

China's Global Ownership

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ABFER Annual Conference

May 20, 2026

Why This Matters

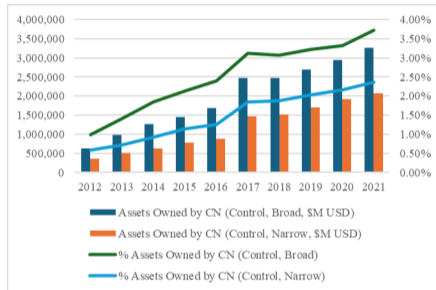
- The **2nd largest** economy / the **largest** exporter of goods
 - China's outbound investment stock surged from \$0.3T (2009) to **\$2.7T (2021)** — concentrated in strategic sectors and routed through offshore conduits
- Standard Debates over:
 - Industrial policy and technology transfer
 - National security and supply chains
 - The geoeconomic role of state-owned capital
- Standard **FDI statistics stop at the immediate jurisdiction** and miss the ultimate Chinese owner:
 - It doesn't trace ownership chains
 - It doesn't tell you who ultimately controls the firm
 - Country/industry level
 - Inaccuracies and inconsistency
- **Map the architecture of China's corporate footprint, at the firm level, globally**

Research Question

Once we look through offshore conduits to ultimate owners, where does Chinese capital sit in the global corporate network, and what are its real effects on target firms, local peers, and Chinese parents?

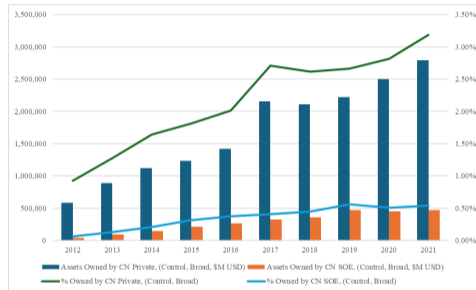
*Data: 161,773 firms × 159 countries × 2012–2021
>80% of global corporate assets of non-financial firms*

Key Findings — Numbers to Remember



1 Scale of China's global ownership

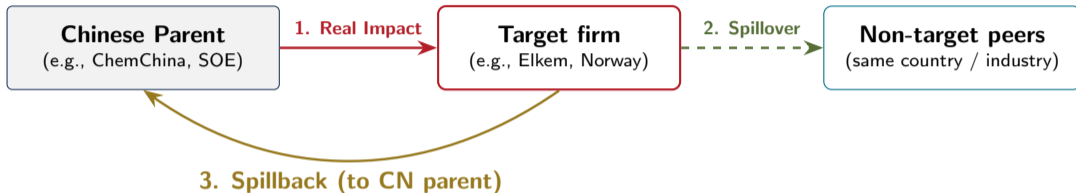
- With HK/Macau: **4% of global corporate assets**, behind only U.S. (12%)
- **~20% annual growth 2012–2021** — nearly **3× the U.S. pace**



2 The SOE footprint

- **≈ 17%** of China's global ownership
- SOEs strategically target **R&D-intensive, resource-rich, supply-chain-linked firms**

Key Findings — Numbers to Remember



1 Real impact on target firms

- Post-acquisition: R&D +6.6%, capital stock +7.3%
- Yet **no gain in patents**, and ROA -1.1%

3 Spillback to Chinese parents

- Sharp acceleration in granted patents at Chinese parent firms after their first developed-economy acquisition (+204% jump in acquisition year)

2 Spillover to local peers

- Higher Chinese SOE presence crowds out R&D at non-target peer firms

The Dataset

- **Orbis Ownership** (*400M public & private firms in 212 economies*)
- **Orbis Financial**
- **Global Patent** data
- **Global Supply-Chain** data

FIRMS

161,773

in the final panel

COUNTRIES

159

across six continents

PANEL

2012–21

decade of rapid expansion

OF GLOBAL

>80%

corporate assets covered

Restricted to Orbis “Very Large Company” sample — 1% of firms but 80%+ of corporate assets.
Annual Orbis vintages merged to avoid survivorship bias (Kalemli-Özcan et al. 2024).

Identifying Chinese Ownership

Ownership definition

- Firm has at least one **direct** Chinese shareholder (*e.g., Heathrow Airport, 10% by CIC*)
- or the firm's **ultimate owner (GUO10)** is from China (*e.g., GE Appliances*)

Control definition

- Largest shareholder is registered in China and owns $\geq 10\%$ of equity
- or largest **ultimate** owner (GUO10) is from China

Hong Kong and Macau

- **Narrow:** mainland China only
- **Broad:** mainland + HK + Macau, together with **the Golden Share**
- In both cases we **exclude OFDI to HK & Macau** (though included in FDI statistics)

Key variables: CNO_{own} (Ownership) vs. CNO_{ctrl} (Control); broad vs. narrow.

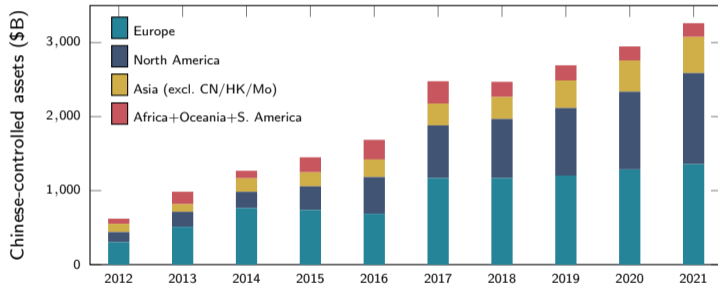
Elkem — An Illustrative Example



- **Elkem ASA** is a global chemical company producing silicones, silicon, foundry alloys, carbon, microsilica, and related materials.
- **Algorithmic trace:** layer-by-layer reconstruction across all jurisdictions, *including tax havens*.
- **37.7%** of Chinese ownership routed through tax-haven intermediaries

Key variables: CNOWN × SOE; Ownership vs. Control; broad vs. narrow.

China's Global Ownership by Geography



Top hosts as of 2021

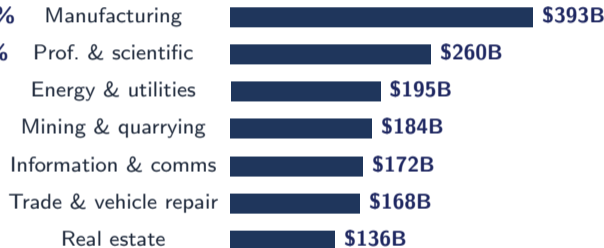
UK	\$218B
Singapore	\$172B
Italy	\$145B
Portugal	\$112B
Sweden	\$100B
France	\$83B
Germany	\$51B
US	\$37B

China's Global Ownership by Industry

BY SHARE OF LOCAL ASSETS



BY DOLLAR VOLUME (AVG 2012–21)



REAL ESTATE: +902% GROWTH

Chinese-controlled real estate assets grew roughly 10× over the decade (from \$28B in 2012–14 to \$278B in 2019–21).

Takeaway: a dual strategy — heavy industry + knowledge-intensive services + real estate.

Sector-Level Evidence — Who Targets What

$\log(1 + \sum \text{Assets})$ on country-industry chars.

	All	Private	SOE
$\log(1 + \sum R\&D)$	0.125*** (0.023)	0.130*** (0.023)	0.029** (0.014)
II_{CN}/II (input share)	15.11*** (4.135)	15.89*** (4.106)	-3.30** (1.522)
IO_{CN}/IO (output share)	10.45*** (2.625)	9.41*** (2.590)	6.24*** (2.158)
NatRes Rent (Country)	0.148*** (0.022)	0.134*** (0.021)	0.048*** (0.012)
Mining & quarrying — energy	0.905 (0.827)	0.322 (0.766)	1.184* (0.642)
Controls	Y	Y	Y
Country FE	Y	Y	Y
Year FE	Y	Y	Y
Obs.	21,016	21,016	21,016
R^2	0.394	0.385	0.150

WHERE CHINESE CAPITAL GOES

1. R&D intensity.

Higher sector R&D → more Chinese investment.
Elasticity $\approx 1.25\%$.

2. Supply-chain integration.

Sectors exporting to China attract more Chinese ownership; +11% per 1pp.

3. Natural resources.

Resource-rich countries attract more Chinese capital — *especially SOEs*.

Firm-Level Evidence — R&D Rises

Panel A: $\log(1 + R\&D)$

	Ownership				Control			
	Narrow		Broad		Narrow		Broad	
CNOwn	0.066** (0.030)	0.101* (0.054)	0.039* (0.021)	0.070* (0.040)	0.078** (0.032)	0.162*** (0.060)	0.045* (0.024)	0.093* (0.050)
Controls	N	Y	N	Y	N	Y	N	Y
Firm FE	Y	Y	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y	Y	Y
Obs.	1.16M	438K	1.16M	438K	1.16M	438K	1.16M	438K
R^2	0.931	0.968	0.931	0.968	0.931	0.968	0.931	0.968

Standard errors clustered at firm level in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

R&D EFFECT
+6.6 – 7.8%
 Chinese ownership
 raises R&D spending
 at the target firm.

Pronounced for CN-SOE & in Developed Economies

Panel B: SOE versus Private

	Ownership (Broad)			Control (Broad)		
	All	Developed	Emerging	All	Developed	Emerging
CNOwn	0.051 (0.041)	-0.055 (0.040)	0.099 (0.106)	0.070 (0.052)	-0.093** (0.040)	0.246 (0.183)
CNOwn × SOE	0.306** (0.139)	0.176* (0.095)	0.092 (0.102)	0.292** (0.141)	0.203** (0.095)	-0.002 (0.149)

The R&D-boost effect is **driven by SOE acquirers**, and **concentrated in developed host economies**.

Firm-Level Evidence — Patents Don't Move

Poisson regression — granted patents (3-yr forward)

	Ownership		Control	
	Narrow	Broad	Narrow	Broad
CN Ownership	0.037 (0.059)	0.061 (0.042)	0.040 (0.065)	0.081 (0.070)
CN Ownership × SOE	0.065 (0.061)	0.046 (0.044)	0.062 (0.067)	0.029 (0.067)
Firm FE / Year FE	Y / Y	Y / Y	Y / Y	Y / Y

Full results in Table 5.

More R&D money in.
No more patents out.

Firm-Level Evidence — Efficiency and Profitability Decline

PROFITABILITY (ROA)

−1.14 pp

In comparison, sample mean is 4.0%.
Significant at 1%.

FIXED ASSETS

+7.3%

Firms are larger after CN acquisition.
Significant at 1%.

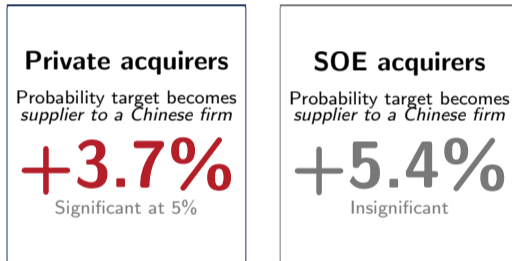
EMPLOYMENT

≈ 0

No systematic change
— Not “China steals jobs”.

When the acquirer is a Chinese SOE, ROA falls by an **additional 1.25 pp** — effects **driven by state owners**.

Firm-Level Evidence — Supply Chain



Two different Chinese investors, two different playbooks.

Causal Evidence — “Made in China 2025”

THE POLICY

May 19, 2015 — State Council launches MIC2025.

Accelerate China’s ascent in **ten strategic high-tech fields**: next-gen IT, new-energy vehicles, advanced robotics, aerospace, biopharma, advanced rail, agricultural machinery, power equipment, maritime engineering, new materials.

KEY FEATURE

Explicitly encouraged overseas acquisitions — with **SOEs as the primary vehicle** for acquiring foreign technology.

Discrete sector announcement in 2015 gives the causal arrow.

Treatment: firms in targeted sectors.

Panel A: Chinese ownership

	CNOwn	CNOwn×Pvt Control (Broad)	CNOwn×SOE
TreatedSector × Post2015	0.003* (0.002)	0.002 (0.002)	0.001** (0.000)
TreatedSector × Pre1	-0.004 (0.003)	-0.004 (0.003)	0.000 (0.000)
TreatedSector × Pre2	-0.004 (0.003)	-0.004 (0.003)	0.000 (0.000)
Firm FE	Y	Y	Y
Country×Year FE	Y	Y	Y
Obs.	108,965	108,965	108,965
R ²	0.66	0.63	0.54

No pre-trends; **SOE effect significant** post-2015.

Causal Evidence — MIC2025 Results

Target-firm outcome	Effect	Significance
R&D spending	+4.0%	✓ 5%
Capital stock	+5.0%	✓ 1%
Employment	+2.0%	✓ 1%
Granted patents	-1.0%	not sig.
Profitability (ROA)	-0.32 pp	✓ 10%
Probability: supplier to CN	+1.7%	✓ 5%
Probability: customer of CN	+0.4%	not sig.

Inputs up. Output flat. Profitability down. Main results hold causally, driven by SOEs. No pre-trends.



**Is China
unique?**

Comparing Global Ownership

Y =	X = CN	X = CN SOE	X = US	X = Japan	X = India
R&D spending	0.162***	0.070 + 0.292***	0.004	0.097***	-0.004
Patent output	-0.061	0.033 + 0.043	0.040	0.139	0.070*
Profitability (ROA)	-1.143***	-1.034*** -1.245**	0.034	-0.554***	-0.592
Firm size	0.073***	0.065*** + 0.094*	0.038***	0.051***	-0.149***
Supply chain	0.041**	0.037** + 0.063	0.041***	0.081***	-0.039

China (especially **SOEs**) is the *only* acquirer for which *R&D rises* but *ROA falls sharply* — a state-driven model that accepts weaker short-run performance for technology access.

Crowding Out — Non-Target Peers

Panel A: Overall — Control (Broad)

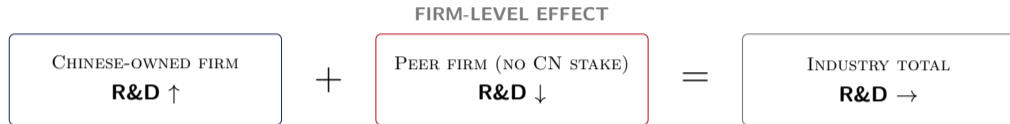
	$\log(1 + R\&D)$	#GrantedPatents	ROA	$\log(1 + \text{Fixed})$	$\log(1 + \text{Empl})$	CNSupplier	CNCustomer
%CNOwn \times Assets	-0.272*** (0.085)	0.149 (0.223)	-0.491 (0.837)	-0.063 (0.052)	0.014 (0.043)	-0.009 (0.052)	-0.014 (0.056)

Panel B: SOE versus Private

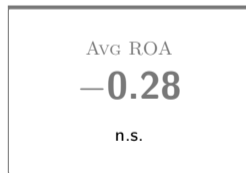
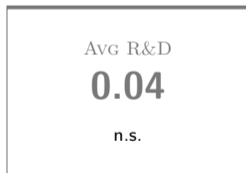
	$\log(1 + R\&D)$	#GrantedPatents	ROA	$\log(1 + \text{Fixed})$	$\log(1 + \text{Empl})$	CNSupplier	CNCustomer
%CNOwn \times Pvt \times Assets	-0.262*** (0.085)	0.135 (0.224)	-0.559 (0.843)	-0.075 (0.051)	0.001 (0.042)	-0.014 (0.052)	-0.017 (0.057)
%CNOwn \times SOE \times Assets	-0.604** (0.305)	2.045 (1.263)	1.772 (2.956)	0.193 (0.309)	0.346* (0.190)	0.182 (0.183)	0.128 (0.231)

As Chinese industry share rises \rightarrow non-target peers cut R&D. The **SOE effect is $\sim 3\times$ the private-sector effect.**
 No crowding-out on capex, employment, profitability or supply chain — spillover is **specifically on innovation.**

Industry-Level Innovation Is **Unchanged**



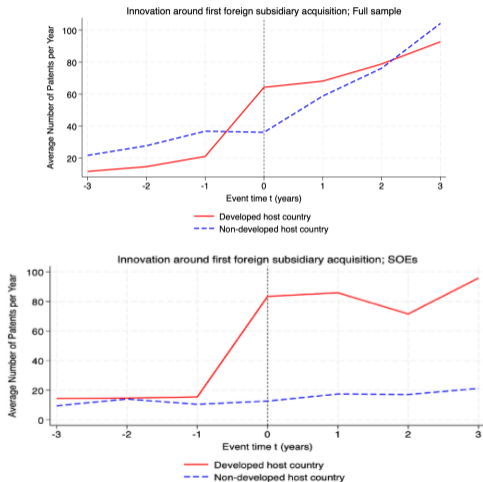
INDUSTRY-LEVEL REGRESSIONS (TABLE 11) — none statistically significant



Not a net loss for the industry. A **reallocation** — from local market-based firms toward Chinese state-owned ones.

Spillback — Unconditional Patterns

Average granted patents per year at the Chinese parent



AT ACQUISITION

+204%

jump in parent patents
in the acquisition year

FOR SOE ACQUIRERS

4.4×

after first
developed-economy acquisition

Conclusion

1 China's global footprint is substantially larger.

Chinese entities control **\$2.1T of foreign assets by 2021** — growing at **20% annually**, with **37.7%** routed through tax-haven intermediaries *invisible to official FDI statistics*.

2 The innovation disconnect: R&D at targets, patents at parents.

Chinese ownership raises target-firm R&D by **6.6%** and capital stock by **7.3%** — but **not patents**. ROA **decreases**. Chinese SOE presence crowds out peer-firm R&D by **~3×** the private effect. Yet aggregate industry innovation is preserved — a **reallocation** of innovative effort from market-based firms toward state-led entities.

3 Preliminary spillback evidence

Granted patents surge **+204%** at Chinese parents (**4.4×** for SOEs) after the first developed-economy acquisitions.

Thank you!

Spillback — Poisson Regressions

Poisson regression — granted patents (3-yr forward)

	(1)	(2)	(3)	(4)
	#GrantedPatents			
ForeignSub	0.090 (0.063)		0.036 (0.074)	
ForeignSub*Developed		0.043 (0.094)		-0.049 (0.097)
ForeignSub*Non-developed		-0.005 (0.078)		-0.007 (0.100)
ForeignSub*SOE			0.155* (0.093)	
ForeignSub*Developed*SOE				0.227* (0.120)
ForeignSub*Non-developed*SOE				0.030 (0.120)
SOE			-0.055 (0.058)	-0.063 (0.057)
Constant	5.811*** (0.009)	5.818*** (0.011)	5.825*** (0.012)	5.836*** (0.014)
FirmFE	Yes	Yes	Yes	Yes
YearFE	Yes	Yes	Yes	Yes
Observations	102,679	102,679	102,679	102,679
ll	-266516	-266656	-266347	-266340

FOR ALL ACQUIRERS

+9%

jump in parent patents
in the 3-yr forward window of acquisition

FOR SOE ACQUIRERS

+17.8%

in the 3-yr forward window after first
developed-economy acquisition