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RECONCILING CHINA'S OFFICIAL STATISTICS ON STATE OWNERSHIP AND CONTROL

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Reconciling China's official statistics on state ownership and control

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ABSTRACT: China's National Bureau of Statistics releases data for China's industrial sector, fixed asset investment and real estate investment both according to the enterprise's official registration status, and according to whether the controller of the enterprise is the state. For most applications data for 'state owned and state-holding companies' based on the control concept is appropriate, as this includes coverage of SOEs' listed- and unlisted-subidiaries. These data show that less than a third of Chinese industrial output, fixed asset investment, and less than twenty per cent of Chinese real estate investment is carried on by companies that are controlled by the state. A broader definition to cover all state ownership would include enterprises that are not 'state controlled' but nevertheless include state capital or investment from SOEs. This would capture some additional proportion of the limited liability companies, joint-ventures and shareholding corporations that are in mixed ownership.

KEYWORDS: China state owned Enterprises, industrial output, fixed asset investment, real estate investment, Chinese economic statistics

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Reports on the extent and influence of state involvement in China's economy might sometimes appear confused, if not certainly wrong (Scissors 2016). An official media report from 5 May 2016 sounded the alarm that “the ratio of private investment to total investment fell to 62 percent in Q1” (Xinhua 2016). But according to the official National Bureau of Statistics (NBS) series for fixed asset investment (FAI), the 2.7 trillion RMB recorded for domestic private enterprise investment from January-March 2016 was only 32 per cent of the total. While the Xinhua report may seem dubious, its data source is in fact the NBS, and can easily be reconciled when the two different approaches NBS uses to deal with state ownership are well understood.

NBS data is readily available to outsiders through an English-language data portal,² through the China Statistical Yearbooks,³ and through third party commercial data providers such as CEIC. Before drawing any inferences from this data about the state's role in the Chinese economy,⁴ it is necessary to understand that NBS reports its industrial and investment statistics both on the basis of formal registration status, and substantial control. In the above example, Xinhua's 62 per cent figure comes from investment of enterprises 'controlled' by private players, while the 32 per cent figure is only for enterprises formally registered as domestic private enterprises.

Classification according to enterprise registration

All industrial and commercial enterprises in China must be registered administratively according to the “Provisions for the Classification of Types of Enterprise Registration” (关于划分企业登记注册类型的规定). These provisions are jointly issued by the National Statistics Bureau and the State Administration for Industry and Commerce. They include 18 major classifications, and ten sub-classifications (see Appendix). These are grouped broadly into ‘domestic capital enterprises’, ‘Hong Kong, Macau and Taiwan (HMT) capital enterprises’ and ‘foreign capital enterprises’.

According to these provisions, a State-Owned Enterprise (SOE) is wholly state-owned, non-corporate entity that is registered according to the *Administration of the Registration of Enterprise Legal Persons*. Effectively, this includes the enterprises that are directly administered by the State-owned Assets Supervision and Administration Commission (SASAC) at the central or provincial levels (Hubbard and Williams 2016). But it does not include their wholly or partially owned corporate subsidiaries, including any publicly listed subsidiaries.

A limited liability corporation (LLC) is registered in accordance with the *Regulations for the Administration of Company Registration* and has between two and fifty shareholders. There are wholly state-owned LLCs, in which the only investors are SOEs (in the strict terms defined above) or agencies,

² <http://data.stats.gov.cn/english/>

³ <http://www.stats.gov.cn/english/statisticaldata/AnnualData/>

⁴ Other useful data sources including the annual Statistical Yearbooks of the State-Owned Assets Supervision and Administration Commission (SASAC), and the China Finance Yearbook produced using statistical data from the Ministry of Finance. While the data from these sources are not as easy to obtain or manipulate, they can provide more fine-grained data on the state sector.

and other LLCs – which may include any degree of ownership by the state less than 100 per cent. A company limited by shares (a limited liability company) is also registered according to the *Regulations for the Administration of Company Registration*, and may have any number of shareholders.

The provisions define ‘private enterprise’ to include a ‘private wholly-owned enterprise’, a ‘private partnership’, a ‘private limited liability company’, ‘private company limited by shares’. The basis of this group is that the investors are natural persons (the minimum number differs according to the sub-classification) or in case of a private LLC or private shareholding company that the enterprise is controlled by a single natural person.

The limitations of definitions above for SOEs and wholly-state owned LLCs becomes stark when we consider that many SOEs are part of sprawling corporate conglomerates. According to SASAC’s 2009 statistical yearbook, the 56 central SOEs in the industrial sector between them had 10,442 second- and third- tier subsidiaries (SASAC 2010). Any publicly listed company which is controlled by an SOE does not count as an SOE under this strict definition, nor would SOE-private joint ventures or partnerships with foreign investors. Therefore, any analysis undertaken on the basis of official registration categories will understate the degree of actual state control in the economy.

Classification according to control

Fortunately, the NBS also provides data for state-ownership that reflects a concept of control. According explanatory notes provided in the China Statistical Yearbook an additional category of ‘state owned and state-holding enterprises’ (sometimes translated more accurately as state owned and state-controlled enterprises) include not only SOEs (as strictly defined) but also ‘enterprises with mixed ownership, ... where the percentage of State assets (or shares by the State) is larger than any other single shareholder of the same enterprise.’ (National Bureau of Statistics of China 2013).

This concept therefore not only includes SOEs that sit directly under SASAC, but their partly-owned subsidiaries, joint ventures and listed companies in which they are controlling shareholders. This category of state ownership reflects the idea of ‘mixed ownership’ between the public and private sectors. This category will continue to expand, under Communist Party policy to expand mixed ownership while avoiding full privatization (Communist Party of China 2014).

Comparison of classification by registration and control

The NBS compiles its aggregate industrial statistics from an annual, comprehensive firm-level survey that includes all SOEs, and all non-SOEs above a designated size. The survey data is described well by Brandt et al (2014), and data until 2009 is widely used for research into China’s industrial economy. The survey includes information both on the enterprise’s official registration status and whether its controller is the state, collective, private, from Hong Kong, Macau or Taiwan (HMT), foreign or other.

Table 1 shows registration statistics by controller according to the 2009 survey.

Table 1: Registration Status (Left) by Control Status (Top)

		State	Collective	Private	HMT	Foreign	Other	Total
Domestic	State-owned enterprise	8,996	-	-	-	-	-	8,996
	Collective-owned	45	9,228	399	33	8	787	10,500
	Cooperative	104	1,360	3,226	10	4	435	5,139
	State-Joint	125	-	-	-	-	-	125
	Collective-Joint	5	211	19	-	1	20	256
	Joint State-collective	100	70	5	1	-	10	186
	Other Joint Ownership	16	21	109	1	1	45	193
	State Sole Funded LLC	1,325	-	-	-	-	-	1,325
	Other LLC	5,870	3,635	44,074	126	152	8,580	62,437
	Share-holding	1,513	814	5,880	23	47	836	9,113
	Private-funded	61	48	52,630	13	5	2,515	55,272
	Private Partnership	16	29	9,545	1	2	499	10,092
	Private Limited Liability	155	205	166,764	44	52	5,578	172,798
Private Share-holding	11	14	8,682	1	1	357	9,066	
Other	50	55	1,471	23	11	774	2,384	
Hong Kong, Macau and Taiwan (HMT)	Joint-venture	537	435	3,153	5,597	158	843	10,723
	Cooperative	32	30	190	927	24	76	1,279
	Sole Investment	24	8	185	20,260	253	516	21,246
	Share-holding	24	11	80	398	15	33	561
Foreign	Joint-venture	888	560	4,826	438	7,170	1,458	15,340
	Cooperative	53	38	297	99	736	127	1,350
	Sole Funded	29	8	156	299	22,050	632	23,174
	Share-holding	44	13	56	33	474	38	658
Total		20,023	16,793	301,747	28,327	31,164	24,159	422,213

Note: Cells in **BOLD** indicate that that more than 80 per cent of enterprises with that registration status have a control status.

Source: NBS survey of above-scale industrial firms 2009

These statistics show that all 8,996 (wholly) state-owned enterprises, all 125 state-joint enterprises and all 1,325 state-sole funded LLCs are appropriately classified as state-controlled. A further 9,577 industrial enterprises are classified as state-controlled. Mostly these are other LLCs which are only partially state-owned, and shareholding companies. We also observe that 5,870 (9.4 per cent) of non-wholly state funded LLCs, and 1,513 (16.6 per cent) of shareholding companies are classified as state controlled, and that around 5 per cent of HMT and foreign joint ventures are effectively state controlled.

Similarly, we see that the vast majority of enterprises registered as ‘private-funded’, ‘private partnerships’, ‘private limited liability’ and ‘private share-holding’ are classified as private-controlled. What appear as contradictions between registration status and ownership (for example, private LLCs that are designated as state controlled) may reflect the fact that registration is a once-off event, and therefore may not reflect actual changes to company control over time (for example, an SOE might invest in a publicly-listed private company).

By far the most popular enterprise category is the ‘private limited liability corporation’, which is overwhelmingly privately controlled. The second most popular enterprise is the ‘other LLC’ which, as discussed, might include any degree of state ownership short of complete ownership.

Table 2 shows that ‘other LLCs’ that are controlled by the state are also, on average, quite different from ‘other LLCs’ that are privately controlled. State-controlled LLCs on average have more than twelve times

the value of fixed assets, more than four times the workforce, and more than four times the average industrial output compared to privately-controlled LLCs.⁵ Although state-controlled LLCs are much larger on average, there are not enough of them to dominate the sector. Privately-controlled LLCs accounted for just over half of sector output in 2009.

Table 2: Summary Statistics for 'Other LLCs' in 2009 industrial survey

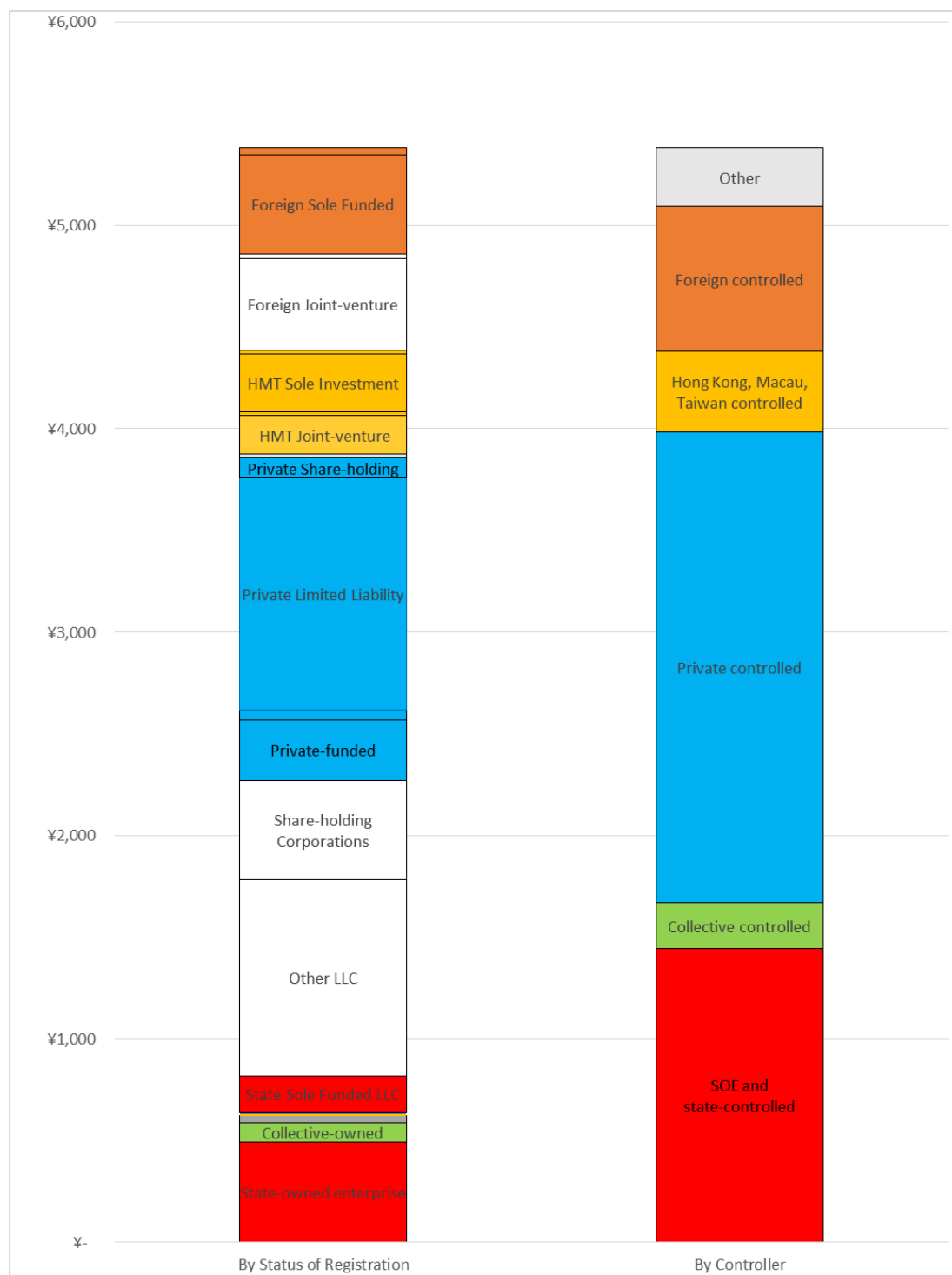
Controlled by	Mean Fixed Assets ('000 RMB)	Mean Employment	Mean Industrial Output ('000 RMB)	Obs.	(%)	Total Industrial Output ('000 RMB)	(%)
State	402,990	716	479,141	5,870	9.4	2,812,555,354	29.1
Collective	67,291	313	210,609	3,635	5.8	765,562,438	7.9
Private	31,692	176	111,473	44,074	70.6	4,913,062,531	50.9
HMT	31,381	273	133,376	126	0.2	16,805,321	0.2
Foreign	55,781	514	339,910	152	0.2	51,666,364	0.5
Other	38,294	201	127,083	8,580	13.7	1,090,373,745	11.3
Average	69,637	239	154,556	62,437	100	9,650,025,753	100

Source: NBS survey of above-scale industrial firms 2009

Chart 1 provides a complete comparison of industrial output for 2009 by registration status (on the left) and controller (on the right). For most purposes, aggregate comparisons by controller will be superior because it includes additional information about enterprise control that is not available from the registration status. Fortunately the NBS provides its industrial data series for 'state owned and state-holding companies' back to the 1990s, including on a sector-by-sector basis.

⁵ This partly reflects the industry distribution of SOEs and non-SOEs. SOEs dominate resource sectors and public utilities (Hubbard 2016) and are very large scale. Excluding these sectors, the mean fixed assets in state-controlled LLCs is 207,857,000 RMB, average employees is 591.

Chart 1: Value of Industrial Output (Billion RMB 2009) – based on firm survey.



Note: Labels are omitted for categories whose total share of industrial output is less than 1 per cent.

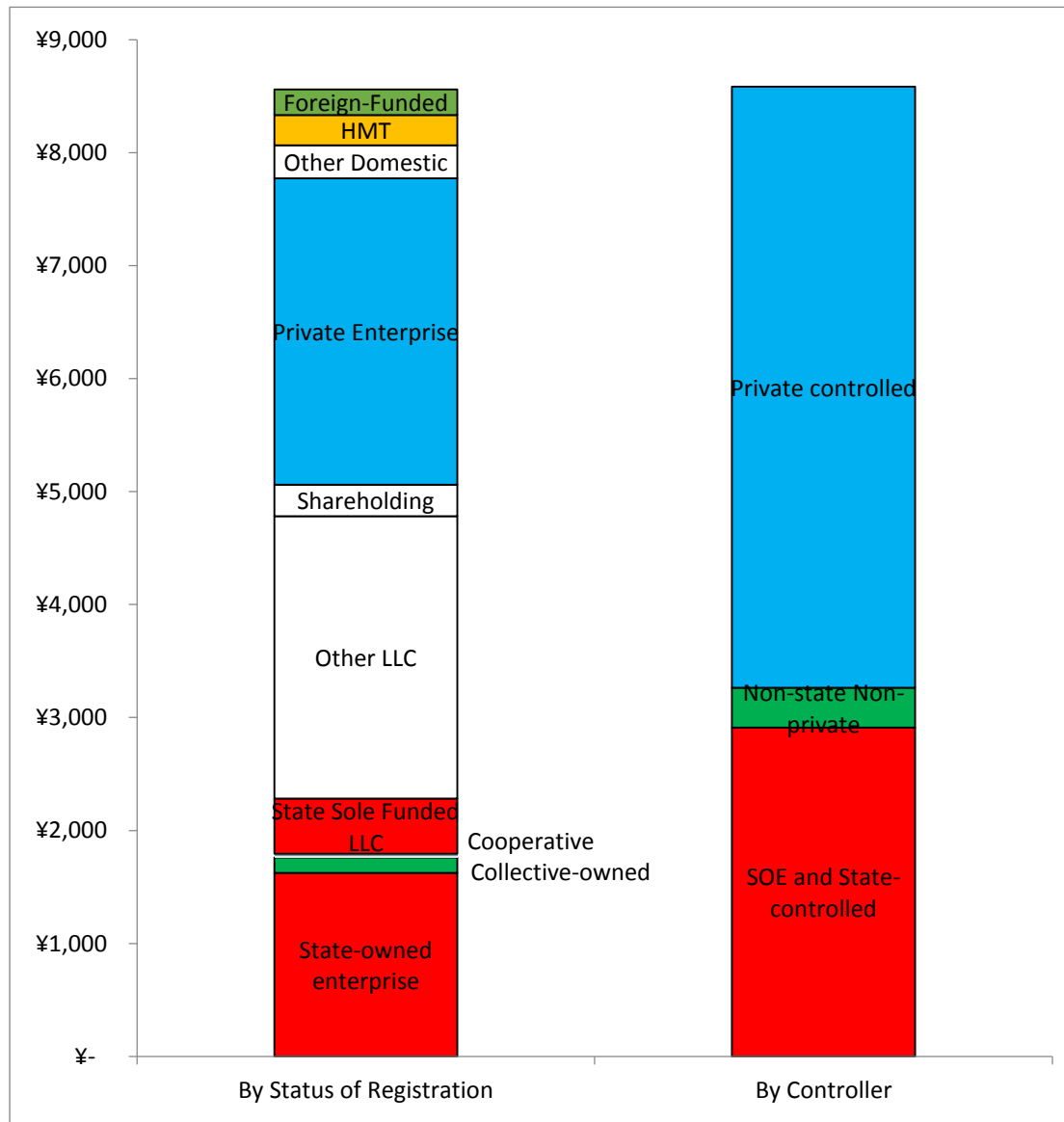
Source: NBS survey of above-scale industrial firms 2009

Chinese Domestic Investment

NBS also provides a series on fixed asset investment of state-owned and state-holding companies since 2004, and ‘private’ fixed asset investment since 2010. The ‘private-controlled’ definition here includes a small proportion of HMT and foreign capital that is not state-controlled. There is a small gap between the total and the sum of state- and private- controlled categories, which would include the investment of

‘collectives’ and ‘cooperatives’ that are neither private nor administered by a state agency. The ‘private controlled’ share here is 62 per cent, clearly making it the basis for the figure referred to earlier from Xinhua.

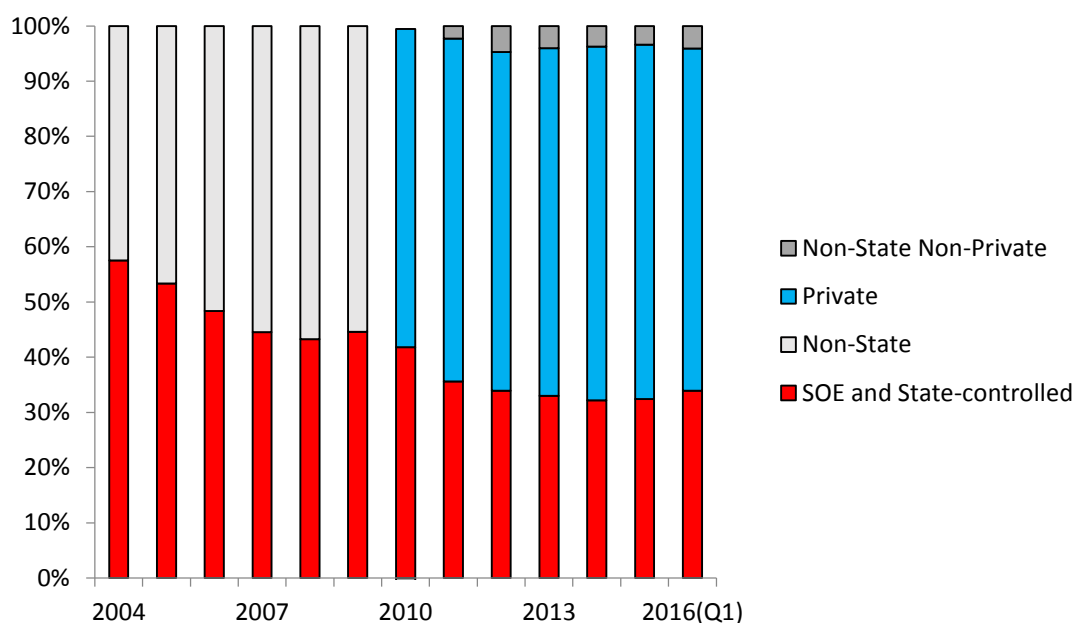
Chart 2: Value of Fixed Asset Investment (Billion RMB Q1 2016)



Source: NBS

Chart 3 shows the declining share of fixed asset investment by state-controlled and non-state controlled enterprises since 2004. The share of investment from state-owned and state controlled enterprise has declined from 58 per cent in 2004 to 34 per cent in the first quarter of 2016. The slight rise from 43 to 45 per cent in 2009 reflects the (minor) impact of the Chinese government’s infrastructure-heavy investment package in response to the 2008 global financial crisis and the Sichuan Earthquake (Mckissack and Xu 2011)

Chart 3: Share of Fixed Asset Investment by controller – based on NBS aggregates

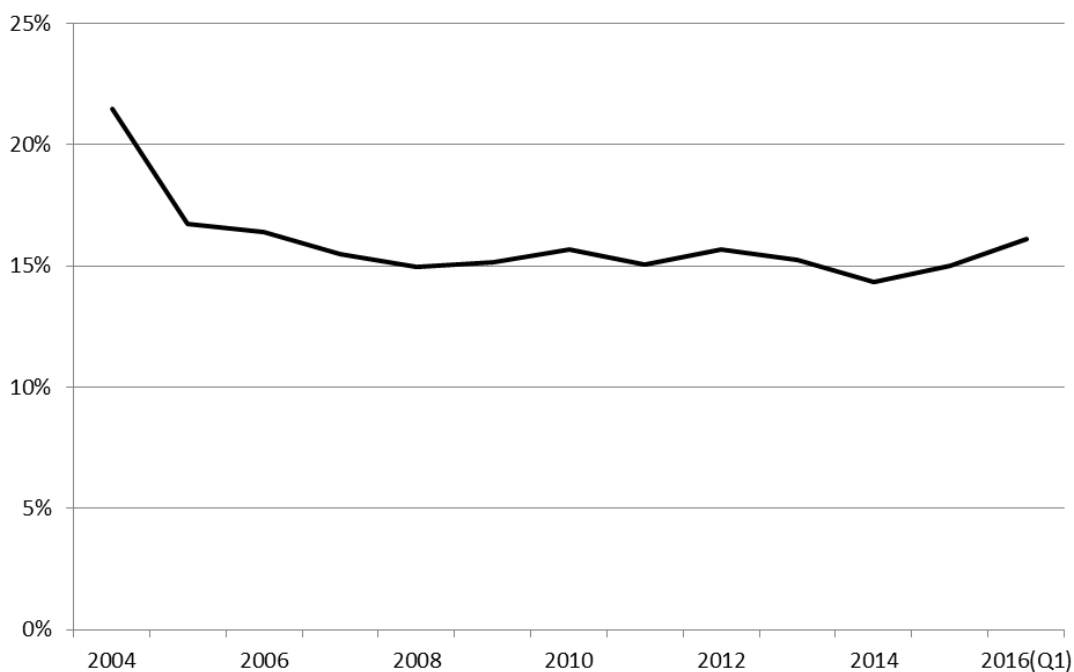


Note: The data series for 'private' FAI begins in 2010. In this year the sum of 'private' and 'SOE and state-controlled' investment is slightly higher than total investment, which suggests some initial classification errors. Subsequently, there has been a small gap which is probably attributable to investment from collectives and other 'non-state non-private' firms.

Source: NBS

The NBS also provides data on real estate investment from state-owned and state-controlled enterprises since 2004. Chart 4 shows that this was 22 per cent in 2004. Subsequently the state share of real estate investment has ranged between 14 and 17 per cent.

Chart 4: State-owned and state holding enterprises' share of Chinese real-estate investment



Source: NBS

How private are private-controlled firms?

The classification of an enterprise as privately-controlled does not imply an absence of state participation. And enterprises may have a controlling private shareholder, with minority SOE shareholdings, in which case it might be better thought as a mixed ownership enterprise (Scissors 2016). The starkest example of mixed ownership would be a privately-controlled enterprise in which the state has a 49 per cent share, but could include much more subtle configurations. An SOE (or its subsidiary) might have taken a non-controlling equity stake in a publicly-listed non-state company. It could also include the case where a formerly state-owned enterprise has been partially privatized, but in which the state retains some small shareholding.

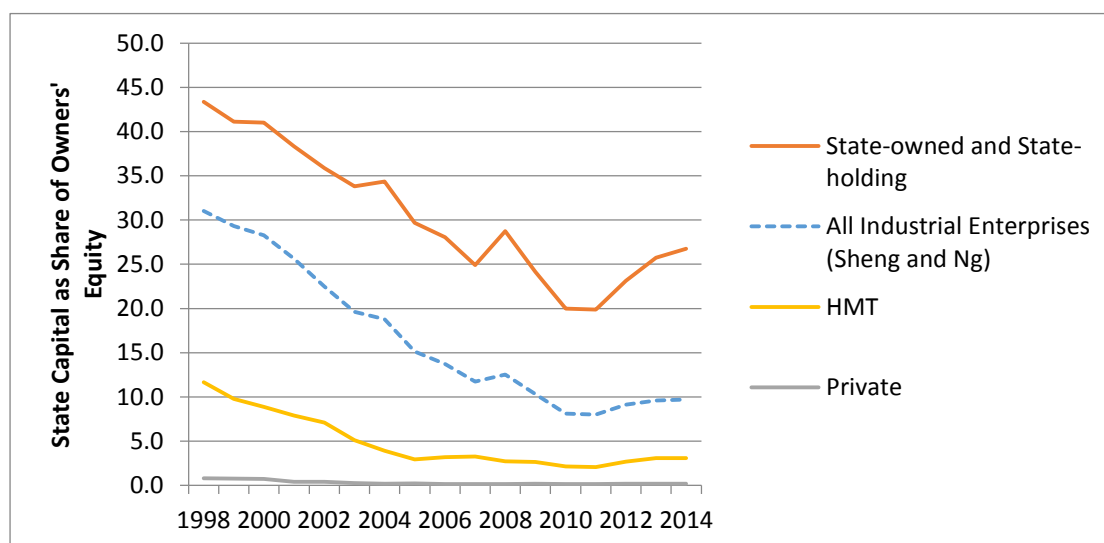
The definition of ‘state-owned and state controlled’ is also non-cumulative – for example, company A might be 49 per cent state-owned and 51 per cent owned by a private shareholder, in which case it is classified as private controlled. Suppose they create a new company, company B in which company A holds a 51 per cent stake, with the remaining 49 per cent owned by wholly state-owned enterprise B. In this case, company C is not “state controlled” because its controlling parent is not state-controlled. Nevertheless, the state would remain the ultimate beneficial owner of almost three quarters of company C.⁶

It is not possible on the basis of NBS statistics to tell the extent of this mixed ownership. NBS does report annual series on owners’ equity for industrial firms, including a series for ‘state capital’ part of this. This is also broken down for ‘state-owned and state holding’ enterprises, HMT enterprises and ‘private enterprises’.

Sheng and Ng (2016 Table 7) use the share of reported ‘state capital’ as part of ‘owners’ equity’ as a measure of the role of the state in the economy. According to these aggregates (Chart 5), state-owned and state-holding companies have the highest state capital share (currently around a quarter). These figures would suggest that state capital in ‘private’ enterprises is only 0.2 per cent.

⁶ Thanks to Derek Scissors for this example.

Chart 5: State capital share of Owners' Equity – A highly flawed measure of state ownership



Source: Based on NBS

Unfortunately, verification of these series against the survey data (in this case, available until 2007) shows that this application it is highly flawed, for two reasons.

Firstly, the 'state capital' contribution when summed with other capital contributions from individuals, legal persons, individuals, HMT, foreigners and collectives do not equal the total 'owners' equity amount'. Owners' equity is derived from the enterprise's balance sheet by subtracting the enterprise's total liabilities from its assets each year. Overall, the sum of capital contributions and owners' equity is highly correlated,⁷ but the equity figure fluctuates over time depending on the firm's balance sheet (and can become negative) while the capital contributions tend to be fixed. For this reason, dividing these two series is not an accurate gauge of state ownership over time.

The second problem with the 'state capital' measure is it does not appear to include capital that is invested by the LLCs and other legal forms that may themselves be state controlled. Table 3 shows 7,857 enterprises in the 2007 survey that are 'state controlled' but have no recorded state capital. We can assume in this case that they are indirect subsidiaries of SOEs. We also observe 1,229 privately-controlled companies in which we observe some degree of state capital. More strangely, there are 279 'private' companies that are majority or wholly state-owned on the basis of capital shares. These are likely to be enterprises that are previously state owned and have since entered mixed ownership with a majority private shareholder, but have not updated their registered capital.

⁷ The correlation between the two is 91.9

Table 3: Number of industrial enterprises according to state capital share, 2007

	State share of total capital				
	None	Minority	Majority	Wholly	All
SOE and state-controlled	7,857	842	2,249	9,298	20,246
Collective	22,945	446	76	105	23,572
Private	232,929	1,229	159	120	234,437
Hong Kong, Macau, Taiwan	27,476	342	24	8	27,850
Foreign	28,532	579	47	5	29,163
Total	319,739	3,438	2,555	9,536	335,268

Note: 'Majority' includes where the state share is 50 per cent or greater.

Source: NBS survey of above-scale industrial firms 2007

In the same way that statistics derived only from enterprises formally registered as SOEs will understate the extent of state control in the economy, so will statistics that are derived according to the 'state owned and state controlled' data understate the extent of state ownership in the economy. Forensic analysis allows mixed-owned companies to be identified on a case by case basis.⁸ But there is no aggregate data series from NBS that tracks the broader concept of 'mixed ownership' that exists beyond 'state controlled'.

Although the 'state capital' concept is limited, it provides some indication of the extent of 'private controlled' enterprises in 'mixed ownership'. Table 4 shows 3,140 enterprises that are not classified as 'state controlled' in the 2007 survey, but nevertheless account for 2.96 per cent of registered capital. Just over 80 per cent of this is in enterprises registered as 'foreign joint ventures', 'other LLC', 'HMT joint-ventures' and 'share-holding' corporations. These are the same categories that are likely to include investment by SOE subsidiaries whose capital investment is classified as 'legal person' shares rather than state shares.

⁸ see for example Rooker (2016)

Table 4: Distribution of state capital by registration status, 2007

	Number of enterprises	State Capital (1000 RMB)	Proportion	Proportion of all state capital
Foreign Joint-venture	594	21,137,202	40.4%	1.20%
Other LLC	1,022	9,486,281	18.1%	0.54%
HMT Joint-venture	331	6,179,433	11.8%	0.35%
Share-holding Corporations	285	5,452,065	10.4%	0.31%
Foreign Share-holding	22	2,004,456	3.8%	0.11%
Private Limited Liability	320	1,814,728	3.5%	0.10%
HMT Cooperative	32	1,464,745	2.8%	0.08%
Foreign Cooperative	52	1,411,268	2.7%	0.08%
Cooperative	88	681,371	1.3%	0.04%
Collective-owned	163	671,958	1.3%	0.04%
Private Share-holding	37	616,726	1.2%	0.03%
HMT Share-holding	14	461,439	0.9%	0.03%
Private-funded	76	311,112	0.6%	0.02%
Foreign Sole Funded	16	199,385	0.4%	0.01%
HMT Sole Investment	12	121,188	0.2%	0.01%
Other Joint Ownership	9	88,840	0.2%	0.01%
Joint State-collective	24	77,701	0.1%	0.00%
Other Domestic Ownership	15	42,111	0.1%	0.00%
Collective Joint Ownership	5	33,737	0.1%	0.00%
Private Partnership	23	26,756	0.1%	0.00%
Total	3,140	52,282,502	100%	2.96%

Source: NBS survey of above-scale industrial firms 2007

For completeness, a remaining question is the extent to which some private companies in China might have links to the Communist Party or other organs of the state that are not based on legal ownership. This is a question of specific incentives and actual behavior rather than statistical classification, so is not addressed here.

Conclusion

China's National Bureau of Statistics reports its industrial and investment statistics based on classifications according to official registration statistics, as well as a broader principle of control. When investigating the role of state-ownership in the Chinese economy, it is usually appropriate to use statistics based on the 'control' concept, as this captures not only the wholly state-owned enterprises that come under the direct jurisdiction of SASAC, but also their public-listed and unlisted subsidiaries. Unfortunately, there is not yet a series from the NBS that tracks the scope of 'mixed ownerships' enterprises that would better reflect the extent of state ownership in China's economy. In addition to 'state-owned and state holding companies', such a definition would capture some proportion of the LLCs, foreign and domestic joint-ventures, and shareholding corporations in mixed ownership.

Appendix: Enterprise Registration Classifications

Domestically-invested enterprises

- State-owned enterprise
- Collective enterprise
- Share cooperative enterprise
- Joint venture
 - State-owned joint venture*
 - Collective joint venture*
 - State-owned and collective joint venture*
 - Other joint venture*
- Limited liability corporation (LLC)
 - Wholly state-owned LLC*
 - Other LLC*
- Company limited by shares
- Private enterprise
 - Private wholly-owned enterprise*
 - Private partnership*
 - Private limited liability company*
 - Private company limited by shares*
- Other enterprise

Hong Kong, Macao and Taiwan-invested enterprises

- Equity joint venture (Hong Kong, Macao or Taiwan-invested)
- Cooperative joint venture (Hong Kong, Macao or Taiwan-invested)
- Wholly Hong Kong, Macao or Taiwan-owned enterprise
- Hong Kong, Macao or Taiwan-invested company limited by shares
- Other Hong Kong, Macao or Taiwan-invested enterprise

Foreign-invested enterprises

- Sino-foreign equity joint venture
- Sino-foreign cooperative joint venture
- Wholly foreign-owned enterprise
- Foreign-invested company limited by shares
- Other foreign-invested enterprise

Source: (National Bureau of Statistics of China and State Administration for Industry and Commerce 2011)

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