given country-sector-year reports non-missing R&D expenses. Source: Orbis Financials.
Log(1+∑EMPL)	Employment is aggregated at the country-sector-year level and log-transformed. Source: Orbis Financials.
Log(1+∑Assets_NonCN)	Total assets of firms that are never owned by any types of Chinese entities throughout our sample period are aggregated at the country-sector-year level and log-transformed. Source: Orbis Financials.
II_CN/II	Intermediate outputs to Chinese industries over the total intermediate outputs for each country-sector-year. Source: OECD Input-Output Tables.

IO_CN/IO	Intermediate inputs from Chinese industries over the total intermediate inputs for each country-sector-year. Source: OECD Input-Output Tables.
Nature_Resources_Rent_Country	Natural resource rents as a percentage of GDP for each country-year. Source: World Bank.
Agriculture, hunting, forestry (indicator)	Equals one if the industry's 2-digit ISIC Rev. 4 code is 01 or 02.
Mining&quarrying - energy (indicator)	Equals one if the industry's 2-digit ISIC Rev. 4 code is 05 or 06.
Mining&quarrying - non-energy (indicator)	Equals one if the industry's 2-digit ISIC Rev. 4 code is 07 or 08.
Mining support service activities (indicator)	Equals one if the industry's 2-digit ISIC Rev. 4 code is 09.

Table A2. NACE Rev. 2 sectors targeted by "Made in China 2025" (MIC2025).

MIC Targeted Sector	NACE Rev2	Name	Description
Advanced rail equipment	*302*	Railway locomotives and rolling stock	Direct match to advanced rail equipment priority.
Aerospace & aviation equipment	*265*	Instruments for measuring, testing & navigation; watches & clocks	Precision instruments and navigation systems essential to avionics & aerospace.
	303	Air & spacecraft and related machinery	Direct match to aerospace & aviation equipment priority (incl. space).
	613	Satellite telecommunications activities	Space-based comms rely on spacecraft; downstream of aerospace priority.
Agricultural machinery & equipment	*283*	Agricultural and forestry machinery	Direct match to agricultural machinery priority.
Biomedicine & high-performance medical devices	*211*	Basic pharmaceutical products	Upstream pharma inputs for domestic biomedicine value chain.
	212	Pharmaceutical preparations	Drug manufacturing; core to biomedicine push.
	266	Irradiation, electromedical & electrotherapeutic equipment	Electromedical imaging/therapy devices; explicit MIC medical device focus.
	267	Optical instruments & photographic equipment	Optics for endoscopy, diagnostics and precision instruments.
	325	Medical and dental instruments & supplies	Medical instruments & disposables; part of high-performance medical devices.
	861	Hospital activities	Clinical demand-pull and deployment site for advanced medical devices.
	862	Medical and dental practice activities	Physician/dental users & buyers of domestic medical devices.
	869	Other human health activities	Other healthcare services using diagnostics & devices.
Electrical equipment (power equipment & smart grid)	*252*	Tanks, reservoirs & containers of metal	Pressure vessels & large metal containers used in power/energy plant equipment.
	253	Steam generators, except central heating hot-water boilers	Boilers/steam generators are key balance-of-plant for power equipment.
	271	Electric motors, generators, transformers & distribution/control apparatus	Motors/transformers/switchgear for smart grid and advanced equipment.
	272	Batteries and accumulators	Core to NEVs, grid storage and electronics.
	273	Wiring and wiring devices	Cables & wiring devices for grid, rail, aerospace and factories.
	274	Electric lighting equipment	Lighting (including LED) is part of efficient electrical equipment.
	279	Other electrical equipment	Power equipment sub-systems not elsewhere classified.
	351	Electric power generation, transmission & distribution	Grid operations that drive/absorb domestic power-equipment innovation (UHV, smart grid).
	352	Manufacture of gas; distribution of gaseous fuels via mains	Gas infrastructure complements energy equipment & industrial efficiency goals.

	353	Steam and air conditioning supply	Thermal/steam utilities linked to industrial energy efficiency and CHP equipment.
Energy-saving & new-energy vehicles (NEVs)	*291*	Motor vehicles	Vehicle platforms targeted for electrification & efficiency (NEVs).
	292	Bodies (coachwork) for motor vehicles; trailers & semi-trailers	Bodies/trailers integrate lightweight materials & EV platforms.
	293	Parts and accessories for motor vehicles	Domestic auto parts capability incl. e-drive, power electronics.
	309	Other transport equipment n.e.c. (incl. motorcycles, bicycles)	Two-wheelers & other transport moving to electrification (NEVs ecosystem).
High-end numerically controlled (NC) machine tools & robots	*281*	General-purpose machinery	General machinery base for upgrading to high-end NC equipment.
	282	Other general-purpose machinery	Other general-purpose machinery used across automated production lines.
	284	Metal forming machinery & machine tools	Direct match to high-end NC machine tools; foundation of smart manufacturing.
	289	Other special-purpose machinery	Robotics and special-purpose machinery fit the NC tools & robots priority.
Maritime engineering equipment & high-tech ships	*301*	Building of ships and boats	High-tech ships & offshore engineering equipment are an explicit priority.
New materials	*201*	Basic chemicals, fertilisers, plastics & synthetic rubber (primary forms)	Feeds advanced materials (polymers, basic chemicals) for composites, semiconductors & batteries.
	205	Other chemical products	Speciality chemicals (e.g., additives, electrolytes) underpin new materials and devices.
	206	Man-made fibres	High-performance fibres for aerospace, rail, autos and protective equipment.
	231	Glass and glass products	Technical glass (e.g., display, optical, PV) is a priority new material.
	232	Refractory products	Advanced refractories for high-temp processes in steel, glass, energy equipment.
	233	Clay building materials	Engineered ceramics/bricks relevant for new-material and green construction technologies.
	234	Other porcelain and ceramic products	Technical ceramics for electronics, medical devices, energy equipment.
	235	Cement, lime and plaster	Materials platform; target is high-performance & green variants.
	236	Articles of concrete, cement and plaster	Pre-cast/engineered articles tie to high-performance materials and smart construction.
	239	Abrasive products & other non-metallic mineral products n.e.c.	Abrasives & other mineral materials used in polishing, batteries, electronics.
	244	Basic precious & other non-ferrous metals	Non-ferrous metals (e.g., Al, Cu, Ti) critical for aerospace, NEVs, grid equipment.
	721	R&D on natural sciences & engineering	R&D on materials & engineering feeding semiconductors, composites, batteries.
New-generation information technology	*261*	Electronic components and boards	Chips & components; backbone of next-gen IT and smart manufacturing.
	262	Computers and peripheral equipment	Computing hardware platform for digital manufacturing & AI.
	263	Communication equipment	Telecom gear integral to 5G/industrial internet.
	582	Software publishing	Domestic software ecosystems/platforms for industrial digitalization.
	611	Wired telecommunications activities	Fixed/fibre networks (backbone & access) enabling industrial internet and cloud/edge connectivity.

	612	Wireless telecommunications activities	Mobile networks (4G/5G/6G) enabling industrial IoT, smart manufacturing and V2X for NEVs.
	619	Other telecommunications activities	Specialized telecom services (e.g., internet access, VoIP, private networks, MVNO); supports industrial internet and IIoT.
	620	Computer programming, consultancy & related activities	Software & IT services enabling industrial internet and AI applications.
	631	Data processing, hosting & related activities; web portals	Cloud/data infrastructure supporting smart manufacturing.

Table A3. List of regions.

Notes: AF - Africa, AN - Antartica, AS - Asia, OC - Oceania, EU - Europe, NA - North America, SA - South America. The list of tax havens comes from Coppola et al. (2021) with the addition of Switzerland (https://globalcapitalallocation.s3.us-east-2.amazonaws.com/CMNS-Appendix.pdf).

Continent	ISO 2	Name	IsTaxHaven
AF	DZ	Algeria	0
AF	AO	Angola	0
AF	BJ	Benin	0
AF	BW	Botswana	0
AF	BF	Burkina Faso	0
AF	BI	Burundi	0
AF	CM	Cameroon	0
AF	CV	Cape Verde	0
AF	CF	Central African Republic	0
AF	TD	Chad	0
AF	KM	Comoros	0
AF	CG	Congo	0
AF	CD	Congo, the Democratic Republic of the	0
AF	CI	Côte d'Ivoire	0
AF	DJ	Djibouti	1
AF	EG	Egypt	0
AF	GQ	Equatorial Guinea	0
AF	ER	Eritrea	0
AF	ET	Ethiopia	0
AF	GA	Gabon	0
AF	GM	Gambia	0
AF	GH	Ghana	0
AF	GN	Guinea	0
AF	GW	Guinea-Bissau	0
AF	KE	Kenya	0
AF	LS	Lesotho	0
AF	LR	Liberia	1
AF	LY	Libyan Arab Jamahiriya	0
AF	MG	Madagascar	0
AF	MW	Malawi	0
AF	ML	Mali	0
AF	MR	Mauritania	0
AF	MU	Mauritius	1
AF	YT	Mayotte	0
AF	MA	Morocco	0
AF	MZ	Mozambique	0
AF	NA	Namibia	0
AF	NE	Niger	0
AF	NG	Nigeria	0
AF	RE	Réunion	0
AF	RW	Rwanda	0
AF	SH	Saint Helena	0
AF	ST	Sao Tome and Principe	0
AF	SN	Senegal	0
AF	SC	Seychelles	1
AF	SL	Sierra Leone	0
AF	SO	Somalia	0
AF	ZA	South Africa	0

AF	SS	South Sudan	0
AF	SD	Sudan	0
AF	SZ	Swaziland	0
AF	TZ	Tanzania, United Republic of	0
AF	TG	Togo	0
AF	TN	Tunisia	0
AF	UG	Uganda	0
AF	EH	Western Sahara	0
AF	ZM	Zambia	0
AF	ZW	Zimbabwe	0
AN	AQ	Antarctica	0
AN	BV	Bouvet Island	0
AN	TF	French Southern Territories	0
AN	HM	Heard Island and McDonald Islands	0
AN	GS	South Georgia and the South Sandwich Islands	0
AS	AF	Afghanistan	0
AS	AM	Armenia	0
AS	AZ	Azerbaijan	0
AS	BH	Bahrain	1
AS	BD	Bangladesh	0
AS	BT	Bhutan	0
AS	IO	British Indian Ocean Territory	0
AS	BN	Brunei Darussalam	0
AS	KH	Cambodia	0
AS	CN	China	0
AS	CX	Christmas Island	0
AS	CC	Cocos (Keeling) Islands	0
AS	CY	Cyprus	1
AS	GE	Georgia	0
AS	HK	Hong Kong	1
AS	IN	India	0
AS	ID	Indonesia	0
AS	IR	Iran, Islamic Republic of	0
AS	IQ	Iraq	0
AS	IL	Israel	0
AS	JP	Japan	0
AS	JO	Jordan	1
AS	KZ	Kazakhstan	0
AS	KP	Korea, Democratic People's Republic of	0
AS	KR	Korea, Republic of	0
AS	KW	Kuwait	0
AS	KG	Kyrgyzstan	0
AS	LA	Lao People's Democratic Republic	0
AS	LB	Lebanon	1
AS	MO	Macao	1
AS	MY	Malaysia	0
AS	MV	Maldives	1
AS	MN	Mongolia	0
AS	MM	Myanmar	0
AS	NP	Nepal	0
AS	OM	Oman	0
AS	PK	Pakistan	0
AS	PS	Palestinian Territory, Occupied	0

AS	PH	Philippines	0
AS	QA	Qatar	0
AS	SA	Saudi Arabia	0
AS	SG	Singapore	1
AS	LK	Sri Lanka	0
AS	SY	Syrian Arab Republic	0
AS	TW	Taiwan, Province of China	0
AS	TJ	Tajikistan	0
AS	TH	Thailand	0
AS	TL	Timor-Leste	0
AS	TM	Turkmenistan	0
AS	AE	United Arab Emirates	0
AS	UZ	Uzbekistan	0
AS	VN	Vietnam	0
AS	YE	Yemen	0
EU	AX	Åland Islands	0
EU	AL	Albania	0
EU	AD	Andorra	1
EU	AT	Austria	0
EU	BY	Belarus	0
EU	BE	Belgium	0
EU	BA	Bosnia and Herzegovina	0
EU	BG	Bulgaria	0
EU	HR	Croatia	0
EU	CZ	Czech Republic	0
EU	DK	Denmark	0
EU	EE	Estonia	0
EU	FO	Faroe Islands	0
EU	FI	Finland	0
EU	FR	France	0
EU	DE	Germany	0
EU	GI	Gibraltar	1
EU	GR	Greece	0
EU	GG	Guernsey	1
EU	VA	Holy See (Vatican City State)	0
EU	HU	Hungary	0
EU	IS	Iceland	0
EU	IE	Ireland	1
EU	IM	Isle of Man	1
EU	IT	Italy	0
EU	JE	Jersey	1
EU	LV	Latvia	0
EU	LI	Liechtenstein	1
EU	LT	Lithuania	0
EU	LU	Luxembourg	1
EU	MK	Macedonia, the Former Yugoslav Republic of	0
EU	MT	Malta	1
EU	MD	Moldova, Republic of	0
EU	MC	Monaco	1
EU	ME	Montenegro	0
EU	NL	Netherlands	1
EU	NO	Norway	0
EU	PL	Poland	0

EU	PT	Portugal	0
EU	RO	Romania	0
EU	RU	Russian Federation	0
EU	SM	San Marino	1
EU	RS	Serbia	0
EU	SK	Slovakia	0
EU	SI	Slovenia	0
EU	ES	Spain	0
EU	SJ	Svalbard and Jan Mayen	0
EU	SE	Sweden	0
EU	CH	Switzerland	1
EU	TR	Turkey	0
EU	UA	Ukraine	0
EU	GB	United Kingdom	0
NA	AI	Anguilla	1
NA	AG	Antigua and Barbuda	1
NA	AW	Aruba	1
NA	BS	Bahamas	1
NA	BB	Barbados	1
NA	BZ	Belize	1
NA	BM	Bermuda	1
NA	BQ	Bonaire, Sint Eustatius and Saba	0
NA	CA	Canada	0
NA	KY	Cayman Islands	1
NA	CR	Costa Rica	1
NA	CU	Cuba	0
NA	CW	Curaçao	1
NA	DM	Dominica	1
NA	DO	Dominican Republic	0
NA	SV	El Salvador	0
NA	GL	Greenland	0
NA	GD	Grenada	1
NA	GP	Guadeloupe	0
NA	GT	Guatemala	0
NA	HT	Haiti	0
NA	HN	Honduras	0
NA	JM	Jamaica	0
NA	MQ	Martinique	0
NA	MX	Mexico	0
NA	MS	Montserrat	1
NA	NI	Nicaragua	0
NA	PA	Panama	1
NA	PR	Puerto Rico	0
NA	BL	Saint Barthélemy	0
NA	KN	Saint Kitts and Nevis	1
NA	LC	Saint Lucia	1
NA	MF	Saint Martin (French part)	1
NA	PM	Saint Pierre and Miquelon	0
NA	VC	Saint Vincent and the Grenadines	1
NA	SX	Sint Maarten (Dutch part)	0
NA	TT	Trinidad and Tobago	0
NA	TC	Turks and Caicos Islands	1
NA	US	United States	0

NA	VG	Virgin Islands, British	1
NA	VI	Virgin Islands, U.S.	0
OC	AS	American Samoa	0
OC	AU	Australia	0
OC	CK	Cook Islands	1
OC	FJ	Fiji	0
OC	PF	French Polynesia	0
OC	GU	Guam	0
OC	KI	Kiribati	0
OC	MH	Marshall Islands	1
OC	FM	Micronesia, Federated States of	1
OC	NR	Nauru	1
OC	NC	New Caledonia	0
OC	NZ	New Zealand	0
OC	NU	Niue	1
OC	NF	Norfolk Island	0
OC	MP	Northern Mariana Islands	0
OC	PW	Palau	0
OC	PG	Papua New Guinea	0
OC	PN	Pitcairn	0
OC	WS	Samoa	1
OC	SB	Solomon Islands	0
OC	TK	Tokelau	0
OC	TO	Tonga	1
OC	TV	Tuvalu	0
OC	UM	United States Minor Outlying Islands	0
OC	VU	Vanuatu	1
OC	WF	Wallis and Futuna	0
SA	AR	Argentina	0
SA	BO	Bolivia	0
SA	BR	Brazil	0
SA	CL	Chile	0
SA	CO	Colombia	0
SA	EC	Ecuador	0
SA	FK	Falkland Islands (Malvinas)	0
SA	GF	French Guiana	0
SA	GY	Guyana	0
SA	PY	Paraguay	0
SA	PE	Peru	0
SA	SR	Suriname	0
SA	UY	Uruguay	0
SA	VE	Venezuela	0

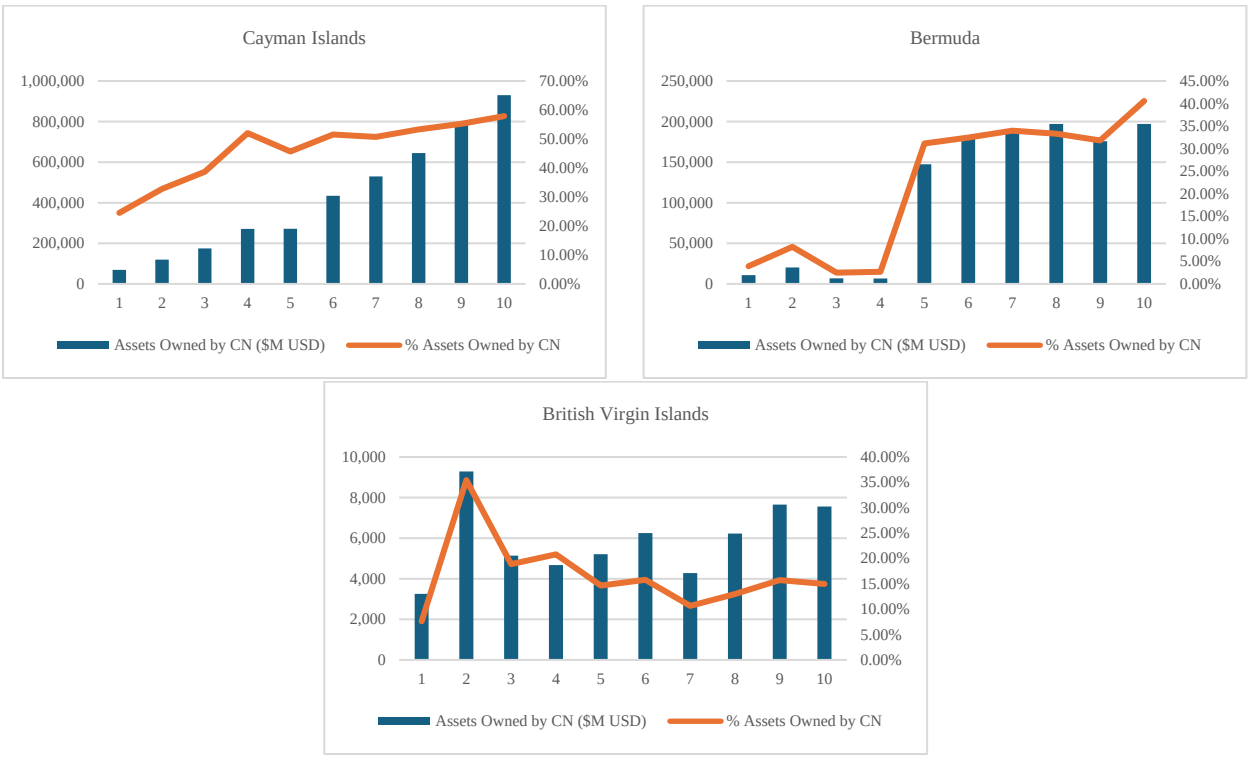
Table A4. List of developed countries and emerging markets.

Developed Countries		Emering Markets	
EU's List	**ISO2**	**EU's List**	**ISO2**
Belgium	BE	Algeria	DZ
Bulgaria	BG	Egypt	EG
Czechia	CZ	Libya	LY
Denmark	DK	Mauritania	MR
Germany	DE	Morocco	MA
Estonia	EE	Sudan	SD
Ireland	IE	Tunisia	TN
Greece	EL	Cameroon	CM
Spain	ES	Central African Republic	CF
France	FR	Chad	TD
Croatia	HR	Congo	CG
Italy	IT	Equatorial Guinea	GQ
Cyprus	CY	Gabon	GA
Latvia	LV	Sao Tome and Principe	ST
Lithuania	LT	Burundi	BI
Luxembourg	LU	Comoros	KM
Hungary	HU	Democratic Republic of the Congo	CD
Malta	MT	Djibouti	DJ
Netherlands	NL	Eritrea	ER
Austria	AT	Ethiopia	ET
Poland	PL	Kenya	KE
Portugal	PT	Madagascar	MG
Romania	RO	Rwanda	RW
Slovenia	SI	Somalia	SO
Slovakia	SK	Uganda	UG
Finland	FI	United Republic of Tanzania	TZ
Sweden	SE	Angola	AO
Iceland	IS	Botswana	BW
Norway	NO	Lesotho	LS
Switzerland	CH	Malawi	MW
Australia	AU	Mauritius	MU
Canada	CA	Mozambique	MZ
Japan	JP	Namibia	NA
New Zealand	NZ	South Africa	ZA
United States	US	Zambia	ZM
France	FR	Zimbabwe	ZW
Germany	DE	Benin	BJ
Italy	IT	Burkina Faso	BF
United Kingdom	GB	Cabo Verde	CV
		Cote d'lvoire	CI
Additional		Gambia	GM
Singapore	SG	Ghana	GH
Korea	KR	Guinea	GN
Taiwan	TW	Guinea-Bissau	GW
		Liberia	LR
		Mali	ML

Niger	NE
Nigeria	NG
Senegal	SN
Sierra Leone	SL
Togo	TG
Brunei Darussalam	BN
Indonesia	ID
Malaysia	MY
Myanmar	MM
Papua New Guinea	PG
Philippines	PH
Thailand	TH
Viet Nam	VN
Bangladesh	BD
India	IN
Iran (Islamic Republic of)	IR
Nepal	NP
Pakistan	PK
Sri Lanka	LK
Bahrain	BH
Iraq	IQ
Israel	IL
Jordan	JO
Kuwait	KW
Lebanon	LB
Oman	OM
Qatar	QA
Saudi Arabia	SA
Syrian Arab Republic	SY
Turkey	TR
United Arab Emirates	AE
Yemen	YE
Barbados	BB
Cuba	CU
Dominican Republic	DO
Guyana	GY
Haiti	HT
Jamaica	JM
Trinidad and Tobago	TT
Costa Rica	CR
El Salvador	SV
Guatemala	GT
Honduras	HN
Mexico	MX
Nicaragua	NI
Panama	PA
Argentina	AR
Bolivia (Plurinational State of)	BO
Brazil	BR

Chile	CL
Colombia	CO
Ecuador	EC
Paraguay	PY
Peru	PE
Uruguay	UY
Venezuela (Bolivarian Republic of)	VE
Excluded	
China	CN
Hong Kong SAR	HK
Republic of Korea	KR
Singapore	SG
Taiwan	TW

Figure A1. China's Ownership in Selected Tax Havens



Notes: This figure plots the evolution of China's global ownership in the following three tax havens: Cayman Islands, Bermuda, and British Virgin Islands. The data includes non-financial, non-Chinese "Very Large" firms from Orbis (2012–2021). Firms based in mainland China, Hong Kong, Macau, or with "golden shares" are excluded. Assets are winsorized at the 1st and 99th percentiles and aggregated within the respective tax haven. CNOwn with control identifies firms whose largest direct shareholders with at least 10% ownership or ultimate shareholders (UO10) are Chinese entities (mainland China, Hong Kong, Macau, or with "golden shares"). Absolute asset values (million USD) are displayed on the left Y-axis, while the percentages of global control are represented on the right Y-axis.

Table B1. China's Ownership and Innovation, R&D Deleted if Missing

Note: This table presents OLS regression analyses examining the relationship between Chinese ownership and firm-level innovation, measured by the logarithm of non-missing R&D expenditures. CNOwn identifies firms whose direct or ultimate shareholders (UO10) are Chinese entities; CNOwn*SOE identifies direct or ultimate ownership by Chinese government entities (UO25). With control, Chinese entities must be the largest direct shareholders with at least 10% ownership or ultimate shareholders. The narrow definition includes entities in mainland China, while the broad definition includes entities in mainland China, Hong Kong, Macau, or with "golden shares." Control variables are detailed in Table A1 of the Appendix. The sample covers the period from 2012 to 2021. Standard errors clustered at the firm level are in parentheses. Significance levels: *** p<0.01, ** p<0.05, * p<0.1.

Panel A: Overall

	Ownership				Control			
	Narrow		Broad		Narrow		Broad	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Log(1+R&D)							
CNOwn	0.165**	0.214**	0.119**	0.178**	0.267***	0.383***	0.174***	0.233**
	(0.079)	(0.108)	(0.049)	(0.078)	(0.095)	(0.130)	(0.065)	(0.101)
Log(1+Assets)		0.276***		0.276***		0.277***		0.276***
		(0.038)		(0.038)		(0.038)		(0.038)
Log(1+Fixed)		0.003		0.004		0.002		0.003
		(0.020)		(0.021)		(0.020)		(0.020)
Log(1+Debts)		0.003		0.003		0.003		0.003
		(0.007)		(0.007)		(0.007)		(0.007)
Log(1+Sales)		0.091***		0.091***		0.090***		0.091***
		(0.030)		(0.030)		(0.030)		(0.030)
Log(1+Empl)		0.331***		0.331***		0.332***		0.331***
		(0.040)		(0.040)		(0.040)		(0.040)
Log(1+OpeRev)		0.019		0.019		0.019		0.019
		(0.018)		(0.018)		(0.018)		(0.018)
ROA		-0.006***		-0.006***		-0.006***		-0.006***
		(0.002)		(0.002)		(0.002)		(0.002)
PL/Assets		0.059		0.059		0.058		0.064
		(0.329)		(0.329)		(0.328)		(0.329)
CashFlow/Assets		-0.160		-0.157		-0.157		-0.159
		(0.264)		(0.265)		(0.264)		(0.264)
HHI		-0.020		-0.022		-0.011		-0.019
		(0.156)		(0.155)		(0.156)		(0.156)
HHI*HHI		0.000		0.000		0.000		0.000
		(0.000)		(0.000)		(0.000)		(0.000)
Constant	6.012***	-0.645	6.010***	-0.653	6.011***	-0.641	6.010***	-0.654
	(0.002)	(0.599)	(0.002)	(0.599)	(0.002)	(0.599)	(0.002)	(0.598)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	198,969	75,510	198,969	75,510	198,969	75,510	198,969	75,510
R-squared	0.958	0.975	0.958	0.975	0.958	0.975	0.958	0.975

Panel B: SOE versus Private

	Ownership (Broad)			Control (Broad)		
	All	Developed	Emerging	All	Developed	Emerging
	(1)	(2)	(3)	(4)	(5)	(6)
			Log(1+R&D)			
CNOwn	0.156**	-0.015	0.117	0.198**	-0.260*	0.288
	(0.078)	(0.124)	(0.113)	(0.101)	(0.158)	(0.204)
CNOwn*SOE	1.397**	4.710*	0.043	1.359**	4.783*	-0.066
	(0.610)	(2.777)	(0.118)	(0.614)	(2.768)	(0.171)
Log(1+Assets)	0.275***	0.423***	0.133**	0.276***	0.423***	0.133**
	(0.038)	(0.044)	(0.067)	(0.038)	(0.044)	(0.067)
Log(1+Fixed)	0.003	-0.040*	-0.037	0.003	-0.040*	-0.037
	(0.021)	(0.024)	(0.034)	(0.020)	(0.024)	(0.034)
Log(1+Debts)	0.003	-0.003	0.006	0.003	-0.003	0.006
	(0.007)	(0.007)	(0.019)	(0.007)	(0.007)	(0.019)
Log(1+Sales)	0.089***	0.118***	0.098	0.089***	0.118***	0.098
	(0.030)	(0.036)	(0.064)	(0.030)	(0.036)	(0.064)
Log(1+Empl)	0.331***	0.422***	0.144***	0.331***	0.421***	0.144***
	(0.040)	(0.059)	(0.051)	(0.040)	(0.059)	(0.051)
Log(1+OpeRev)	0.019	0.034**	-0.054	0.019	0.035**	-0.054
	(0.018)	(0.017)	(0.049)	(0.018)	(0.017)	(0.049)
ROA	-0.006***	-0.007***	0.006	-0.006***	-0.007***	0.006
	(0.002)	(0.002)	(0.007)	(0.002)	(0.002)	(0.007)
PL/Assets	0.050	0.266	-1.863*	0.055	0.267	-1.870*
	(0.329)	(0.393)	(1.024)	(0.329)	(0.393)	(1.025)
CashFlow/Assets	-0.147	-0.478	0.629	-0.149	-0.480	0.637
	(0.265)	(0.317)	(0.823)	(0.264)	(0.317)	(0.823)
HHI	-0.018	-0.095	-0.114	-0.016	-0.093	-0.114
	(0.155)	(0.342)	(0.285)	(0.155)	(0.342)	(0.285)
HHI*HHI	0.000	0.000	0.022	0.000	0.000	0.022
	(0.000)	(0.000)	(0.048)	(0.000)	(0.000)	(0.048)
Constant	-0.613	0.552	-2.318**	-0.616	0.553	-2.327**
	(0.598)	(0.793)	(0.921)	(0.598)	(0.793)	(0.922)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	75,510	43,935	23,464	75,510	43,935	23,464
R-squared	0.975	0.969	0.901	0.975	0.969	0.901

Table B2. China's Ownership and Innovation, Alternative Fixed Effects

Note: This table presents OLS regression analyses examining the relationship between Chinese ownership and firm-level innovation, measured by the logarithm of R&D expenditures. Missing R&D expenditures are treated as zero and indicated by Blank_R&D. CNOwn with control identifies firms whose largest direct shareholders with at least 10% ownership or ultimate shareholders (UO10) are Chinese entities (mainland China, Hong Kong, Macau, or with "golden shares"); CNOwn*SOE with control identifies the largest direct (≥10%) or ultimate ownership by Chinese government entities (UO25). Control variables are detailed in Table A1 of the Appendix. The sample covers the period from 2012 to 2021. Standard errors clustered at the firm level are in parentheses. Significance levels: *** p<0.01, ** p<0.05, * p<0.1.

	Control (Broad)		Control (Broad)		Control (Broad)	
	(1)	(2)	(3)	(4)	(5)	(6)
			Log(1+R&D)			
CNOwn	0.026	0.003	0.090*	0.067	0.025	0.002
	(0.045)	(0.048)	(0.050)	(0.052)	(0.045)	(0.048)
CNOwn*SOE		0.288**		0.299**		0.290**
		(0.135)		(0.143)		(0.137)
Log(1+Assets)	0.065***	0.065***	0.064***	0.064***	0.061***	0.061***
	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)
Log(1+Fixed)	-0.000	-0.000	0.006	0.006	-0.000	-0.000
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Log(1+Debts)	0.000	0.000	0.001	0.001	-0.000	-0.000
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Log(1+Sales)	0.029***	0.029***	0.024***	0.024***	0.029***	0.029***
	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)
Log(1+Empl)	0.075***	0.075***	0.060***	0.060***	0.073***	0.073***
	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)
Log(1+OpeRev)	0.018***	0.018***	0.025***	0.025***	0.017***	0.017***
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
ROA	-0.001**	-0.001**	-0.002***	-0.002***	-0.001**	-0.001**
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
PL/Assets	0.076	0.075	0.018	0.017	0.083	0.083
	(0.102)	(0.102)	(0.103)	(0.103)	(0.103)	(0.103)
CashFlow/Assets	-0.170*	-0.170*	-0.097	-0.096	-0.180*	-0.179*
	(0.095)	(0.095)	(0.098)	(0.098)	(0.096)	(0.096)
HHI	0.027	0.027	-0.118*	-0.118*	0.075	0.075
	(0.060)	(0.060)	(0.067)	(0.066)	(0.064)	(0.064)
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)
Blank_R&D	-8.131***	-8.131***	-7.936***	-7.936***	-8.131***	-8.131***
	(0.120)	(0.120)	(0.125)	(0.125)	(0.120)	(0.120)
Constant	5.753***	5.755***	5.559***	5.561***	5.831***	5.833***
	(0.185)	(0.185)	(0.191)	(0.191)	(0.187)	(0.187)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
Country*Year FE	Yes	Yes	No	No	Yes	Yes
Sector*Year FE	No	No	Yes	Yes	Yes	Yes
Observations	437,675	437,675	436,251	436,251	436,042	436,042
R-squared	0.970	0.970	0.968	0.968	0.970	0.970