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Appendices to accompany

**Industrial Policies and the Changing Patterns of Investment in the PRC
Economy**

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Appendix 1: Further Policy Details

A. Policies for Capacity Reduction (Supply-side Structural Reform)

The State Council on 4 February 2016 issued “suggestions” on how to reduce excess steel production.¹ Following “the elimination of backward steel production capacity in recent years,” starting 2016 crude steel production capacity is to be reduced by 100–150 million tons over a period of five years (SC, 4 February 2016); this compares to output of 804 million tons in 2015.² The guideline stresses the importance of environmental, efficiency, quality and technology criteria in eliminating excess capacity, and favors mergers and restructuring over bankruptcies. Localities are to organize the reduction in excess capacity with a supporting role for the center. The role of the market and the importance of legal procedures is stressed. The overall objective is one of sector upgrading.

Further measures to eliminate capacity were only planned for coal. Xu Zhaoshi, head of the National Development and Reform Commission, on 27 June 2016 announced a reduction in coal production capacity for 2016 of 280 million tons (and a reduction in steel production capacity of 45 million tons) with corresponding layoffs of 700,000 (and 180,000) workers.³ By 2020, the reduction in coal production capacity is to have reached 500 million tons, with an additional reduction in coal production (though not necessarily capacity) of 500 million tons; this compares to output of raw coal (*yuanmei*) of 3.7 billion tons in 2015. Xu Zhaoshi also reiterates the State Council’s 100–150 million ton target for reduction in steel production capacity. The intention is to achieve near-half of the reduction in production capacity in 2016. These measures match the development of coal and steel output over time, which both declined in 2015. But by 2016 steel production was flat, while a further decline in coal output in the first half of 2016 was followed by coal shortages in the second half of 2016.⁴

The case of coal illustrates that what is to be regarded as excess capacity is hard to determine. In fact, examining the (limited) available annual data in the *Statistical Yearbook* series and in the CEIC China Premium database on production capacity (of above-norm industrial enterprises) vs. actual output (of all industry) of crude oil, coal, coke, cement, crude

¹ State Council, “Guowuyuan guanyu gangtie hangye huajie guosheng channeng shixian tuokun fazhan de yijian” (Suggestions regarding the resolution of excess capacity in the steel industry and its development out of the difficulties), Guofa no. 6 (2016), at http://www.gov.cn/zhengce/content/2016-02/04/content_5039353.htm (accessed 16 November 2016).

² According to an official State Council website (http://english.gov.cn/policies/policy_watch/2016/08/05/content_281475409540166.htm, accessed 14 December 2016), more than 90 million tons of crude steel production capacity have already been cut “in recent years.”

³ “Xu Zhaoshi: jinnian meitan quchanneng 2.8 yi dun gangtie 4500 wan dun” (Xu Zhaoshi: production capacity of coal this year is to be reduced by 280 million tons, and that of steel by 4.5 million tons), 27 June 2016, at http://finance.ifeng.com/a/20160627/14529998_0.shtml (accessed 16 November 2016). The head of the PRC’s Ministry of Human Resources and Social Security had previously (in February 2016) suggested a total of 1.3 million layoffs in the coal industry and 0.5 million in the steel industry (presumably by 2020). The (central) government budget will provide CNY100 billion to help along the reduction in capacity, mostly to be spent on the new placement of staff and workers. This follows layoffs in recent years on the order of 1–2 million workers in the coal and steel industry after firm decisions to close or restructure, largely in the absence of government pressures. Thomas Gatley and Rosealea Yao, “The Turning Point for Excess Capacity,” *Gavekal Dragonomics*, 18 January 2016, at <http://research.gavekal.com/article/turning-point-excess-capacity> (accessed 16 November 2016), write that the coal and steel sectors have shed about 1.4 million workers since 2014.

⁴ Rosalea Yao, “The Mixed Progress on Excess Capacity,” *Gavekal Dragonomics*, 20 July 2016, at <http://research.gavekal.com/article/mixed-progress-excess-capacity> (accessed 16 November 2016), provides an overview through late 2016.

steel, and rolled steel from 2005 to 2015, no major drop in capacity utilization is apparent, in part due to incomplete data, except perhaps for crude steel. Crude steel experiences a drop from capacity utilization of around 85% in the second half of the 2000s to approximately 73% in the first half of the 2010s. Coal capacity data are missing for the years since 2009. Capacity utilization in cement appears steady at around 70%.

Excess capacity in the PRC, furthermore, may not necessarily imply a need for capacity reduction in the PRC. For example, in the case of aluminum, a non-ferrous metal, Michael Komesaroff finds that “China’s aluminum smelters are operating with the world’s most efficient technology.”⁵ Thus, even though in 2014 the PRC’s aluminum smelters were operating at just 68% of capacity, the shake-out hoped for by foreign firms, operating with less efficient technology, did not happen. I.e., reducing excess capacity is not a supreme PRC objective when the existing capacity operates at the technological frontier and cyclical downswings can be expected to eventually have run their course. Overinvestment in the PRC then is only a temporary phenomenon; the shake-out may well happen elsewhere.

B. “Made in China 2025”

The State Council document of 8 May 2015 also lists nine strategic tasks followed by eight supporting measures. The nine strategic tasks focus on improving manufacturing innovation capacity with the integration of information technology and industrialization, the development of high-quality brands, and green manufacturing. The eight supporting measures range from reforming the institutional mechanisms and a fair competitive market environment to financial and fiscal support policies, and personnel training.

In detail, the nine strategic tasks are:

- (1) Increase the national manufacturing innovation capacity,
- (2) promote the deep integration of information technology and industrialization,
- (3) strengthen the industrial base capacity,
- (4) strengthen the development of quality brands,
- (5) fully implement green manufacturing,
- (6) promote breakthrough developments in key areas (with a list of ten priority industries),
- (7) promote the structural adjustment of the manufacturing industry,
- (8) actively develop service-oriented manufacturing and producer services, and
- (9) raise the level of manufacturing internationalization.

The eight supporting measures are:

- (1) Deepen the reform of the institutional mechanisms,
- (2) create a fair competitive market environment,
- (3) improve financial support policies,
- (4) increase fiscal and taxation policy support,
- (5) establish a healthy multi-level personnel training system,
- (6) perfect micro, small and medium-sized enterprise policies,
- (7) further open up manufacturing to the outside world, and
- (8) create a healthy organizational implementation mechanism.

“Made in China 2025” is to be achieved in three stages. By 2020, the first step of the first stage, the PRC is to have completed basic industrialization, with consolidation of the PRC as a big manufacturing nation including much increased use of information technology in

⁵ Michael Komesaroff, “Aluminum: Coping With Excess Capacity,” *Gavekal Dragonomics*, 10 March 2015, at <http://research.gavekal.com/article/aluminum-coping-excess-capacity> (accessed 16 November 2016).

manufacturing. By 2025, the second step of the first stage, the quality of manufacturing is to have much increased with significant improvements in innovation capacity and labor productivity. By 2035, the PRC's manufacturing sector is to have advanced into the middle field of the world's manufacturing nations. By 2049, 100 years after the founding of the PRC, the PRC's manufacturing sector is to be in the forefront of the world's manufacturing nations. The document also provides a dozen specific targets; for example, internal R&D expenses of above-norm manufacturing industry are to reach 1.68% of main business revenue by 2025 (after 0.88% in 2013, 0.95% in 2015, and 1.26% in 2020).

Using the formula "1+X" (where 1 refers to "Made in China 2025"), 11 supporting implementation plans are expected, of which five have been formulated: the manufacturing innovation center project, the project to build a more solid foundation for industrial development, the green manufacturing project, the smart manufacturing project and the high-end equipment innovation project.⁶

⁶ See <http://economists-pick-research.hktdc.com/business-news/article/Business-Alert-China/China-Releases-Implementation-Guidelines-for-Five-Made-in-China-2025-Projects/bacn/en/1/1X2ZLGG8/1X0A768A.htm> (accessed 14 December 2016). According to this source, the other six supporting documents include development planning guidelines for manufacturing talents, information industry, new materials industry and pharmaceutical industry, and action guides for developing service-oriented manufacturing and promoting the upgrading of quality and brands in equipment manufacturing.

Appendix 2: Data

1. Investment

a. Data availability

The *Statistical Yearbook* series provides second-digit sector investment values for urban areas for the years 2004–2010, and for “investment, except by rural households” for the years since 2011; a change in size criterion for inclusion in investment of CNY50,000 to CNY500,000 concurs with the change in coverage. The sector classification system changed from GB2002 to GB2011 a year later, in 2012. Data are available on: total investment, investment by composition and by type of construction (on which more below), sources of funding, ownership, central vs. local investment, and cumulative investment by project.

The NBS database provides similar second-digit sector data for the years since 2003 under the label “investment, except by rural households” and within the GB2002 classification system (i.e., ignores the change in coverage, size criterion, and classification system). The available breakdowns of sector investment are the same as in the *Statistical Yearbook* series.⁷

The *Investment Statistical Yearbook* series provides similar second-digit sector data as the *Statistical Yearbook* series does, for the years since 2003 but not for 2013 (with no *Investment Statistical Yearbook 2014* having been published). The break between “urban investment” and “investment, except by rural households” occurs in 2011, as does the change in size criterion. The switch from GB2002 to GB2011 occurs one year later, with the 2012 data. The *Investment Statistical Yearbook* series also includes fourth-digit sector investment data for all years since 2003 (except for 2013), including a large number of further breakdowns.

These breakdowns are the following:

- By composition: construction and installation (*jianzhu anzhuang gongcheng*), purchase of equipment (*shebei gongqiju gouzhi*), and other expenses (*qita feiyong*).
- By type: new construction (*xinjian*, accounting for approximately two-thirds of the total), expansion (*kuojian*), reconstruction and technical transformation (*gaijian he jishu gaizao*), and four residual categories (with data sometimes not provided), together accounting for approximately five percent of the total: singular construction of living facilities (*danchun jianzao shenghuo sheshi*), relocation (*qianjian*), resumed construction (*huijian*), singular purchase (*danchun gouzhi*).
- By source of funds: state budgetary funds (*guojia yusuannei zijin*), domestic loans (*guonei daikuan*), bonds (*zhaiquan*), foreign funds (*liyong waizi*) with sub-category foreign direct investment (*waishang zhijie touzi*), self-raised funds (*zichou zijin*) with sub-category own funds of enterprises and administrative facilities (*qishiye danwei ziyou zijin*), and “other funds” (*qita zijin*).
- By ownership: state-owned and state-controlled investment (*guoyou ji guoyou konggu touzi*); domestic investment (*neizi touzi*, sometimes with a further breakdown), foreign investment (*waishang touzi*), and investment by Hong Kong, China, Macau, China, and

⁷ CEIC proceeds as the NBS database does, with annual second-digit sector investment data since 2003; the only breakdown available is by composition. CEIC also offers monthly second-digit sector investment data since 2004 (under a label “investment” that is not limited by such terms as “urban” or “investment, except by rural households”); the NBS database also offers limited monthly data.

Taipei, China businesses (*gang'aotai shang touzi*).

- By administrative level of the project: central (*zhongyang*) and local (*difang*), and the latter with an exhaustive four sub-categories: provincial (*shengshu*), municipal (*dishishu*), county (*xianshu*) and “others” (*qita*).
- Volume of ongoing construction: total/aggregate value of construction (*jianshe zong guimo*), cumulative completed investment since the beginning of construction (*zi kaishi jianshe leiji wancheng touzi*), total value of construction in progress (*zaijian zong guimo*), net value of construction in progress (*zaijian jing guimo*).

Apart from annual data, limited (cumulative) monthly data are also available. The NBS database and the CEIC database also report such monthly FAI data, which are also available in the NBS magazine *China Monthly Statistics*.

b. Data discussion

In contrast to the national income accounts measure of gross fixed capital formation, FAI does not net out sales of old fixed assets and does not distinguish between produced and non-produced fixed assets.⁸ While gross fixed capital formation is the more desirable measure, only one annual aggregate, economy-wide data point is available, without sector or ownership breakdown. In contrast, the NBS publishes a multitude of annual (as well as monthly) FAI data; these data are used here.

The NBS derives the national FAI values as summed provincial values. The FAI values of Liaoning province were acknowledged in 2016 to have been exaggerated. At least the time trend of FAI data, thus, needs to be viewed with caution. This paper works with proportions: the shares of different sectors or different ownership forms in economy-wide FAI. As long as any form of data inaccuracy affects each sector (or ownership form) equally, the analysis is valid. Similarly, while FAI is not an ideal proxy for gross fixed capital formation, as long as sales of existing assets and land account for the same proportions across sectors (or ownership forms), any findings based on FAI data extend to the more meaningful measure of gross fixed capital formation.

Figure 1 illustrates the 2011 transition in the detailed investment statistics from “urban” investment to “investment, except by rural households.” Up through 2010, total investment comprises urban investment and rural investment. Rural investment comes with a breakdown into rural households and rural non-households, with the latter capturing everything rural that is not a rural farm household. (The terminology in official sources varies over time, with alternative terms being rural farm-household vs. rural non-farm-household.) Since 2011, only the rural household category is retained as a separate category. Rural non-households, previously accounting for three-quarters of rural investment, are now merged with the previously “urban” category into the newly formed category “investment, except by rural households.”

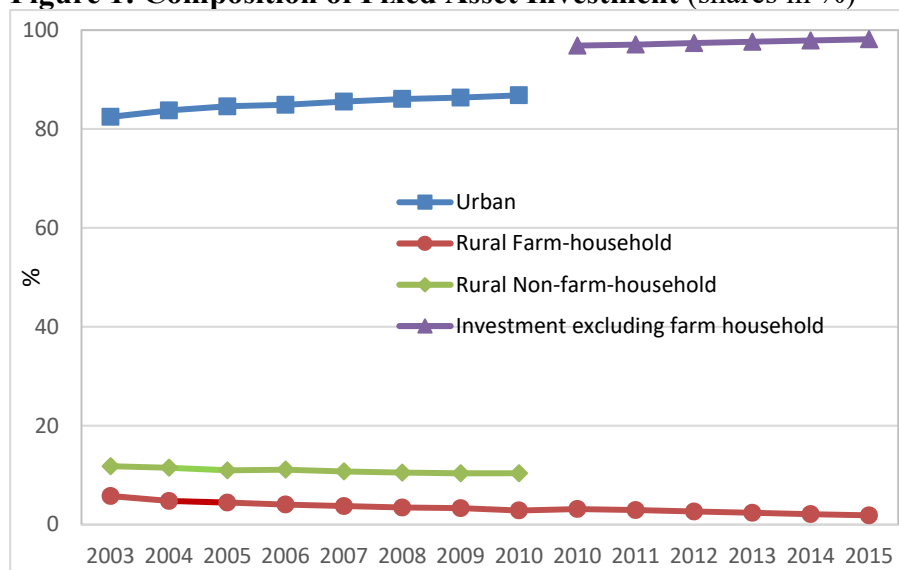
The distinction between “urban” investment and “investment, except by rural households” matters in that detailed sector investment data are only available for the urban investment coverage in 2003–2010, and for “investment, except by rural households” since 2011. I.e., use of the detailed sector investment data imply a statistical break in 2011. The two series “urban” and “investment, except by rural households” can also be found reported

⁸ For details on the relationship between gross fixed capital formation and FAI, and questions about the quality of FAI data, see Carsten A. Holz, “Understanding China’s Investment Statistics,” Mimeo (February 2017).

together in NBS data sources (for example, *Statistical Yearbook 2015*, p. 307) or in the CEIC database under the label “urban,” which ignores the 2010–2011 statistical break altogether.

The NBS in its time series data also ignores the sector reclassification. The *Statistical Yearbook 2012*, pp. 164ff. reports economy-wide first-digit sector investment data for 2003–2011 following GB2002, while the *Statistical Yearbook 2013*, pp. 159ff., reports economy-wide first-digit sector investment data for 2003–2012 following GB2011; the values through 2011 in two first-digit sectors whose coverage changed slightly between GB2002 and GB2011 were not revised in the more recent *Statistical Yearbook 2013* edition, which follows GB2011.

Figure 1: Composition of Fixed Asset Investment (shares in %)



Sources: *Statistical Yearbook 2011*, p. 144; *Statistical Yearbook 2016*, Table 10-2.

2. Profitability: Data availability

In order to relate investment to profitability, profit and equity data are needed. Such data are available only for a subset of enterprises in industry (mining, manufacturing, utilities). The subset is the set of above-norm industrial enterprises, i.e., since 2011 industrial enterprises with annual sales revenue in excess of CNY20 million, from 2007 to 2010 industrial enterprises with annual sales revenue in excess of CNY5 million, and before 2007 (1998–2006) all SOEs plus all non-SOE industrial enterprises with annual sales revenue in excess of CNY5 million. Above-norm industrial enterprises typically account for 90 percent of industrial value-added, and profitability indicators of the above-norm industrial enterprises in a particular sector may thus be indicative of the (unknown) profitability of all industrial enterprises in that sector.⁹

These data are available in the *Industry Statistical Yearbook* series at the second-digit sector level for industry for 2003–2011 (except for 2004, with no yearbook published in 2005), and at the fourth-digit sector level for industry for 2012–2016 (and presumably continuing with upcoming editions of the yearbook).¹⁰

⁹ For details on the coverage of the above-norm industrial enterprises, see Carsten A. Holz, “Chinese Statistics: Classification Systems and Data Sources,” *Eurasian Geography and Economics* 54, no. 5/6 (2013): 532-71.

¹⁰ The *Statistical Yearbook 2005* does not offer sufficiently detailed industry data to substitute for the missing (not published) *Industry Statistical Yearbook 2005* volume with 2004 data.

Industrial equity and profit data are further available by ownership category times sector: for 2003–2011 (except 2004), data are available by second-digit sector for, separately, SOSCEs, collective-owned enterprises (COEs), private enterprises, and “foreign-funded enterprises and Hong Kong, Macau, and Taipei,China enterprises”, and for 2012–2014 for the same ownership categories except COEs, by third-digit sector.

Second-digit industry equity and profit data are equally available on the NBS database for all years, including by second-digit sector times ownership category (SOSCEs, private enterprises, and “foreign-funded enterprises and Hong Kong, Macau, and Taipei,China enterprises”). The data are provided separately for 2003–2011 vs. the years since 2012, to account for the change in the sector classification system. CEIC carries the same data as the NBS database but as continuing time series, ignoring the change in sector classification. In contrast to the *Industry Statistical Yearbook* series, thus, the NBS and CEIC databases provide 2004 data but do not offer fourth-digit sector data when the yearbook does, for the years since 2012. The NBS and CEIC databases also do not provide sector COE data ever, whereas the yearbook series does for 2003–2011 (except 2004).

In addition, CEIC provides fourth-digit sector data on a monthly basis typically starting 2006, albeit with various breaks and omissions; the same series are not provided on an annual basis. Data cover profit but not equity; total equity can be derived as difference of assets and liabilities, but no measure of “actually paid-in equity” (as provided in the above listed sources) can be derived. The NBS database provides the same monthly data, at the second digit sector level only, with the same limitation on the derivation of equity, with no January data and frequent other omissions, since 2003. (January and February values in the CEIC database appear identical throughout, suggesting that in the CEIC database half of the published NBS February value is attributed to January, and the other half to February.)

Appendix 3: Establishing the NBS Definition of “Infrastructure”

The NBS measure of infrastructure comprises transportation (rail, road, water, air, pipeline), information technology, and public facilities (“water conservancy, environment, and public facilities,” the latter accounting for more than 80% of investment in this sector). It does not include other tertiary sectors such as health, science, or education, or the secondary sector sub-sector “utilities.”

The NBS practice is deduced from the available NBS cumulative monthly investment data in the CEIC database, with these infrastructure data available for May–November 2014, all months of 2015, and all months of 2016, and cumulative monthly data on all tertiary sector first-digit sectors and some second-digit sectors, as available. Cumulative monthly data are turned into monthly data; January and February values each are obtained as half the cumulative February value (with the source providing identical January and February values).

In the CEIC database, the NBS infrastructure values are listed as an aside to the NBS tertiary sector investment values. These infrastructure monthly (non-cumulative) investment values are regressed on all available second-digit tertiary sector investment values and, where second-digit sector investment values are not available, first-digit tertiary sector investment values. Sectors with a significance level higher than 10% are eliminated one by one, then a very few sectors with negative coefficients are eliminated, followed by further elimination one by one of sectors with a significance level higher than 10%, or negative coefficients.

The resulting set of sectors typically has a coefficient of one (except pipeline transportation, with a coefficient of two), the significance levels are 0.1% (except for pipelines, 2%), and investment in these such identified sectors adds up across all months for which investment data are available to 99–100% of infrastructure investment. The same set of sectors results with or without inclusion of a constant, and with or without inclusion of monthly dummy variables.

Appendix 4: Investment Patterns Across Fourth-digit Sectors

Detailed sector investment data covering 1181 sectors (first- through fourth-digit sectors) are available for urban investment in 2003–2010 (GB2002), and covering 1409 sectors for “investment, except by rural households” in 2012, 2014, and 2015 (GB2011). These numbers are too large for sector-by-sector analysis, and this section therefore focuses on the 30 fastest-growing fourth-digit sectors (with third-digit sectors included if they do not come with fourth-digit sectors).

In 2003–2010, the 30 fastest-growing sectors were found across the economy (Table 1). The list comprises a range of diverse sectors, from magnesium dressing to notary services. Industry accounted for half of the fastest-growing sectors, with 6 mining sectors, 8 manufacturing sectors, and 1 utility sector.

In 2012–2014, the balance shifted (Table 2): None of the mining or utilities sectors made it into the group of 30 fastest-growing sectors, and only 6 manufacturing sectors made it. More third- and fourth-digit sectors were in financial intermediation, leasing and business services, and culture, sports and entertainment, along with water conservancy, environment, and public facilities.

In 2014–2015 (Table 3), the number of industry sectors was reduced to 5 marginal manufacturing sectors (hemp-dyeing, enamel sanitary ware, fishery machinery, special instruments for agriculture, and instrument repair), the same number as in agriculture (of which three were cash crops: sugar, bananas and other subtropical fruits, and spice). IT with 2 sectors and science with 2 sectors newly entered the 30 fastest-growing sectors, and almost one-third were accounted for by three finance and six leasing and business service sectors.

The 2012–2014 and 2014–2015 data are evidence of a broad-based shift of investment growth out of mining and manufacturing and into the tertiary sector. Here, too, much of this shift out of mining and manufacturing predates government industrial policy; the Twelfth Five-Year Plan (2011–2015) still promoted various historic manufacturing sectors, and the government’s de-emphasis of coal, steel, and, more generally, mining, only surfaced in policies starting 2015, long after the downward shift in investment growth had occurred. The move to a high-tech, next generation textile industry as propagated in the Twelfth Five-Year Plan either did not yield investment growth, or has not happened (beyond the hemp-dyeing industry in the most recent year). Medicine manufacturing, glass fiber products, and the automobile and motor industry don’t appear among the fastest growing sectors. Railway equipment and shipbuilding make it into the 2012–14 list of fast-growing sectors, well ahead in time of corresponding industrial policies. On the other hand, IT and science appear among the 30 fastest-growing sectors in 2014–2015, in line with the Twelfth Five-Year Plan (2011–2015).

In 2010, the 30 fastest-growing sectors together accounted for only 1.7 percent of total urban investment, where one would expect 3 percent (30 out of just above 1,000 fourth-digit sectors and those third-digit sectors that do not come with fourth-digit sectors). In 2012, that share was only 0.34 percent, and in 2015 only 0.089 percent, one-thirtieth of what one would expect that share to be. I.e., the fastest-growing sectors are significantly smaller than the average sector, and increasingly so over time. This suggests that fast-growing investment in a particular sector primarily serves to develop a previously underdeveloped sector, implying a catch-up process or the completion of an industrial structure more than any kind of specialization that could be the outcome of industrial policies.

Table 1. Thirty Fastest-Growing Third- or Fourth-digit Sectors, 2010 vs. 2003

<i>First digit sector (sometimes with second-digit sector)</i>	% of investment 2010 / 2003	Multiple 2010 / 2003
Third- or fourth-digit sector		
<i>Agriculture, forestry, animal husb., fishery: Cereals and other crops</i> 谷物及其他作物的种植		
Tobacco cultivation 烟草的种植	0.009	126
Bamboo harvesting 竹材的采运	0.000	68
Inland fishery 内陆捕捞	0.001	156
<i>Mining: Non-ferrous metal industry</i> 有色金属矿采选业		
Antimony ore mining 锑矿采选	0.005	65
Aluminum mining and dressing 铝矿采选	0.020	81
Magnesium dressing 镁矿采选	0.005	67
Other commonly used non-ferrous metals 其他常用有色金属矿采选	0.033	87
Other precious metals mining and dressing 其他贵金属矿采选	0.011	3681
Radioactive metal ore mining 放射性金属矿采选	0.002	160
<i>Manufacturing: General equipment manufacturing</i> 通用设备制造业		
Guns and similar appliances 喷枪及类似器具制造	0.005	113
<i>Manufacturing: Special equipment manufacturing</i> 专用设备制造业		
Oil drilling equipment 石油钻采专用设备制造	0.113	66
Feed production equipment 饲料生产专用设备制造	0.008	61
Postal machinery and equipment 邮政专用机械及器材制造	0.000	90
Traffic safety and control equipment 交通安全及管制专用设备制造	0.007	69
<i>Manufacturing: Transportation equipment manufacturing</i> 交通运输设备制造业		
Aids to navigation equipment and other floating devices 航标器材及其他浮动装置的制造	0.008	253
<i>Manufacturing: Electrical machinery and equipment manufacturing</i> 电气机械及器材制造业 Generators and generator sets 发电机及发电机组制造	0.189	65
<i>Manufacturing: Waste resources and materials recycling and processing</i> 废弃资源和废旧材料回收加工业 Metal waste and scrap processing 金属废料和碎屑的加工处理	0.083	74
<i>Utilities: Electricity and heat, production and supply</i> 电力、热力的生产和供应业		
Other energy production 其他能源发电	1.015	66
<i>Transportation, storage and postal serv.</i> 交通运输、仓储和邮政业 Freight trains 货运火车站	0.006	68
<i>Trade – retail trade</i> 零售业		
Audiovisual products and electronic publications 音像制品及电子出版物零售	0.003	58
Photographic equipment 照相器材零售	0.001	588
Medical supplies and equipment 医疗用品及器材零售	0.006	57
Other electronic products 其他电子产品零售	0.005	80
Paint 涂料零售	0.002	138
<i>Financial intermediation</i> 金融业 Financial companies 财务公司	0.001	224
<i>Leasing and business services</i> 租赁和商务服务业		
Other machinery and equipment rental 其他机械与设备租赁	0.034	270
Notary services 公证服务	0.000	93
Other unlisted business services 其他未列明的商务服务	0.110	62
<i>Resident services and other services</i> 居民服务和其他服务业		
Office equipment maintenance 办公设备维修	0.002	209
<i>Cultural, sports and entertainment</i> 文化、体育和娱乐业 Audiovisual production 音像制作	0.018	71
<i>Sum shares</i>	1.706	

Notes:

Total number of first- through fourth-digit sectors: 1182.

For some second-digit sectors, only third-digit sector values are available, for others, also fourth-digit sector values.

Therefore, in the search for the fastest-growing sectors all levels of sector classification were retained.

About one dozen sectors saw no investment in 2003; these sectors are omitted from the search for the fastest-growing sectors.

Source: *Investment Statistical Yearbook*.

Table 2. Thirty Fastest-Growing Third- or Fourth-digit Sectors, 2014 vs. 2012

<i>First digit sector (sometimes with second-digit sector)</i>	% of investment	Multiple 2014 / 2012
Third- or fourth-digit sector		
Agriculture, forestry, animal husbandry and fishery 农、林、牧、渔业 Sheep raising 羊的饲养	0.039	4.8
Agriculture, forestry, animal husbandry and fishery 农、林、牧、渔业 Corn cultivation 玉米种植	0.009	4.7
Manufacturing: Rubber and plastic products 橡胶和塑料制品业		
Waterproof construction materials 防水建筑材料制造	0.006	14.2
Manufacturing: Rail, shipbuilding, aerospace and other transportation equipment 铁路、船舶、航空航天和其他运输设备制造业 Recreational boats, and sport boats 娱乐船和运动船制造	0.005	7.6
Manufacturing: Smelting and pressing of ferrous metals 黑色金属冶炼和压延加工业		
Silver smelting 银冶炼	0.007	5.0
Manufacturing: Rail, shipbuilding, aerospace and other transportation equipment 铁路、船舶、航空航天和其他运输设备制造业 Narrow gauge locomotive and rolling stock 窄轨机车车辆制造	0.001	4.8
Manufacturing: Chemical fibers 化学纤维制造业 Vinylon fiber manuf. 维纶纤维制造	0.003	4.0
Manufacturing: Instruments 仪器仪表制造业 Agriculture, forestry, animal husbandry and fishery special instrument manufacturing 农林牧渔专用仪器仪表制造	0.001	4.0
Wholesale and retail trade 批发和零售业		
Internet retail 互联网零售	0.001	16.9
Newspaper, Wholesale 报刊批发	0.000	10.2
Auctions 拍卖	0.000	8.7
Photographic equipment retail 照相器材零售	0.000	5.1
Transportation, Storage and Post 交通运输、仓储和邮政业 Railway freight transport 铁路货物运输	0.190	4.3
Accommodation & catering services 住宿和餐饮业 Other beverages & cold drinks 其他饮料及冷饮服务	0.001	4.7
Financial intermediation 金融业		
Other insurance activities 其他保险活动	0.000	8.2
Securities brokerage services 证券经纪交易服务	0.002	6.3
Capital investment services 资本投资服务	0.015	4.4
Futures market management services 期货市场管理服务	0.001	4.3
Leasing and business services 租赁和商务服务业		
Other security services 其他安全保护服务	0.000	7.4
Other machinery and equipment rental 其他机械与设备租赁	0.029	4.9
Labor dispatch service 劳务派遣服务	0.001	4.9
Car rental 汽车租赁	0.003	4.4
Other Human Resources Services 其他人力资源服务	0.002	4.4
Human resources services 人力资源服务	0.007	4.2
Water conservancy, environment and public facilities management 水利、环境和公共设施管理业		
Radioactive waste treatment 放射性废物治理	0.000	6.4
Wildlife Protection 野生动物保护	0.004	5.0
Protection of wild plants 野生植物保护	0.002	4.6
Culture, sports and entertainment 文化、体育和娱乐业		
Film and television program distribution 电影和影视节目发行	0.002	5.4
Film and television program production 电影和影视节目制作	0.015	4.7
Public management: Mass organizations, social groups and other member org. 群众团体、社会团体和其他成员组织 Communist Youth League 共青团	0.000	12.4
Sum shares	0.346	

Notes:

Total number of first- through fourth-digit sectors: 1409.

For some second-digit sectors, only third-digit sector values are available, for others, also fourth-digit sector values.

Therefore, in the search for the fastest-growing sectors all levels of sector classification were retained.

About half a dozen sectors saw no investment in 2012; these sectors are omitted from the search for the fastest-growing sectors.

Source: *Investment Statistical Yearbook*.

Table 3. Thirty Fastest-Growing Third- or Fourth-digit Sectors, 2015 vs. 2014

<i>First digit sector (sometimes with second-digit sector)</i>	% of invest-ment 2014	Mul-tiple 2015 / 2014
Third- or fourth-digit sector		
<i>Agriculture: Farming 农业</i>		
Sugar plantation 糖料种植	0.0025	3.4
Banana and other subtropical fruit cultivation 香蕉等亚热带水果种植	0.0061	2.6
Spice crop cultivation 香料作物种植	0.0028	2.5
<i>Agriculture: Animal husbandry 畜牧业</i> Camel breeding 骆驼饲养	0.0001	5.4
<i>Agriculture: Services 农、林、牧、渔服务业</i> Forest fire prevention services 森林防火服务	0.0013	2.6
<i>Manufacturing: Textiles 纺织业</i> Hemp dyeing 麻染整精加工	0.0012	3.9
<i>Manufacturing: Metal products 金属制品业</i> Enamel sanitary ware 搪瓷卫生洁具制造	0.0042	2.4
<i>Manufacturing: Special Purpose Machinery 专用设备制造业</i> Fishery machinery 渔业机械制造	0.0015	2.8
<i>Manufacturing: Measuring instruments 仪器仪表制造业</i> Agriculture, forestry, animal husbandry and fisheries special instrument manufacturing 农林牧渔专用仪器仪表制造	0.0017	2.8
<i>Manufacturing: Repair Service of Metal Products, Machinery and Equipment 金属制品、机械和设备修理业</i> Instrument repair 仪器仪表修理	0.0004	2.8
<i>Trade: Wholesale trade 批发业</i> Nutrition and health products wholesale 营养和保健品批发	0.0020	2.3
<i>Trade: Retail trade 零售业</i>		
Mail order and television, telephone retail 邮购及电视、电话零售	0.0003	3.8
Internet retail 互联网零售	0.0143	2.9
Audio-visual products and electronic publications retail 音像制品及电子出版物零售	0.0003	3.4
Stationery retail 文具用品零售	0.0010	2.5
<i>Information technology: Telecommunication, Radio and Television and Satellite Transmission Service 电信、广播电视和卫星传输服务</i> Other telecommunications services 其他电信服务	0.0216	2.3
<i>Information technology: Internet and related services 互联网和相关服务</i>		
Other Internet services 其他互联网服务	0.0123	2.7
<i>Finance: Monetary and financial services 货币金融服务</i> Financial leasing serv. 金融租赁服务	0.0037	2.7
<i>Finance: Capital market services 资本市场服务</i> Fund management services 基金管理服务	0.0005	2.3
<i>Finance: Insurance 保险业</i> Risk and loss assessment 风险和损失评估	0.0001	2.8
<i>Leasing and business services: Leasing 租赁业</i>		
Entertainment and sports equipment rental 娱乐及体育设备出租	0.0025	2.6
Other cultural and daily necessities 其他文化及日用品出租	0.0008	3.2
Cultural and daily necessities 文化及日用品出租	0.0033	2.8
<i>Leasing and business services: Business services 商务服务业</i>		
Notary services 公证服务	0.0000	56.3
Market surveys 市场调查	0.0003	4.1
Other legal services 其他法律服务	0.0005	3.9
<i>Science: Professional technical services 专业技术服务业</i>		
Ecological monitoring 生态监测	0.0015	2.5
Water, carbon dioxide and other mineral geological prospecting 水、二氧化碳等矿产地质勘查	0.0005	2.3
<i>Health and social services: Social services 社会工作</i> Mental rehabilitation serv. 精神康复服务	0.0016	2.8
<i>Culture: Journalism and publishing activities 新闻和出版业</i> Journal Publications 期刊出版	0.0004	2.4
<i>Sum</i>	0.0890	

Notes and sources: see previous table.

Appendix 5: Annual Vs. Cumulative Monthly Data

As of early 2017, for 2016 only cumulative monthly December values are available, not annual values. [Annual values for 2016 have in the meantime, by end-2017, become available, and are discussed in the text of the paper.] The NBS database provides cumulative monthly investment data by ownership form for first-digit sectors and for a typically incomplete set of second-digit sectors within some but not all first-digit sectors. It also provides cumulative monthly investment data by ownership form. This section examines cumulative monthly December data for 2015 and 2016.¹¹ The data, while not further labeled in the source, likely cover “investment, except by rural households” (see reference values in table).

Ownership

Table 4 provides detailed data on ownership shares in annual investment in comparison to ownership shares in cumulative monthly December values. Cumulative monthly December investment of the years 2011–2015 is equal to 97%–98% of annual FAI values and in the years 2006–2010 equal to 85%–87%, reflecting the likely “urban” coverage of the cumulative monthly data. Since 2011, the individual ownership shares in the two sets of data match reasonably well, except for sole proprietorships, which in 2015 accounted for 2.2% of FAI but for only 0.4% of cumulative monthly December investment; the rationale for the difference could be that investment by rural households (part of FAI) likely contains a good number of sole proprietorships.

A limited ownership breakdown is available following the registration classification used in the FAI statistics (the source refers to “enterprises” rather than “units”), with an SOSCU data point provided separately. SOSCUs accounted for 32% of investment in 2015 and experienced a 19% investment growth rate in 2016 (Figure 2). The ownership category with the fastest-growing investment is the category of limited liability companies at 36%; its sub-category solely state-owned limited liability companies exhibits a 155% growth rate. The officially labeled private enterprises accounted for 31% of investment in 2015 and their investment grew 12% in 2016. Investment by “Hong Kong, Macau, and Taipei, China” enterprises and foreign-funded enterprises grew 19% and 12%.

The pattern of investment growth across registration/ownership forms in 2016 suggests somewhat of a reversal of the earlier 2012–2015 pattern in that investment growth in state-owned and state-controlled enterprises (SOSCEs) exceeds that in (an incomplete measure of) private enterprises, although investment by private enterprises still grew faster than the economy-wide average. These findings warrant further examination. Thus, the share of SOUs in investment falls significantly from 25.3% to 21.8% in 2016, while the share of private units in investment increases from 31.1% in 2015 to 31.5% in 2016. However, the SOSCU share rises significantly from 32.4% to 35.7%, and a measure included in the monthly statistics (starting 2012) but not in the annual statistics through 2016, labeled “non-state” investment (*minjian*), falls from 64.2% of investment to 61.2% in 2016.

Examining the data reveals that “non-state” investment simply refers to domestic investment less SOSCU investment, in deviation from the (erroneous) “private” ownership

¹¹ Shorter-term analysis would appear inappropriate as already the quarterly year-on-year growth rates are very variable. For example, investment in repair services for metal products, machinery and equipment repair grew 41% year-on-year in the fourth quarter of 2016, but fell 11% in the full year 2016.

interpretation often found in the media and indicated by the Chinese term. The NBS likely adopted the term “non-state” from government policies such as the Twelfth Five-Year Plan, in order to distinguish between the state and everything else.

Table 4. Ownership Shares, Annual and Cumulative Monthly Values

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Share in annual FAI (%)													
Domestic			90.1	90.3	91.1	93.1	93.8	94.0	94.4	95.0	95.5	96.0	95.7
SOU			30.0	28.2	28.2	31.0	30.0	26.5	25.7	24.6	24.4	24.9	21.3
COU			3.3	3.4	3.6	3.8	3.6	3.3	3.2	3.0	3.0	2.7	1.5
Cooperative units			0.7	0.6	0.6	0.5	0.5	0.5	0.5	0.4	0.4	0.3	0.2
Joint units			0.5	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.1
LLC			23.9	24.4	24.3	23.9	25.3	27.7	27.4	27.2	26.7	26.0	33.2
Shareholding units			7.4	7.0	7.0	6.3	6.2	6.1	5.7	5.2	4.4	3.7	2.9
Private units			17.5	19.7	20.6	20.9	21.8	22.9	24.4	27.2	29.2	30.5	30.9
Sole proprietorships			4.7	4.4	4.2	4.0	3.4	3.4	3.1	2.8	2.5	2.2	2.0
Others			2.2	2.1	2.2	2.5	2.8	3.3	4.2	4.3	4.7	5.4	3.7
HKMTU			4.3	4.4	4.0	3.2	3.0	3.0	2.7	2.5	2.3	2.1	2.3
FFU			5.6	5.4	4.9	3.7	3.2	3.0	2.8	2.5	2.2	1.9	2.0
Share in cumulative monthly December investment (%)													
Domestic	86.9	87.8	88.9	89.1	89.9	92.2	92.9	93.3	93.8	94.5	95.0	95.5	95.3
SOU	39.1	36.1	34.3	31.6	31.3	34.0	32.4	27.3	26.2	25.9	25.0	25.3	21.8
COU	2.1	2.2	2.3	2.5	2.9	3.0	2.8	3.4	3.3	3.1	3.0	2.8	1.5
Cooperative units	1.0	0.9	0.7	0.7	0.7	0.5	0.6	0.5	0.5	0.5	0.4	0.3	0.2
Joint units	0.8	0.7	0.5	0.5	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.1
LLC	23.5	25.3	25.8	26.4	26.1	25.8	27.1	28.3	27.8	26.9	26.9	26.5	33.4
# solely state-owned	2.8	2.8	2.9	2.8	2.6	2.9	2.8	2.3	2.2	2.0	2.3	2.4	5.6
# others	20.8	22.4	23.0	23.6	23.5	22.9	24.3	26.0	25.6	24.9	24.7	24.1	27.7
Shareholding units	9.3	9.0	8.3	7.8	7.9	6.9	6.7	6.3	5.9	5.2	4.4	3.8	2.9
Private units	9.9	12.4	14.8	17.8	18.6	19.3	20.7	23.8	25.5	27.8	30.0	31.1	31.5
Sole proprietorships	1.2	1.1	0.5	0.5	0.6	0.6	0.5	0.5	0.5	0.4	0.4	0.4	0.4
Others	1.2	1.4	2.1	1.9	2.0	2.4	2.5	3.4	4.3	4.7	4.9	5.5	3.8
HKMTU	5.3	4.9	4.6	4.6	4.3	3.3	3.2	3.1	2.8	2.5	2.4	2.2	2.4
FFU	6.6	6.2	6.0	5.8	5.2	4.0	3.4	3.1	2.9	2.5	2.2	1.9	2.0
Reference values													
Urban inv. / FAI (%)	83.8	84.6	84.9	85.5	86.1	86.3	96.9	97.1	97.4	97.6	97.9	98.1	98.4
Cumulative monthly Dec. inv. / FAI (%)	83.2	84.6	85.0	85.5	85.7	86.4	95.9	96.9	97.4	97.8	98.0	98.1	98.4
Cumul. monthly Dec. inv. / urban inv. (%)	99.3	100.0	100.1	100.0	99.6	100.1	99.0	99.8	100.0	100.2	100.1	100.0	100.0
Percentage share in FAI or cumulative monthly December investment (%)													
SOSCU: annual					37.0	38.6	36.7	34.6	33.2	32.3	31.5	31.8	
SOSCU: cumulative monthly					43.3	44.6	42.3	35.6	33.9	33.0	32.2	32.4	35.7
Non-state units: annual, constructed					54.1	54.6	57.1	59.4	61.2	62.7	64.0	64.1	
Non-state units: cumulative monthly									61.4	62.9	64.1	64.2	61.2
Non-state units: cum. monthly, constr.			40.5	44.5	46.6	47.6	50.6	57.7	59.9	61.5	62.8	63.1	59.5

LLC: limited liability companies.

Notes:

Cooperative units are collective-owned units in formal “cooperative” organizational form.

Cumulative monthly data are the cumulative December values. Cumulative monthly December investment of the years

2011–2015 is equal to 97%–98% of annual FAI values; in the years 2006–2010, the percentages are 85%–87%. This suggests that the coverage of the cumulative monthly data is “urban” investment.

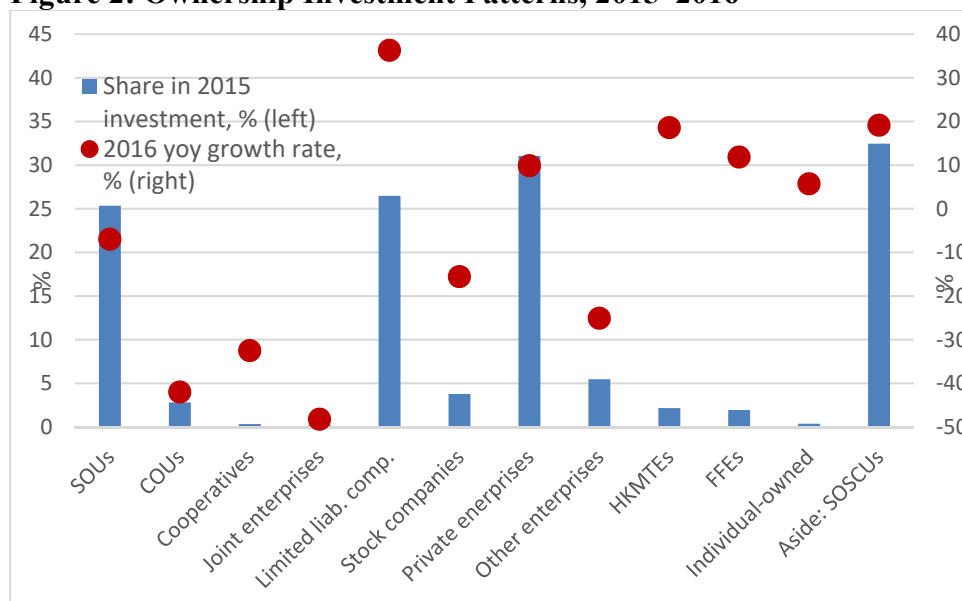
Constructed non-state values are obtained as value of domestic investment less value of SOSCU investment.

Source: NBS database, *Statistical Yearbook 2017*.

The fall in the non-state share in investment matches a halving of the investment share of COUs (–1.3 percentage points), a 0.9 percentage point reduction in the shareholding share, and a 1.7 percentage point reduction in the residual share “others,” with as counterpart a more than doubling of the investment share of solely state-owned limited liability companies (part of the SOSCU) from 2.4% to 5.6%. The size of these changes stretch credulity—also a decrease in the SOU share from 25.3% to 21.8% while the share of the larger SOSCU ownership category, of which the SOUs are a subset, rises from 32.4% to 35.7%—suggests

that some SOUs (or COUs, or other enterprises) are being reclassified as state-owned companies. As a consequence, the changes in the shares of the SOSCU and non-state categories in 2016 should not be directly compared to 2015 values.

Figure 2: Ownership Investment Patterns, 2015–2016



Note: 2016 data are cumulative monthly December values.

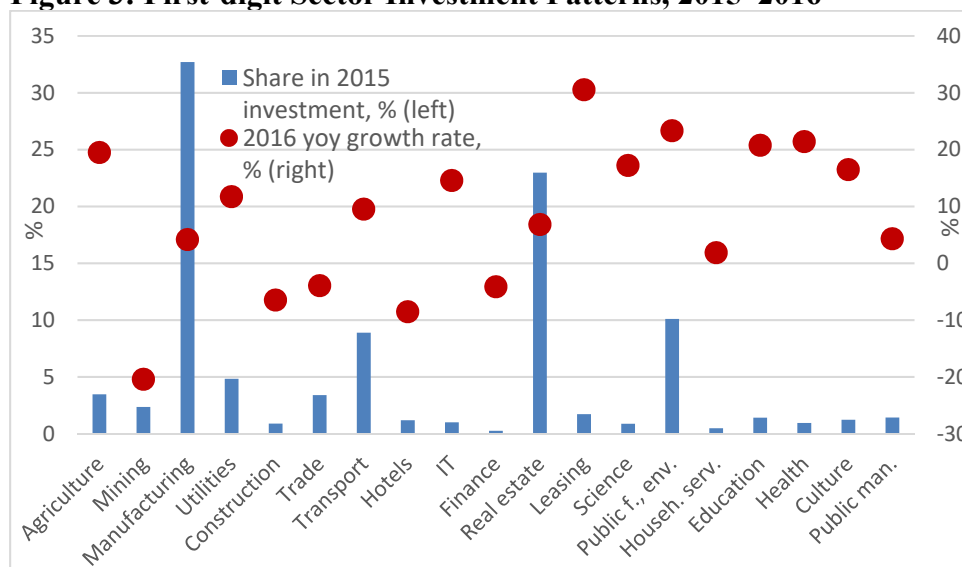
Source: NBS database.

Sectors

Figure 3 shows the first digit-sector distribution of cumulative monthly December 2015 investment, i.e., of annual 2015 investment as captured by the cumulative monthly data. Unchanged from 2012, manufacturing and real estate still account for more than half of all investment, followed by environment and transport. Added into the chart are the year-on-year first-digit sector growth rates of cumulative monthly December investment (i.e., investment in January through December 2016 compared to investment in January through December 2015). Growth rates are highest in tertiary sectors, at 31% for leasing and between 15% and 25% for information technology, science, public facilities, education, health and culture. This compares to a growth rate of economy-wide investment of 8%. The growth rate of investment in mining is –20%, in finance –4%, and in construction –7%. Investment growth in manufacturing is 4%. In agriculture, it is 19%.

In manufacturing, a broad range of light industry sectors, and also medicines, experiences on the order of ten percentage points investment growth, while investment in heavy industry stagnates (Figure 4). Investment growth is fastest for “computers, communication and other electronic equipment” (16%) and “electrical machinery and apparatus” (13%). In the first-digit transport sector (no chart provided), investment rises by 21% in air transport; in the first-digit sector “water conservancy, environment, and public facilities,” investment in environment grows by 40%.

Figure 3: First-digit Sector Investment Patterns, 2015–2016

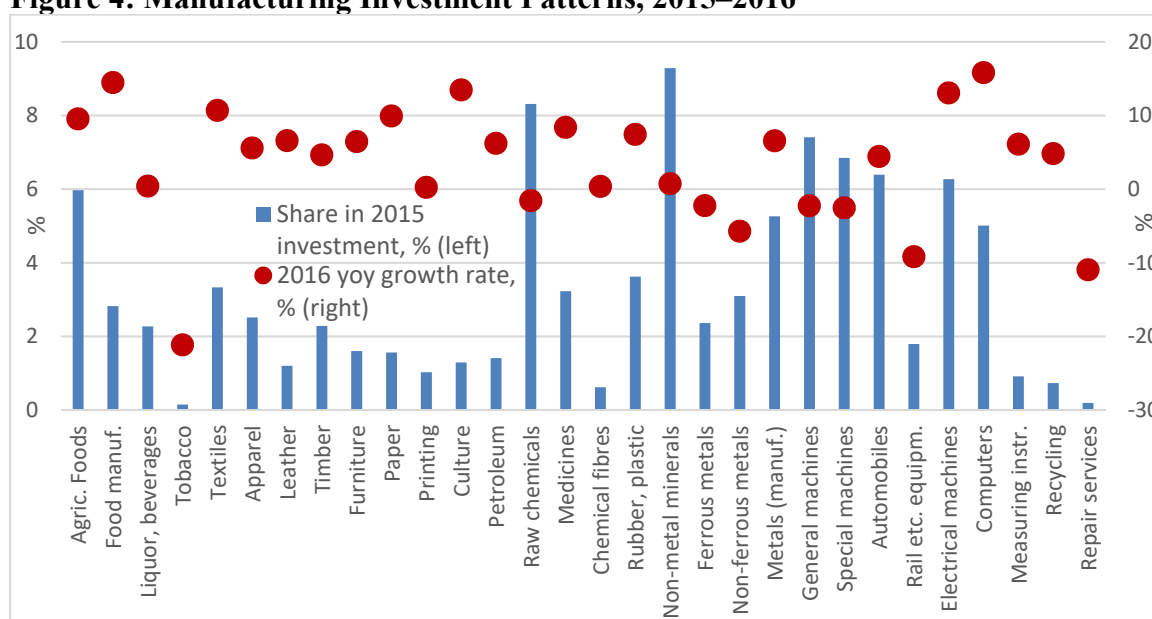


IT: information technology.

Note: 2016 data are cumulative monthly December values.

Source: NBS database.

Figure 4: Manufacturing Investment Patterns, 2015–2016



Notes:

2016 data are cumulative monthly December values.

The first-digit sector manufacturing also contains an implicit residual accounting for 1% of 2015 investment.

Source: NBS database.

The 2016 investment patterns offer a mixed picture regarding the implementation of the various industrial policies. Some sectors favored by industrial policies experienced solid investment growth, but several did not:

- investment in mining fell (but that includes a 32% fall in investment in oil and natural gas extraction, a sector favored by the Thirteenth Five-Year Plan);
- investment in light industries, including medicines, rose;
- investment in heavy industry stagnated;

- investment in the sector electrical machinery and apparatus in 2016 rose 13% but investment in general purpose machinery and in special purpose machinery fell 2% and 3%;
- investment in the automobile industry (where policy promotes the development of electric vehicles) only rose 4%;
- investment in the manufacture of computers, communication, and other electronic equipment rose 16%, and in the information technology service sector 15%;
- investment in agriculture grew 19%;
- investment in air transport services rose 21%, but investment in rail services stagnated, investment in the “manufacture of railway, ship, aerospace and other transport equipment” fell 9%, and investment in water transport services fell 8%;
- investment in the production and supply of electricity grew 12%, but investment in the production and supply of gas decreased 8%; investment in science grew 17%.

Four sectors experienced high investment growth in 2016 without representing sectors or products targeted by industrial policy: leasing (31%), education (21%), health (21%), and culture (16%). While growth in investment in leasing and culture may reflect market developments, investment growth in education and health likely derives from other government priorities that do not fit into policies such as “Made in China 2025.”

Appendix 6: Sector Investment Growth Rates and Ownership Characteristics

Table 5. Pearson Correlation Coefficients between 2008-2010 Sector Investment Growth Rates and Ownership Characteristics (Urban Investment)

	Domestic	SOSCUs	COUs	Private	HKMTUs	FFUs
<i>Share of a particular sector in this ownership category total</i>						
First-digit (19 sectors)						
2008	-0.21	-0.22	-0.24	-0.16	-0.21	-0.18
2009	-0.19	-0.17	-0.19	-0.15	-0.20	-0.18
2010	-0.18	-0.14	-0.17	-0.15	-0.18	-0.17
Second-digit (94 sectors)						
2008	-0.13	-0.19	-0.12	-0.07	-0.12	-0.12
2009	-0.13	-0.16	-0.11	-0.07	-0.10	-0.13
2010	-0.11	-0.14	-0.10	-0.07	-0.09	-0.12
<i>Share of this ownership category in economy-wide investment in a particular sector</i>						
First-digit (19 sectors)						
2008	0.52	-0.20	0.31	0.29	-0.53	-0.50
2009	0.51	-0.20	0.53	0.23	-0.50	-0.51
2010	0.50	-0.14	0.55	0.15	-0.45	-0.53
Second-digit (94 sectors)						
2008	0.17	-0.21	0.07	0.25	-0.25	-0.13
2009	0.15	-0.15	-0.01	0.19	-0.20	-0.11
2010	-0.03	-0.13	0.04	0.09	-0.12	-0.19
<i>Growth rate 2008-2010 of investment by this ownership category in a particular sector</i>						
First-digit	0.99	0.84	0.83	0.40	0.53	0.25
Second-digit	0.97	0.52	0.47	0.36	0.39	-0.06
<i>Share of this ownership category's investment that is in the tertiary sector in %</i>						
2008	56.1	63.0	60.0	45.6	52.2	34.9
2009	57.1	67.2	62.2	42.8	52.5	33.2
2010	56.9	68.9	63.1	43.3	53.8	34.4

Notes:

SOSCU, COU, and private units' data start in 2008 only.

Second-digit sectors include two first-digit sectors for which no second-digit sector data are available in the source: real estate, education.

SOSCU, COU, and private unit investment do not add up to domestic investment; the percentage shortfall of their aggregate value to the domestic value is small at 0.70, 0.71, and 2.94% in 2008-2010, but can differ significantly in individual sectors, with the biggest difference in the first-digit sector information technology, where the three ownership categories exceed the domestic total by 22.49%.

For 60 observations (and very similarly for 120, and thus also for 95), a correlation coefficient of 0.40 is significant at the 10% significance level, a correlation coefficient of 0.73 at the 5% significance level, and a correlation coefficient of 0.985 at the 1% significance level.

A finding omitted from the text is that in 2008, 2009, and 2010 (only), fast-growing first-digit sectors tend to be characterized by an over-proportional share of investment by COUs and, to a lesser degree, private units, and by an under-proportional share of HKMTUs and FFUs. (Perhaps investment by HKMTUs and FFUs is not over-represented in the fastest-growing sectors because the fastest-growing sectors tend to be tertiary sectors, where foreign access is likely more limited. But while that is true for FFUs, it is not true for HKMTUs. In the three years 2008-2010, 56-57% of domestic investment went to the tertiary sector, compared to 52-54% of HKMTU investment (and 33-35% of FFU investment.) At the second-digit sector level, the results are weaker, and disappear in 2010.

Source: NBS database.

Table 6. Pearson Correlation Coefficients between 2012–2015 Sector Growth Rates and Ownership Characteristics (Investment, except by Rural Households)

	Domestic	SOSCUs	COUs	Private	HKMTUs	FFUs
<i>Share of a particular sector in this ownership category total</i>						
First-digit (19 sectors)						
2012	-0.24	-0.14	-0.22	-0.23	-0.26	-0.20
2013	-0.22	-0.12	-0.19	-0.22	-0.26	-0.20
2014	-0.20	-0.09	-0.16	-0.20	-0.25	-0.19
2015	-0.18	-0.05	-0.12	-0.18	-0.24	-0.19
Second-digit (95 sectors)						
2012	-0.09	0.07	-0.03	-0.08	0.01	0.16
2013	-0.08	0.03	0.00	-0.05	-0.03	0.17
2014	-0.12	-0.02	0.01	-0.01	-0.01	0.22
2015	-0.09	-0.04	-0.03	0.03	0.07	0.10
<i>Share of this ownership category in economy-wide investment in a particular sector</i>						
First-digit (19 sectors)						
2012	-0.09	-0.07	-0.06	-0.11	-0.08	-0.13
2013	-0.08	-0.05	-0.05	-0.10	-0.07	-0.11
2014	-0.07	-0.04	-0.03	-0.09	-0.07	-0.11
2015	-0.05	-0.03	-0.02	-0.07	-0.06	-0.09
Second-digit (95 sectors)						
2012	0.00	-0.07	0.02	0.01	0.11	-0.10
2013	-0.07	-0.11	0.02	0.04	0.18	-0.06
2014	-0.06	-0.14	0.12	0.04	0.16	-0.05
2015	-0.24	-0.15	0.06	0.07	0.32	0.12
<i>Growth rate 2012-2015 of investment by this ownership category in a particular sector</i>						
First-digit	1.00	0.77	0.76	0.84	0.27	0.09
Second-digit	0.99	0.60	0.53	0.79	0.19	0.25
<i>Share of this ownership category's investment that is in the tertiary sector in %</i>						
2012	54.9	71.3	68.1	40.1	56.0	32.8
2013	55.2	72.3	70.2	40.9	60.6	34.1
2014	55.8	74.3	72.7	41.1	63.8	35.6
2015	56.1	75.8	74.7	40.7	62.5	34.4

Notes:

Second-digit sectors include two first-digit sectors for which no second-digit sector data are available in the source: real estate, education.

SOSCU, COU, and private unit investment do not add up to domestic investment; the implicit residual accounts for 6.1, 7.4, 8.0 and 8.5% of investment in 2012-2015, and can differ significantly in individual sectors, with the biggest percentage in leasing in 2013 of 40.2%, and the biggest negative percentage in internet and related services in 2012 of -9.2% (both are second-digit sectors).

For 60 observations (and very similarly for 120, and thus also for 95), a correlation coefficient of 0.40 is significant at the 10% significance level, a correlation coefficient of 0.73 at the 5% significance level, and a correlation coefficient of 0.985 at the 1% significance level.

Source: NBS database.