

China's Industrial Economy

2016 Q2 Report¹

Center on Finance and Economic Growth
Cheung Kong Graduate School of Business

¹This survey is implemented by Beijing Allinfo Co., based on the questionnaire and sample provided by Professor Gan Jie, Director of the Center on Finance and Economic Growth. We thank Beijing Allinfo for its hard work and professionalism. We acknowledge the able research assistance of Liu Jiayu, Shi Tianshuo and Yang Jingwen, who provided support to the data analysis and presentation, and Jessy Yao, who provided support for text revision.

Executive Summary

Although China's Q2 GDP figure was better than expected, our industrial survey indicates that the industrial economy is still at the bottom of an L-shaped economic trend. Our business sentiment, production and employment indices all indicate contraction. Firms' fixed investment remained sluggish: only 9% of firms made fixed investment in the second quarter, while a mere 2% made expansionary investment.

The biggest challenge facing the industrial economy is still overcapacity. In Q2, 60% of the firms reported an oversupply in the domestic market and the diffusion index reflecting oversupply is at a historical high. Against this background of overcapacity, financing is not a bottleneck for industrial growth. Finally, significantly more firms are now expressing concerns about both the macro economy and government policy as constraining factors for future production.

The new round of economic stimulus introduced this year has made some progress in certain areas. For example, the production of capital goods has stabilized, after a substantial decline in Q1. But the side effects of these policies are also clear. A great amount of credit has not entered the real economy, but instead has made its way into real estate and commodities, causing a rapid run-up of asset prices. Furthermore, a large amount of newly-printed currency would inevitably cause inflation in the long run. Infrastructure investments, as part of the stimulus plan, are predominantly led by government investments, whereas private investment has continued to decline. As we pointed out in our past reports, monetary and fiscal stimuli alone cannot revive the industry given the severe overcapacity that exists. The recent weakening of market expectations means that the multiplier effect of monetary and fiscal policies would be low, thus rendering them even less effective.

Supply-side reform, with a focus on reducing overcapacity and improving industrial structure, is necessary for the long-term growth of the Chinese economy. Based on the data in the past few quarters, there has been some progress: there was significantly more curtailment of both production and employment in industries with severe overcapacity. However, since the current overcapacity problem is the cumulative effect of overinvestment over the past years, there is still a long way to go to absorb overcapacity.

Although the economy faces many challenges in the short term, there are still a number of areas for growth, including the rise of new industries such as the service sector and internet-related businesses, the reform of state-owned enterprises, and urbanization. We remain optimistic about the long-term outlook of the Chinese economy.

Introduction

This report is based on data collected from our quarterly surveys of about 2,000 industrial firms in China. This is the ninth such survey after it launched in 2014 Q2. Conducted through telephone interviews, our survey design ensures that our sample fully represents industry, region (provinces) and company size. As a result, we are able to construct business indices that are, to the best of our knowledge, the most informative ones available about the Chinese economy. Furthermore, our survey questions allow us to understand the underlying mechanisms behind the data, and analyze why the economy is doing well or not.

It should be emphasized that, although our survey includes industrial companies with annual sales above five million RMB, given that this is not a high threshold, we cover the vast majority of companies. If we exclude the sectors of agriculture, real estate and finance from China's GDP, then the industrial sector accounts for 50% of everything else. Thus, the findings from this sample should not be ignored.

There were a total of 2,033 firms in our 2016 Q2 survey, of which 1,647 firms were also polled in our 2016 Q1 survey. The initial survey sample was based on a stratified random sampling by industry, region and size from the National Bureau of Statistics' population of about 488,000 industrial firms that have sales of more than five million RMB. Appendix A details the sampling procedure and compares our sample with the NBS population.

I. Overall: China's Industrial Economy Has Not Yet Recovered

The Business Sentiment Index stood at 46 in Q2, the same as last quarter, and indicated a contraction mode. Our BSI is the simple average of three diffusion indices, including current operating conditions, expected change in operating conditions and investment timing.^{1,2} The index construction resembles that of the US Consumer Sentiment Index, hence its name. It not only contains information on current operating

¹Specifically, the three questions underlying our Business Sentiment Index are the following: 1. How are current operating conditions – “good”, “neutral” or “difficult”? 2. What is the expected change in operating conditions during the next quarter – “up”, “same” or “down”? 3. To what extent is it now a good time to invest – “good”, “medium” or “bad?”

²The diffusion index is based on answers to multiple-choice questions, with the choices in analog to “good,” “neutral” and “bad”, or “up,” “same” and “down.” The diffusion index is computed as % of firms answering “good” + 0.5 * % of firms answering “neutral”. The diffusion index ranges between 0 and 100. A larger value indicates better operating conditions and 50 is the turning point between expansion and contraction.

conditions, but also includes measures that are forward-looking and reflects the absolute level of economic activities.³

As shown in Figure 1, there are significant variations among the three sub-indicators that constitute the BSI. With regards to current operating conditions (Figure 2), 14% of firms replied “good”, 79% replied “neutral” and 7% replied “difficult”. The diffusion index was 54 in 2016 Q2, down slightly from 53 in Q1. Meanwhile, the diffusion index for the expected change in operating conditions was 50, the same as the previous quarter.

Fixed investment remained sluggish. When asked to what extent it is now a good time to make fixed investments, only 1% of the firms considered the timing to be “good”, with a diffusion index of 34, far below the turning point of 50 (Figure 3). Only 9% of firms made fixed investment in Q2 and a mere 2% made expansionary investment (that is, an investment rate above 3% of assets – a level that roughly covers depreciation). The sluggish pace of investment will not improve in the near future: only six firms (0.3%) said they planned to make investment in the next quarter. Recent media reports have noted that the country’s fixed investment during the first six months of this year was dominated by government-led investment, while private investment has been contracting. Our survey has found this trend to be a persistent one.

Both production and employment declined slightly in Q2 with each having a diffusion index of 46 (versus 43 and 47, respectively, in Q1). As discussed in more detail below, the percentage of firms with substantial reduction in employment increased significantly. After experiencing substantial decline in Q1, the production of capital goods has stabilized, with the diffusion index increasing from 34 to 48. This is likely the result of large-scale infrastructure building, as part of the stimulus plan, and a new round of real estate development. Product prices are still in deflation, though to a lesser extent, with a diffusion index in Q2 of 47 (versus 44 in Q1).

Table 1 shows the performance of different types of firms over the last two quarters. As before, SOEs (52) performed better than private ones (45). Large firms (47) fared better than small ones (45). Among different product types, non-durable consumer goods (48) outperformed intermediate goods (44).

³Most existing indices, including the well-known PMI, are ex-post and relative (to last quarter). Even when the absolute level of business conditions is gloomy, one may still observe a high diffusion index, as long as it is an improvement over the previous quarter.

Table 2 further analyzes the business conditions of different industries, where industry classification is based on the 35 two-digit industries of the National Bureau of Statistics. Variations across industries were substantial, with the BSI ranging from 32 to 60. The top three industries included Medicines (with a BSI of 60), Water Production & Supply (55) and Manufacture of Handicrafts & Others (55). The worst-performing industries were Petroleum & Nuclear Fuel (32), Processing of Nonmetal Ores (35), Coal Mining & Washing (39), Processing of Wood Products (40) and Manufacture of Leather-Related Products & Footwear (40). Since 2015 Q1, Processing of Nonmetal Ores has been on the bottom-five list four times, and was the worst-performing industry on three of those occasions. Petroleum & Nuclear Fuel, Processing of Wood Products and Manufacture of Leather-Related Products & Footwear have also appeared on the worst-performing list four times. Agricultural & Related Products finally moved off the list for the first time this quarter since 2015 Q1, but its BSI is still well below average.

Table 3 displays regional business conditions. Regional variations are less pronounced than industrial variations, with the BSI ranging from 40 to 58. The worst-performing regions comprised of Ningxia (40), Sichuan (42), Jilin (42), Shanxi (43), Anhui (43) and Hebei (43). Shanxi and Hebei have been on the list since 2015 Q2 (five times each). Notably, Guizhou, having been on the list since 2014 Q3, improved significantly in Q2, with a BSI equal to the national average.

II. Understanding the Economy: Challenges and Priorities

Weak demand is still by far the biggest challenge for the industrial economy. 81% of the firms surveyed in Q2 cited a lack of orders (Figure 5). Costs come second, with labor and raw material costs listed by 19% and 13% of firms, respectively. Financing is not a bottleneck, with only 4% replying that financing is a limiting factor. These results are consistent with findings in our previous surveys. Compared with last quarter, the proportion of firms citing macro and industrial policies as limiting factors increased significantly, from 2% to 12%, reflecting firms' concerns about the overall economy and the government's economic policy.

II.1 Overcapacity: Still at a Historical High

About 60% of the firms reported that supply exceeded demand for their products in the domestic market (compared with 67% in 2016 Q1), while the diffusion index reflecting oversupply was 83, equal to last quarter and remaining at a historical high (Figure 6A).

30% of the firms reported that their excess capacity was above 10% (31% in Q1), while 14% reported that their excess capacity was above 20% (15% in Q1) (Figure 6). We categorize an industry as having severe excess capacity if more than 10% of the firms report excess capacity of more than 20%. There are 35 industries and 31 regions in total. In Q2, the number of industries and regions with severe excess capacity accounted for more than half and three-quarters of the total firms, respectively (18 industries and 25 regions) (Table 4). All the six worst-performing industries are on the list of industries with severe overcapacity.

In Q2, the three industries with most severe overcapacity were Non-ferrous Metals, Petroleum & Nuclear Fuel and Ferrous Metals. The top three provinces with severe overcapacity were Ningxia, Xinjiang, and Guizhou. (see Appendix Tables 1.1 and 1.2 for the detailed rankings).

While there has been much media attention on the contraction in exports, firms have actually fared substantially better in overseas markets than in domestic ones, with diffusion indices roughly 15 points lower in the first two quarters. The severity of overcapacity is also less than the domestic market: the proportion of firms with overcapacity above 10% and 20% is, respectively, 5% and 2%.

Weak demand has not caused inventory problems, thanks to the “order-based” production model adopted by many Chinese firms. As shown earlier, finished-goods inventory stayed largely flat. As many as 47% of firms said they did not have significant levels of inventory because they produce only after taking orders. For those carrying inventories, nearly 85% said they expected the inventory to be digested within three months, with a further 12% saying it would take between three to six months. This leaves only 3% of the whole sample expecting to carry inventory for more than six months.

II.2 Effort to Curtail Overcapacity

We called back all the firms surveyed in the first quarter. 12 of the firms have since suspended production, accounting for 0.6% of the sample. An additional 40 firms (2%) were suspected to have suspended production (Figure 7A). This included companies where, after between five to nine attempts to reach them, the phone number was either wrong, suspended or did not exist, or the line could either not be connected or was busy. Therefore, a total of 2.6% of the firms have suspended production or were suspected to have suspended production, up from 2% in 2016 Q1.⁴

The percentage of firms that reduced employment has increased in the past year. In Q2, firms with reduction in employment exceeding 10% accounted for 4.6% of the sample, while reduction in employment exceeding 20% accounted for 3.5% (Figure 7B). Slightly more than half (53%) of the firms with drops in employment over 20% are small firms. Based on the firm size distribution of employment reduction, we estimate that the total employment drop in China's industrial sector was about 1.1%. Given the number of industrial workers was put at 230 million at the end of 2014, this estimate implies a total of 2.5 million lost jobs in Q2. According to firms' expected employment data, however, the situation may improve in the next quarter.

Figure 7C displays capacity utilization in Q2. There is no consensus as to what level of capacity utilization should be considered healthy. Nevertheless, if we take the examples of the two largest western industrial nations, the US and Germany, their monthly average capacity utilization was 79% (1994-2015) and 83% (1992-2015), respectively. Their lowest points after the financial crisis in 2008 were 67% and 70%, respectively, both measured in June 2009. Given that the profit margins of Chinese firms are substantially lower than those in western countries, they may need a higher utilization rate in order to stay financially healthy. In 2016 Q2, 69% of firms surveyed had a capacity utilization rate above 80%, while 16% of the firms had a level below 70%. These numbers are similar to those in Q1.

It should be noted that firms with severe overcapacity are more aggressive in reducing employment and production, implying an improved industrial structure. Among those with severe overcapacity, the proportion of firms reducing production by 5% and 10% was, respectively, 24% and 11%, much higher than the sample average (13% and 3%). The proportion of firms with severe overcapacity reducing employment by 5% and 10% was, respectively, 16% and 14%, 2-3 times the sample average (7% and 5%). When

⁴Additionally, no one answered the phone at 129 firms or 6.3% of the sample, after 5 to 9 attempts.

combined with the capacity utilization data, these results also indicate that there is still a sizable number of firms that have yet to curtail their production capacity and that there is a long way to go to absorb overcapacity

Consistent with overcapacity and the resulting tight cash position, 32% of firms reported that they faced difficulties in collecting trade receivables from their customers in Q2 (versus 29% in 2016 Q1). This problem is more prominent among private-sector firms as well as firms producing capital goods (38%) and intermediate goods (36%). SOEs, which represent less than 4% of the sample, are disproportionately more likely to delay payment, accounting for 21% of firms that have delayed payment. Therefore, the difficulty in collecting trade receivables is mainly due to a sluggish economy and the resulting lack of pricing power.

II.3 Costs Rise Slightly and Gross Margins Remain Low

Unit costs rose slightly in Q2 with a diffusion index of 55 (versus 59 in Q1). The labor cost index was 53, whereas the cost of raw materials flattened (50) (Figure 8). Thus, cost rises in Q1 were not only due to increased production costs (i.e. labor and raw materials) but also due to increased administrative and marketing expenses. This is in contrast to previous quarters, during which cost rises were largely driven by labor costs.

Overcapacity means a lack of pricing power, which, combined with rising costs, results in low profit margins. As shown in Figure 9, as many as 27% of the firms surveyed have gross margins below 10%, 73% of the firms have gross margins below 15%, whereas only 7% of the firms had gross margins above 20%. Low margins may make it difficult for the firms to invest in R&D and industrial upgrading.

II.4 Financing is Not a Bottleneck

In contrast to conventional wisdom, our industrial survey has consistently indicated since it began in the second quarter of 2014 that financing is not a bottleneck for the industrial economy. As shown earlier, only 4% of firms cited financing as a constraining factor in 2016 Q2 (Figure 5). Our detailed questionnaire on capital and financing further reveals that 30% of the firms have sufficient funds, 62% answered “neutral”, while only 8% reported insufficient funds (Figure 10A). Among that 8%, a

vast majority (94%) reported insufficient funds for production, not for expansion, and 5% reported insufficient funds due to operating losses.

As shown in Table 6.1 and Figure 10B, only a small proportion of firms have obtained new loans in the past few quarters. In Q2, this number was 4%. Among the firms without new loans, the vast majority (93%) reported that they did not have the need for capital. Moreover, the diffusion index reflecting an accommodating bank lending attitude stood at 63 in Q2 (versus 61 in Q1). The proportion of firms reporting a “difficult” lending attitude, however, increased moderately to 23% in Q2 (19% in Q1). This is likely to be related to a nationwide reduction in new bank loans during the second quarter, from 4.6 trillion to 2.9 trillion.

Table 6.2 provides an overview of how Chinese firms have been financed. Internally-generated funds were, by far, the most important source of financing, with 99% of surveyed firms reporting this as their primary funding source. About 2% of firms reported the founder’s own capital as the primary source of funds, while 49% reported this as the second most important source of funds. 48% of firms indicated bank loans as their second most important source of funds. Sources of financing were highly concentrated in Chinese firms: in the case of internal funds, 86% of firms reported that this largest financing source accounted for more than 50% of their total funds.

New industrial loans in the first quarter were all collateralized. The most common source of collateral was land and plants, cited by 97% of firms. It was also rare for firms to borrow from sources other than banks. In Q2, only 5 firms (0.25%) reported borrowing from other financing institutions. Interest rates are all below 20%.

Our finding that financing is not a bottleneck has actually been consistent with the central bank’s “Financial Institutions Lending Statistics” reports. During 2014, new loans to industrial firms declined by, on average, 30% each quarter. The net amount of new industrial loans issued in 2015 was only 5% of loan balances in 2014 Q4. This year, despite a further loosening of monetary policy, new industrial loans in the first half of the year numbered only 0.1 trillion, a 55% drop from last year, accounting for a mere 1.3% of the country’s new bank loans. This, on the one hand, is due to a sluggish industrial economy – according to the central bank’s survey, the industrial loan demand index in Q2 is once again at a historical low. On the other hand, many of the new loans, since the start of this year, have entered the real-estate industry. In Q2, new real-estate loans accounted for 50% of the total new loans (versus 33% in Q1),

among which 95% were household mortgages (67% in Q1). That is, a large amount of credit did not enter the real economy, which may have a crowding out effect (consistent with a somewhat tightening lending attitude) and cause asset market bubbles.

Overall, the fact that financing is not a bottleneck must be set against the backdrop of a declining industrial economy. Investment opportunity is scarce; as long as a firm is profitable, retained earnings are generally sufficient for operation.

III. Conclusion

Although China's Q2 GDP figure was better than expected, our industrial survey indicates that the industrial economy is at the bottom of an L-shaped economic trend. Our sentiment index, production and employment indices all indicate contraction, with a diffusion index of 46. Firms' fixed investment remained sluggish: only 9% of the firm made fixed investment in the second quarter, while a mere 2% made expansionary investment. The biggest challenge facing the industrial economy is still overcapacity. In the second quarter, as many as 60% of the firms reported an oversupply in the domestic market and the diffusion index reflecting oversupply is at historical high. Finally, significantly more firms (12% in Q2 as opposed to 2% in Q1) are now expressing concerns about both the macro economy and government policy as constraining factors for future production.

Since this year, the government has introduced a new round of economic stimulus focusing on loosening monetary policy and infrastructure investments, to prevent a hard landing. On the other hand, it has also pushed forward supply-side reforms in order to reduce overcapacity and to improve the economic structure. The economic stimulus has made some progress in certain areas. For example, the production of capital goods has stabilized, after a substantial decline in Q1. But the side effects of these policies are also clear. Against the background of overcapacity, financing is not the bottleneck for industrial growth. Therefore, under the loosening of monetary policy, a great amount of credit has not entered the real economy, but instead has made its way into real estate and commodities, causing a rapid run-up of asset prices. Furthermore, a large amount of newly-printed currency would inevitably cause inflation in the long run.

Meanwhile, infrastructure investments are predominantly led by government investments. Private investment has not increased; rather, it has continued to decline, implying that the stimulus policy has had a limited effect on the overall economy. Our data also show that demand has not been sufficiently improved and that the economy is still at its bottom. As we pointed out in our past reports, monetary and fiscal stimuli alone cannot revive the industry given the severe overcapacity that exists. The recent weakening of market expectations means that the multiplier effect of monetary and fiscal policies would be low, thus rendering them even less effective. Thus, the government should be cautious about using these policy tools further in the future.

Supply-side reform, with a focus on reducing overcapacity and improving industrial structure, is necessary for the long-term growth of the Chinese economy. Based on the data in the past few quarters, there has been some progress: there was significantly more curtailment of production and employment in industries with severe overcapacity. However, since the current overcapacity problem is the cumulative effect of overinvestment over the past few years, there is still a long way to go to absorb overcapacity.

Although the economy faces many challenges in the short run, there are still a number of areas for growth, including the rise of new industries such as the service sector and internet-related businesses, the reform of state-owned enterprises and urbanization. With the government's strong commitments to economic transition, we remain optimistic about the long-term outlook of the Chinese economy.

Figure 1. Business Sentiment Index

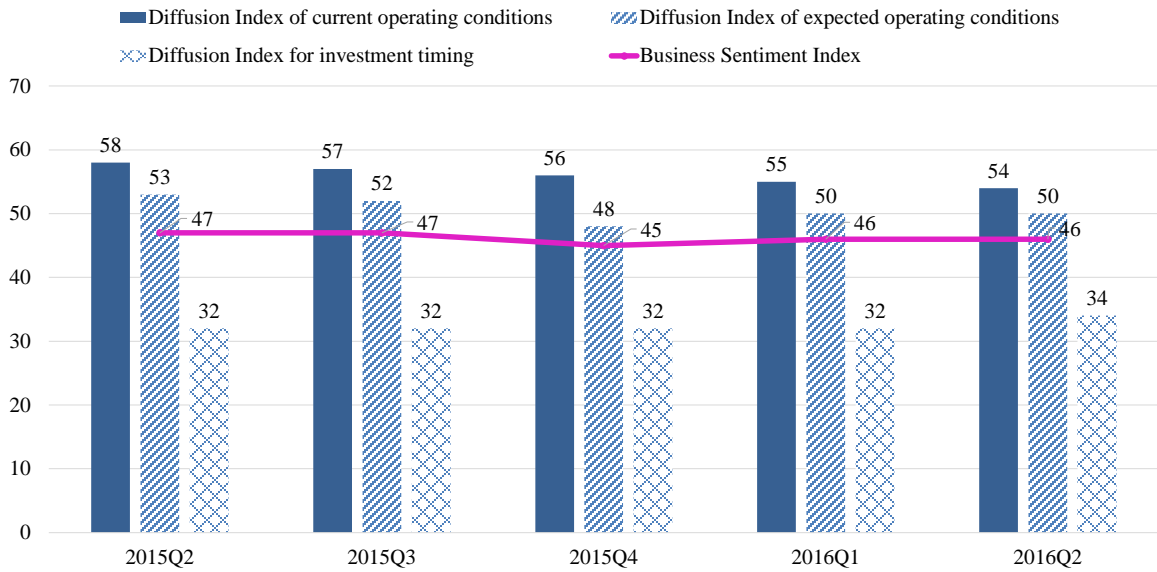


Figure 2. Current Operating Conditions

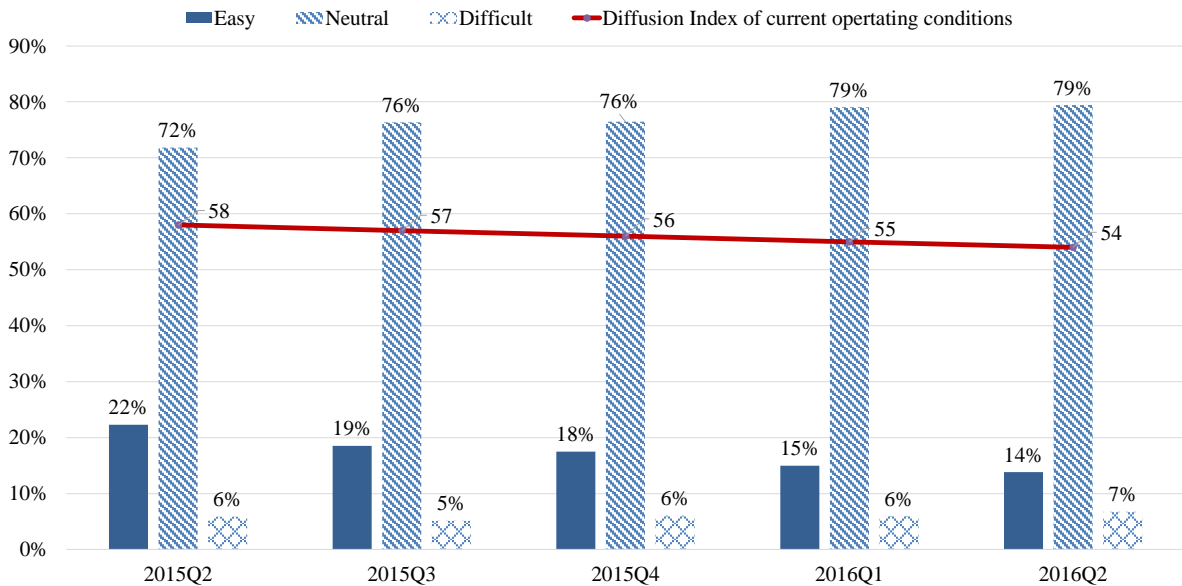


Figure 3. Investment

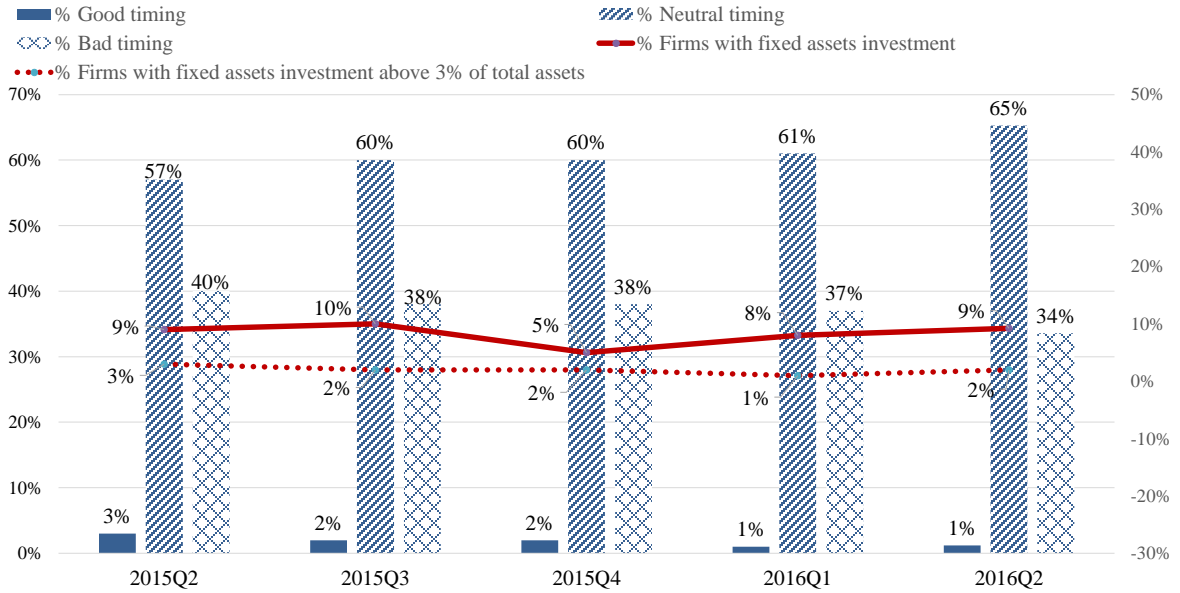


Figure 4. Other Main Economic Indices

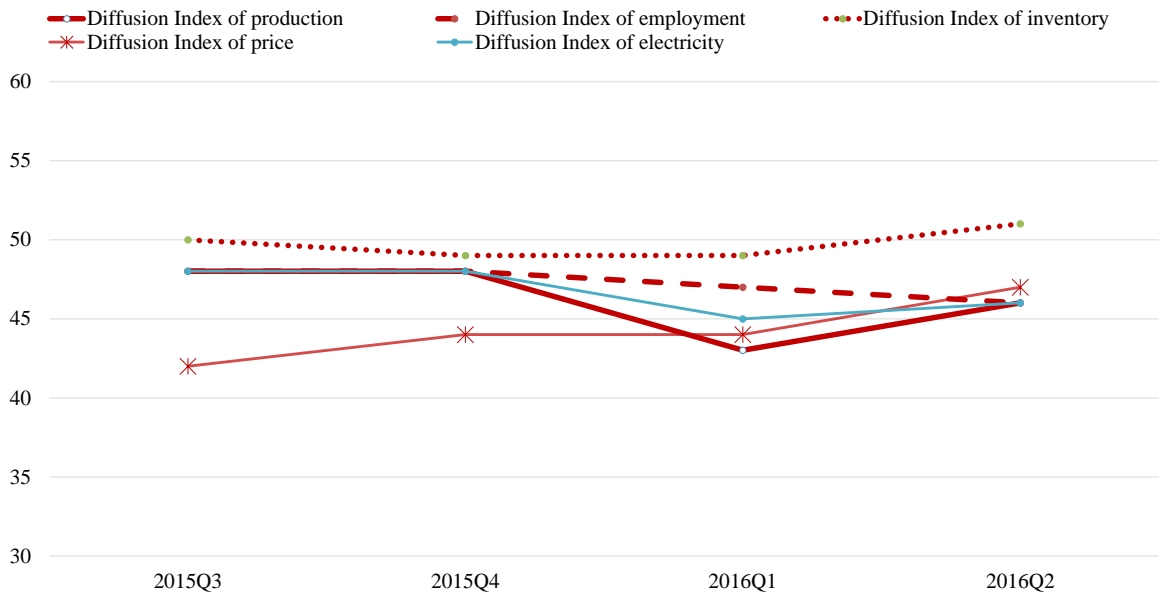


Figure 5. Factors Constraining Production of Next Quarter

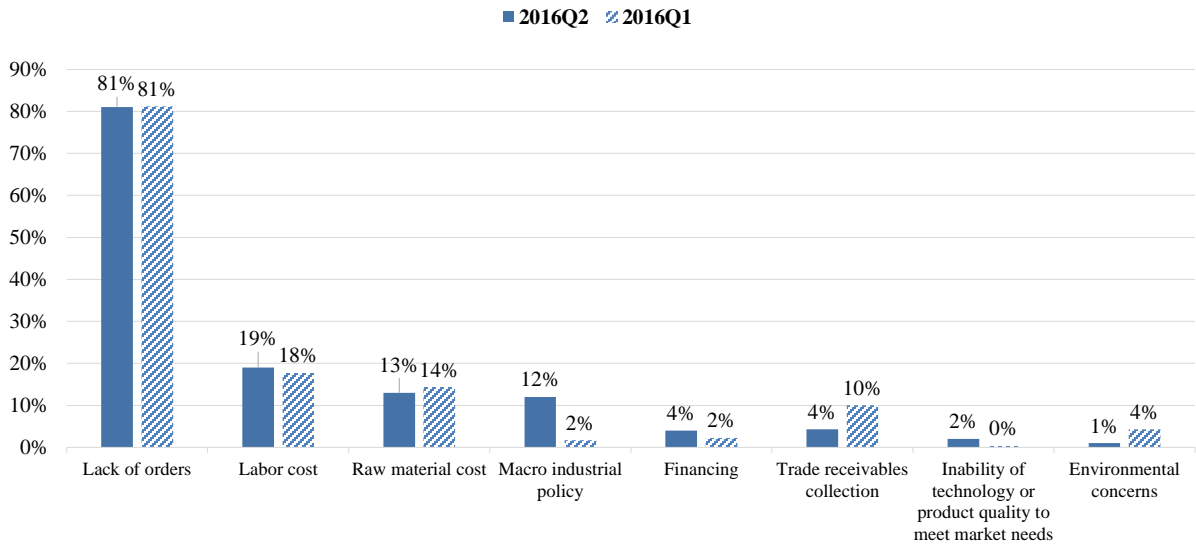


Figure 6A. Excess Capacity in Domestic Market

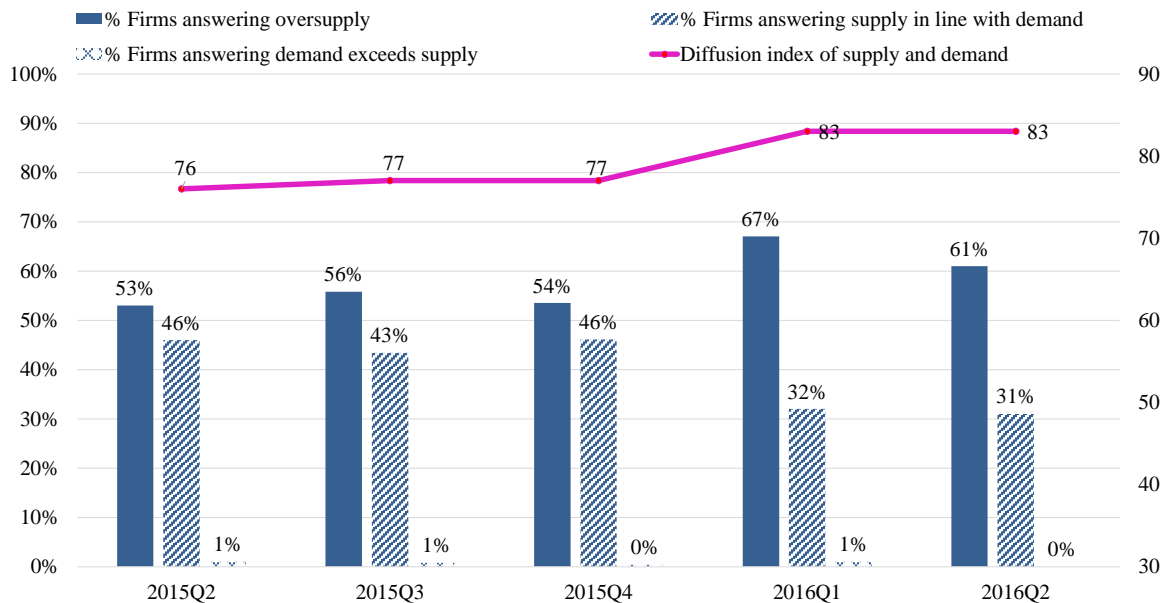


Figure 6B. Firms with Severe Excess Capacity

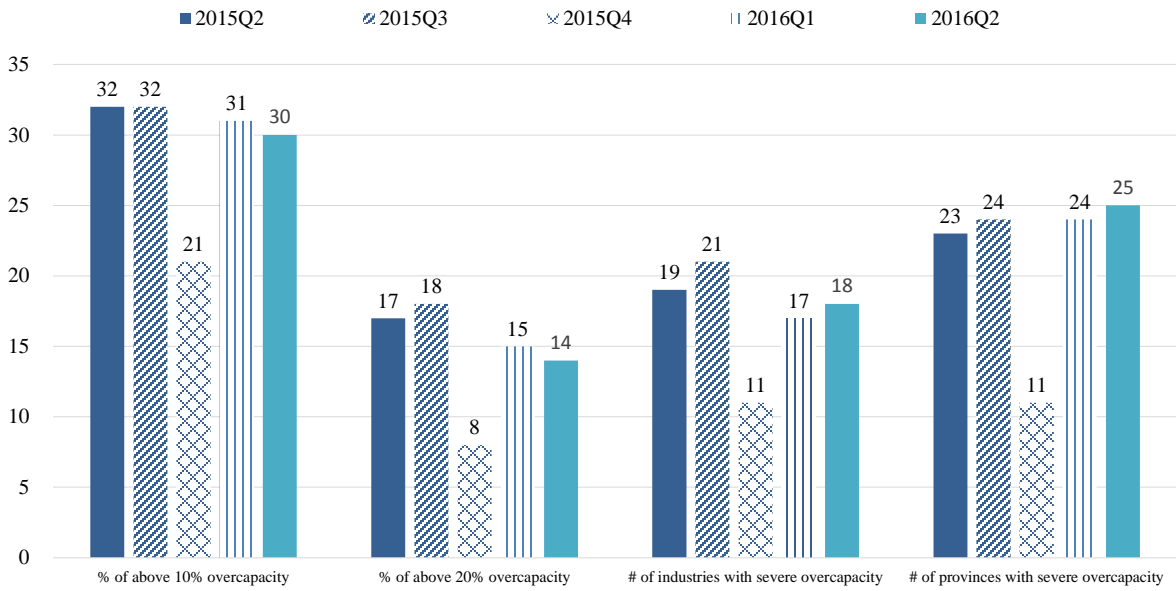


Figure 7A. Suspended Production

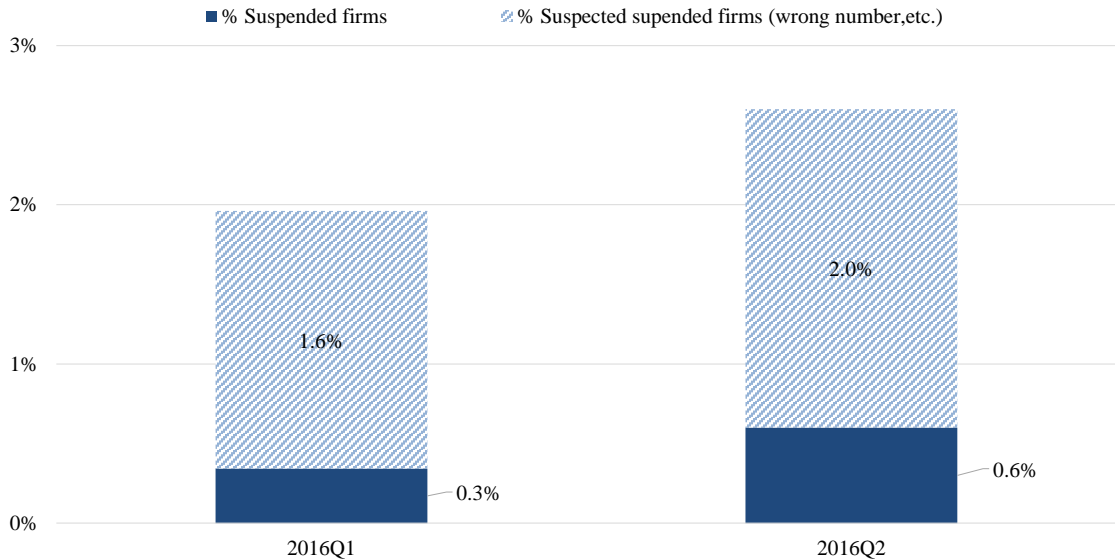


Figure 7B. Firms with Employment Reduction

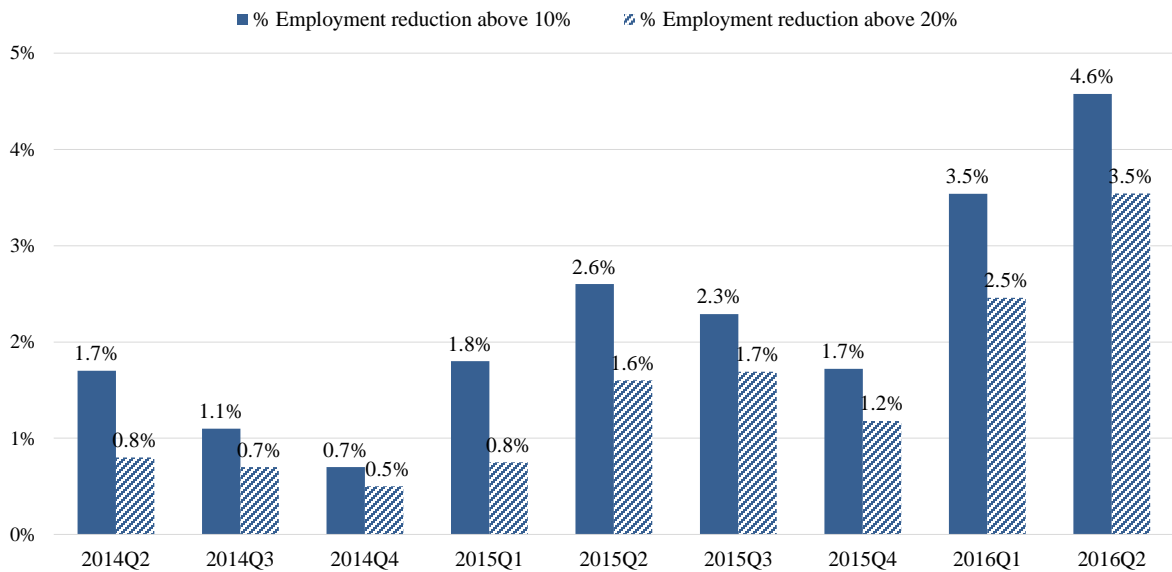


Figure 7C. Capacity Utilization

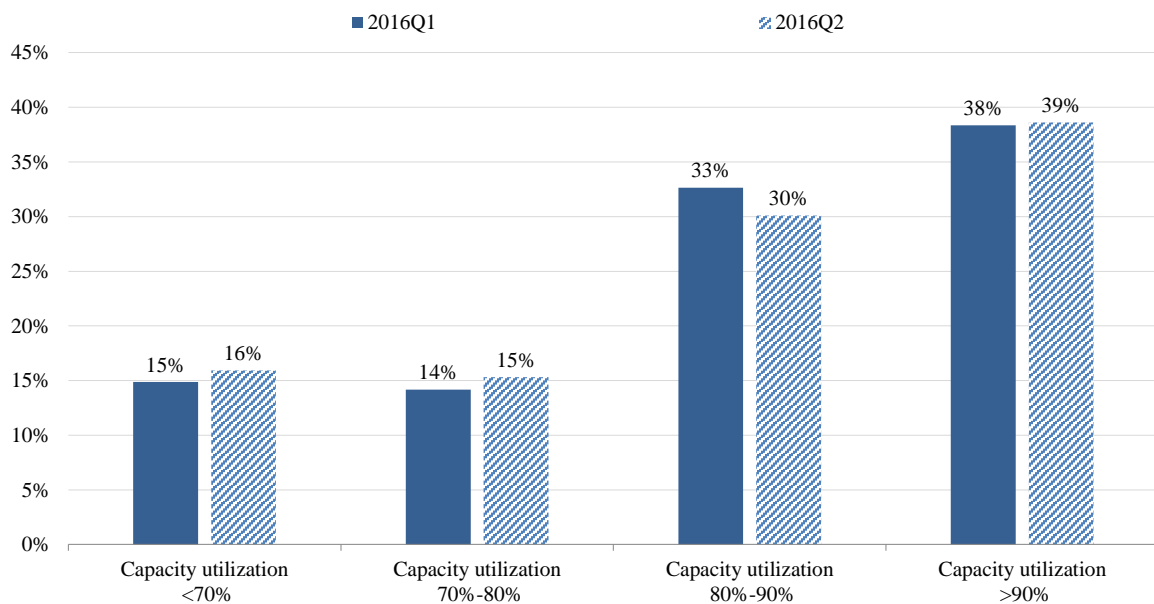


Figure 8. Costs

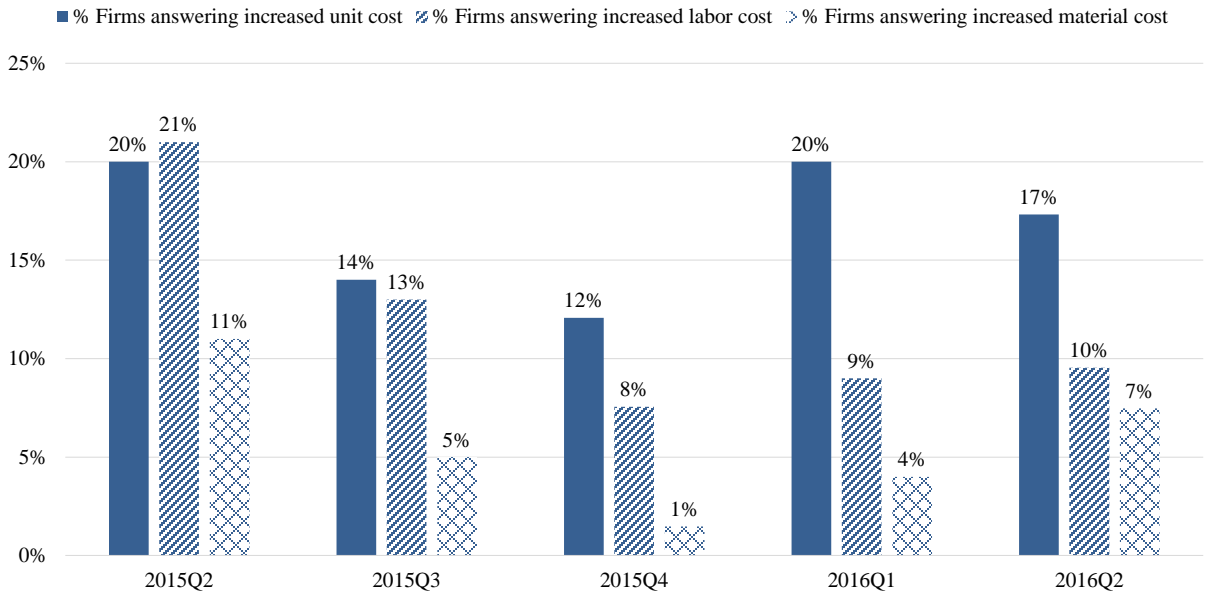


Figure 9. Gross Margins

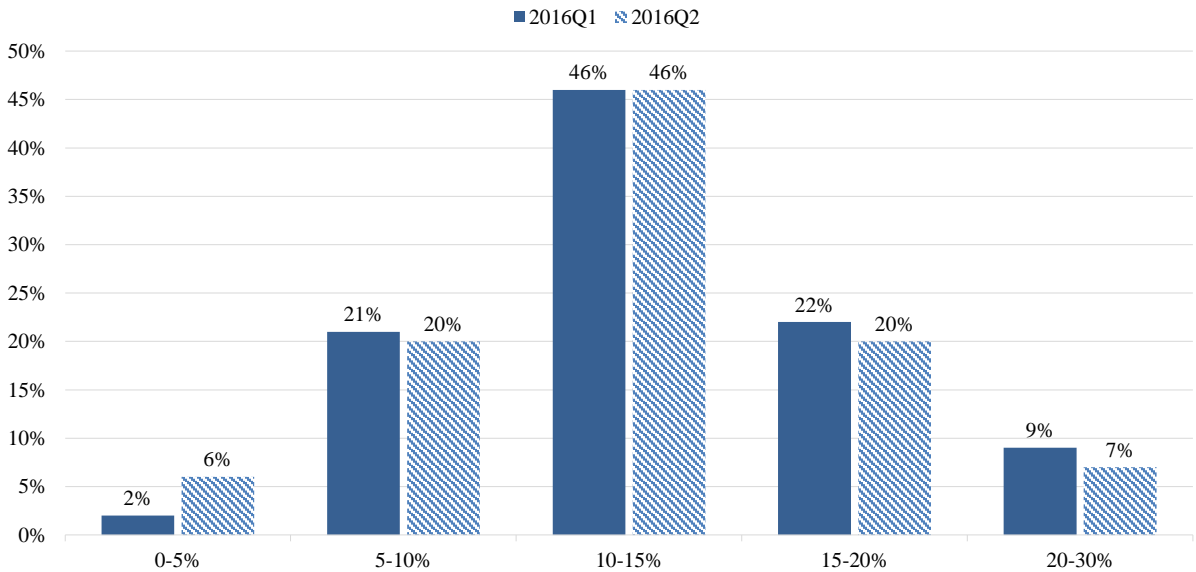


Figure 10. Financing
Figure 10A. Sufficient Capital

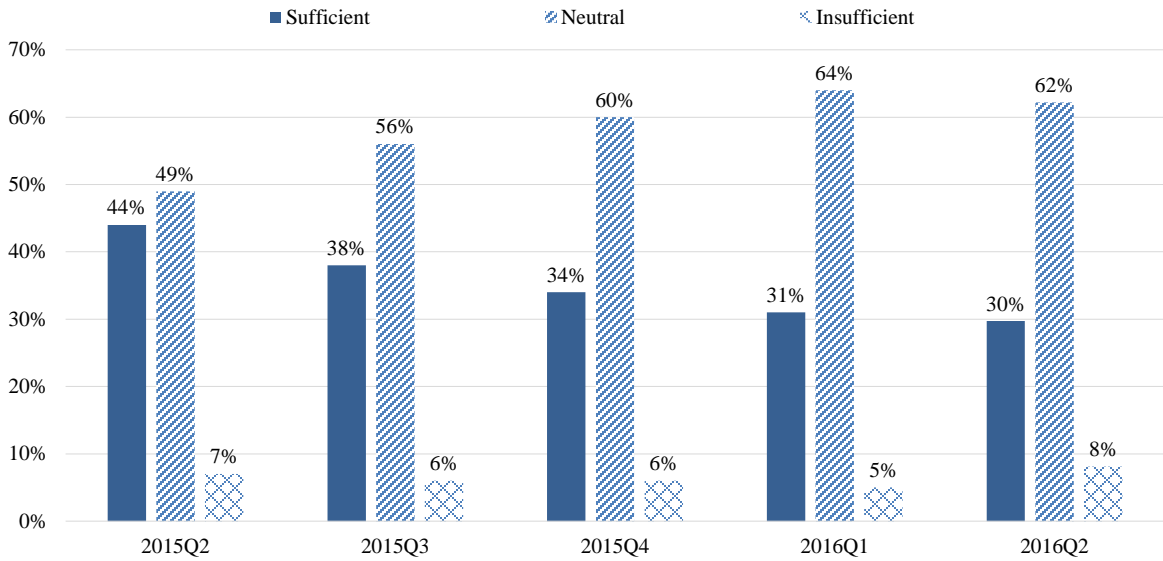


Figure 10B. New Loans

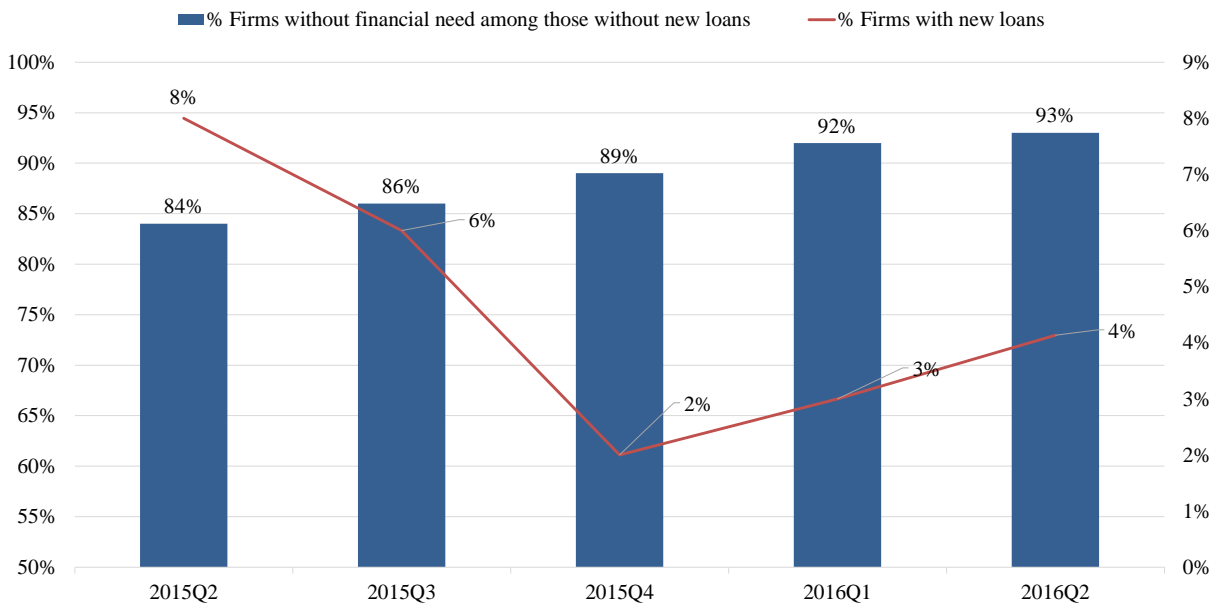


Figure 10C. Lending Attitude

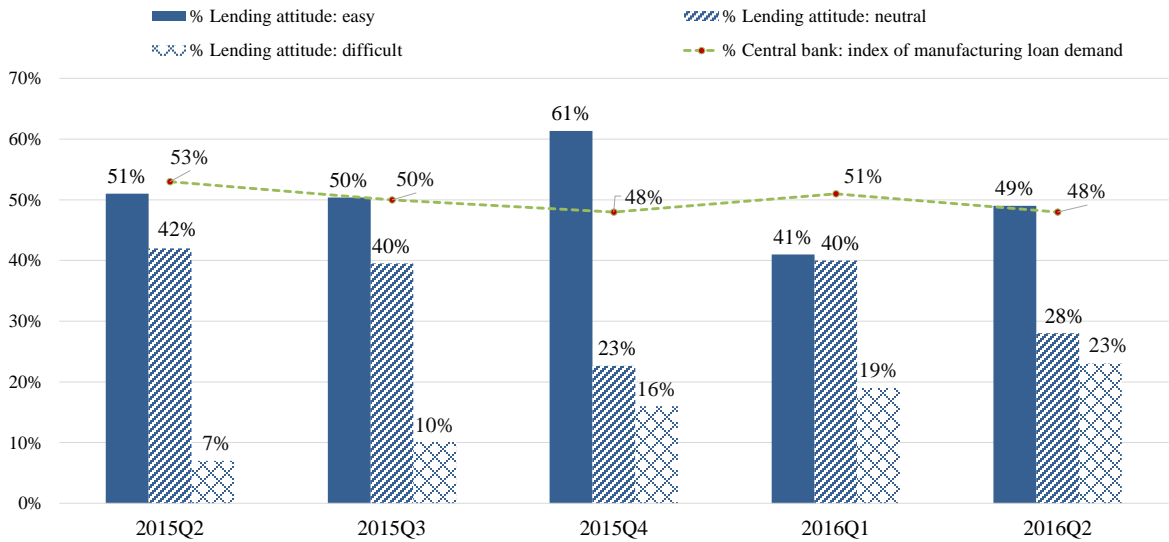


Figure 10D. Central Bank Data: New Bank Loans by Sector

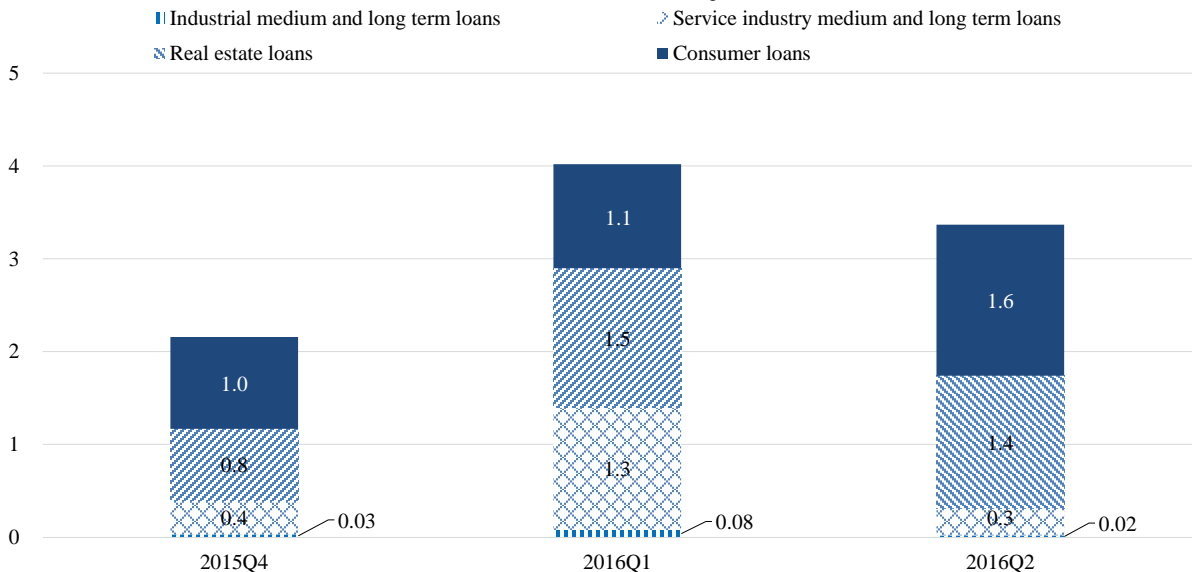


Table 1. Operating Conditions of Industrial Firms**Table 1.1**

	Number of Firms		Business Sentiment Index		Diffusion Index - Operating Conditions		Diffusion Index - Expected Change in Operating Conditions		Diffusion Index - Good Timing for Investment	
	Q2	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2	Q1
Nation	2,033	2,032	46	46	54	55	50	50	34	32
<i>By Size</i>										
Large	726	755	47	47	54	56	50	51	35	34
Medium	699	675	45	45	53	55	49	49	33	31
Small	608	602	45	44	53	53	50	49	33	31
<i>By Ownership</i>										
State-owned	78	74	52	49	63	61	54	46	39	38
Collectively-owned	38	38	47	42	54	49	53	47	34	30
Private	1,656	1,642	45	45	52	54	49	50	33	31
Foreign-owned	303	329	48	49	58	59	50	50	36	37
<i>By Product Type</i>										
Consumer Goods - Durable	414	409	46	45	54	54	53	49	31	32
Consumer Goods - Nondurable	643	613	48	46	56	58	50	49	36	31
Capital Goods	168	195	45	45	53	52	49	49	34	33
Intermediate Goods	809	816	44	46	51	53	48	51	33	33

Table 1.2

	% of Firms with Fixed Investment		Diffusion Index - Production		Diffusion Index - Employment		Diffusion Index - Price	
	Q2	Q1	Q2	Q1	Q2	Q1	Q2	Q1
Nation	9	8	46	43	46	47	47	44
<i>By Size</i>								
Large	11	7	46	45	45	47	49	45
Medium	7	9	46	42	46	47	46	43
Small	9	7	44	42	46	48	47	42
<i>By Ownership</i>								
State-owned	16	6	57	41	47	45	48	47
Collectively-owned	5	13	46	54	42	46	50	47
Private	9	8	44	43	46	48	47	43
Foreign-owned	9	7	49	46	45	48	48	47
<i>By Product Type</i>								
Consumer Goods - Durable	6	6	47	45	44	47	47	46
Consumer Goods - Nondurable	12	9	45	44	46	48	48	44
Capital Goods	7	6	48	34	46	46	48	37
Intermediate Goods	9	8	45	44	46	47	46	44

Notes:

1. Diffusion Index (DI) is computed using the percentage of firms that answer "increase" (% increase) and "same" (% same) according to the formula: $(\% \text{ increase} + 0.5 * \% \text{ same})$. The index ranges between 0 and 100. A larger value indicates a better operating condition.

2. Business Sentiment Index is the average of DIs for Operating Conditions, Expected Operating Conditions and Good Timing for Investment.

Table 2. Operating Conditions by Industry
Table 2.1 Operating Conditions of All Industries

	Number of Firms		Business Sentiment Index		Diffusion Index - Operating Conditions		Diffusion Index - Expected Change in Operating Conditions		% of Firms with Fixed Investment		Diffusion Index - Good Timing for Investment	
	Q2	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2	Q1
Nation	2,033	2,032	46	46	54	55	50	50	9	8	34	32
<i>Mining</i>												
Coal Mining and Washing	6	3	39	50	33	50	33	50	0	0	50	50
Mining and Processing of Ferrous Metal Ores	2	2	33	33	25	25	25	25	0	0	50	50
Mining and Processing of Non-ferrous Metal	6	7	44	40	42	50	50	29	0	14	42	43
Mining and Processing of Nonmetal Ores	11	11	35	38	32	41	50	50	0	0	23	23
<i>Production and Supply of Electricity, Heat, Gas and Water</i>												
Power Production and Supply	32	33	52	47	55	62	52	32	16	18	50	48
Production and Supply of Water	17	12	55	53	79	71	50	58	41	25	35	29
<i>Light Manufacturing</i>												
Processing of Agricultural and Related Products	97	102	42	39	52	55	54	50	27	12	21	11
Manufacture of Foods	52	52	50	48	57	58	54	44	6	13	40	43
Manufacture of Beverage	38	35	53	43	58	61	55	47	18	6	46	20
Manufacture of Textiles	133	123	42	41	49	48	51	51	5	2	28	26
Manufacture of Textile Wearing and Apparel	66	75	48	46	56	54	52	48	3	12	36	37
Manufacture of Leather, Fur, Feather and Related Products	40	40	40	39	54	56	45	53	8	10	21	8
Processing of Wood Products	35	35	40	38	54	53	49	47	0	0	16	13
Manufacture of Furniture	30	31	46	46	55	58	53	47	0	3	30	34
Manufacture of Paper and Paper Products	53	54	44	49	49	55	49	47	4	2	33	44
Printing, Reproduction of Recording Media	56	58	50	51	58	59	46	44	2	2	46	49
Manufacture of Cultural and Sports Products	23	20	46	52	59	60	48	53	0	0	33	43
Manufacture of Medicines	61	57	60	61	75	78	52	52	36	18	52	53
Manufacture of Handicrafts and Others	42	39	55	56	62	65	58	53	2	5	45	49
Recycling and Disposal of Waste	1	3	17	50	50	50	0	50	0	0	0	50
<i>Chemical Industry</i>												
Processing of Petroleum and Nuclear Fuel	10	8	32	38	40	50	30	44	0	0	25	19
Manufacture of Chemical Products	126	121	46	48	51	51	46	51	8	3	42	42
Manufacture of Chemical Fibers	9	8	50	50	61	56	50	44	0	13	39	50
Manufacture of Rubber Products	26	24	46	51	63	67	48	56	0	0	27	31
Manufacture of Plastics	96	95	44	43	53	53	49	52	3	2	30	24
<i>Equipment Manufacturing</i>												
Manufacture of General-purpose Machinery	179	177	42	39	48	47	49	47	12	2	30	24
Manufacture of Special-purpose Machinery	114	111	47	48	53	55	47	50	11	7	41	39
Manufacture of Transport Equipment	86	98	48	50	55	53	47	51	5	7	41	45
Manufacture of Electric Machinery and Apparatus	142	148	45	45	58	60	50	51	16	18	26	24
Computers, Communication and Electric Equipment	77	87	52	52	58	59	49	49	12	6	47	48
Manufacture of Measuring Instruments	39	39	46	47	51	55	56	49	0	10	29	37
<i>Other Heavy Manufacturing</i>												
Manufacture of Non-metallic Mineral Products	125	124	42	42	45	44	51	56	1	1	30	27
Smelting and Pressing of Ferrous Metals	32	29	43	43	44	41	47	53	0	14	38	33
Smelting and Pressing of Non-ferrous Metals	29	28	44	46	41	50	47	52	3	4	43	36
Manufacture of Metal Products	141	142	44	44	55	58	51	51	13	19	25	24

Table 2.2 Industry Ranking of Operating Conditions

	Number of Firms		Business Sentiment Index		Diffusion Index - Operating Conditions		% of Firms with Fixed Investment		Diffusion Index - Good Timing for Investment		
	Q2	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2	Q1	
Nation	2,033	2,032	46	46	54	55	9	8	34	32	
<i>Top Five</i>											
Manufacture of Medicines	61	57	60	61	75	78	36	18	52	53	
Production and Supply of Water	17	12	55	53	79	71	41	25	35	29	
Manufacture of Handicrafts and Others	42	39	55	56	62	65	2	5	45	49	
Manufacture of Beverage	38	35	53	43	58	61	18	6	46	20	
Power Production and Supply	32	33	52	47	55	62	16	18	50	48	
<i>Bottom Five</i>											
Processing of Petroleum and Nuclear Fuel	10	8	32	38	40	50	0	0	25	19	
Mining and Processing of Nonmetal Ores	11	11	35	38	32	41	0	0	23	23	
Coal Mining and Washing	6	3	39	50	33	50	0	0	50	50	
Manufacture of Leather, Fur and Related Products	40	40	40	39	54	56	8	10	21	8	
Processing of Wood Products	35	35	40	38	54	53	0	0	16	13	

Notes:

1. Ranking includes industries with more than three firms.

Table 3. Operating Conditions by Region**Table 3.1 Operating Conditions of All Regions**

	Number of Firms		Business Sentiment Index		Diffusion Index -Operating Conditions		Diffusion Index - Expected Operating Conditions		% of Firms with Fixed Investment		Diffusion Index - Good Timing for Investment	
	Q2	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2	Q1
Nation	2,033	2,032	46	46	54	55	50	50	9	8	34	32
<i>North China</i>												
Beijing	35	38	48	48	53	53	50	53	6	8	41	39
Tianjin	50	50	45	45	53	53	48	49	4	8	34	32
Hebei	83	88	43	43	53	55	48	47	11	5	27	27
<i>Northeast</i>												
Liaoning	95	92	44	44	51	52	46	48	9	7	34	32
Jilin	20	23	42	47	50	54	43	54	5	4	33	33
Heilongjiang	26	25	46	47	54	54	58	56	15	16	27	32
<i>Northwest</i>												
Inner Mongolia	14	15	58	47	57	50	68	50	21	7	50	40
Shaanxi	26	21	46	48	52	57	50	52	4	14	37	33
Gansu	5	5	47	43	50	60	50	40	40	0	40	30
Ningxia	5	5	40	40	40	50	50	50	0	0	30	20
Xinjiang	5	4	53	50	50	50	80	75	20	0	30	25
<i>Central North</i>												
Shanxi	22	21	43	42	50	52	48	45	9	0	32	29
Shandong	191	196	48	47	56	54	52	53	8	5	37	33
Henan	63	64	45	45	52	52	49	50	10	6	33	32
<i>Southwest</i>												
Chongqing	30	29	45	43	52	53	52	45	10	7	32	31
Sichuan	47	53	42	40	48	50	48	43	9	0	31	27
Guizhou	9	7	46	36	50	50	56	36	11	14	33	21
Yunnan	22	20	45	46	55	58	48	48	18	10	32	33
<i>East China</i>												
Shanghai	99	100	47	47	57	59	50	49	3	7	35	35
Jiangsu	302	308	45	45	53	54	49	49	8	9	33	32
Zhejiang	298	300	45	46	54	56	49	50	10	10	33	32
<i>South China</i>												
Fujian	89	87	45	45	52	54	50	49	8	11	32	32
Guangdong	265	257	48	47	55	57	52	50	11	7	35	34
Guangxi	35	34	44	46	51	56	49	50	11	9	31	31
Hainan	1	1	17	50	50	100	0	50	0	0	0	0
<i>Central South</i>												
Anhui	72	63	43	47	52	56	44	52	10	6	33	31
Jiangxi	41	38	52	48	57	61	61	49	15	8	37	34
Hubei	49	56	46	45	53	52	50	53	12	11	35	31
Hunan	34	32	45	45	53	53	47	48	9	9	35	33

Table 3.2 Regional Ranking of Operating Conditions

	Number of Firms		Business Sentiment Index		Diffusion Index -Operating Conditions		% of Firms with Fixed Investment		Diffusion Index - Good Timing for Investment	
	Q2	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2	Q1
Nation	2,033	2,032	46	46	54	55	9	8	34	32
<i>Top Five</i>										
Inner Mongolia	14	15	58	47	57	50	21	7	50	40
Xinjiang	5	4	53	50	50	50	20	0	30	25
Jiangxi	41	38	52	48	57	61	15	8	37	34
Guangdong	265	257	48	47	55	57	11	7	35	34
Beijing	35	38	48	48	53	53	6	8	41	39
<i>Bottom Five</i>										
Ningxia	5	5	40	40	40	50	0	0	30	20
Sichuan	47	53	42	40	48	50	9	0	31	27
Jilin	20	23	42	47	50	54	5	4	33	33
Shanxi	22	21	43	42	50	52	9	0	32	29
Anhui	72	63	43	47	52	56	10	6	33	31
Hebei	83	88	43	43	53	55	11	5	27	27

Notes:

1. Ranking includes regions with more than three firms.

Table 4. Oversupply
Table 4.1 Overall

	Number of Firms		Diffusion Index for Oversupply in Domestic Markets		Diffusion Index for Oversupply in Overseas Markets		Diffusion Index for Finished Goods		
	Q2	Q1	Q2	Q1	Q2	Q1	Q2	Q1	
Nation	2033	2032	83	83	68	68	51	49	
<i>By Size</i>									
Large	726	755	82	82	67	67	50	49	
Medium	699	675	84	84	69	68	50	48	
Small	608	602	84	84	69	69	52	49	
<i>By Ownership</i>									
State-owned	78	74	71	77	56	57	46	46	
Collectively-owned	38	38	78	78	75	79	50	53	
Private	1656	1642	84	84	69	68	51	49	
Foreign -owned	303	329	83	81	67	66	49	49	
<i>By Product Type</i>									
Consumer Goods - Durable	414	409	78	81	66	65	49	47	
Consumer Goods - Nondurable	643	613	82	82	65	66	51	48	
Capital Goods	168	195	85	83	68	69	50	50	
Intermediate Goods	809	816	85	85	72	70	52	49	

Table 4.2 Industries with Severe Excess Capacity

	Number of Firms	% of Firms with 20% excess capacity and above	% of Firms with 10% excess capacity and above
Mining and Processing of Non-ferrous Metal	6	67	67
Processing of Petroleum and Nuclear Fuel	10	60	70
Smelting and Pressing of Ferrous Metals	32	38	47
Manufacture of Non-metallic Mineral Products	125	37	50
Mining and Processing of Nonmetal Ores	11	36	64
Coal Mining and Washing	6	33	33
Smelting and Pressing of Non-ferrous Metals	29	31	41
Manufacture of Metal Products	141	28	43
Processing of Wood Products	35	26	37
Manufacture of Electric Machinery and Apparatus	142	25	39
Manufacture of Special-purpose Machinery	114	18	31
Manufacture of Measuring Instruments	39	18	23
Processing of Agricultural and Related Products	97	18	47
Manufacture of Foods	52	15	29
Manufacture of Furniture	30	13	27
Manufacture of Rubber Products	26	12	35
Manufacture of Chemical Products	126	10	33
Manufacture of Leather, Fur, Feather and Related Products	40	10	43

Notes:

1. This table reports industries that have at least 10% of firms with 20% or above excess capacity.
2. This table includes industries with more than three firms.

Table 4.3 Regions with Severe Excess Capacity

	Number of Firms	% of Firms with 20% excess capacity and above	% of Firms with 10% excess capacity and above
Ningxia	5	60	60
Xinjiang	5	40	60
Guizhou	9	33	33
Jilin	20	30	50
Tianjin	50	30	48
Inner Mongolia	14	29	36
Liaoning	95	27	48
Yunnan	22	27	45
Shanxi	22	27	45
Shaanxi	26	27	38
Hunan	34	26	32
Sichuan	47	21	32
Heilongjiang	26	19	27
Anhui	72	18	40
Beijing	35	17	31
Hebei	83	17	36
Chongqing	30	17	33
Jiangxi	41	15	24
Henan	63	14	38
Guangxi	35	14	34
Shanghai	99	11	25
Jiangsu	302	11	24
Shandong	191	10	25
Zhejiang	298	10	23
Fujian	89	10	34

Notes:

1. This table reports regions that have at least 10% of firms with 20% or above excess capacity.
2. This table includes regions with more than three firms.

Table 5. Cost and Price

Table 5.1 Overall

		Diffusion Indices									
		Number of Firms		Unit Cost Index		Labor Cost Index		Raw Material Cost Index		Price Index	
		Q2	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2	Q1
Nation		2,033	2,032	55	59	53	54	50	46	47	44
<i>By Size</i>											
	Large	726	755	56	58	53	54	51	48	49	45
	Medium	699	675	56	61	54	56	49	45	46	43
	Small	608	602	55	59	52	54	49	45	47	42
<i>By Ownership</i>											
	State-owned	78	74	48	54	48	51	53	50	48	47
	Collectively-owned	38	38	62	54	57	51	54	49	50	47
	Private	1,656	1,642	55	60	53	54	49	45	47	43
	Foreign -owned	303	329	57	58	54	55	52	48	48	47
<i>By Product Type</i>											
	Consumer Goods - Durable	414	409	52	59	52	57	48	49	47	46
	Consumer Goods - Nondurable	643	613	58	59	53	53	50	46	48	44
	Capital Goods	168	195	51	67	50	53	51	40	48	37
	Intermediate Goods	809	816	56	58	54	55	50	46	46	44

Table 5.2 Industries with Unit Cost Increase More Significant than National Average

	Diffusion Indices				Price Index
	Number of Firms	Unit Cost Index	Labor Cost Index	Raw Material Cost Index	
Nation	2033	55	53	50	47
Manufacture of Textiles	133	96	60	46	33
Manufacture of Chemical Fibers	9	72	72	67	50
Manufacture of Plastics	96	67	58	43	35
Manufacture of Foods	52	64	63	59	56
Manufacture of Measuring Instruments	39	59	59	50	47
Mining and Processing of Nonmetal Ores	11	59	55	55	45
Processing of Wood Products	35	59	60	59	50
Manufacture of Leather, Fur and Related Products	40	59	55	53	55
Manufacture of Cultural and Sports Products	23	59	59	52	50
Coal Mining and Washing	6	58	50	60	58
Manufacture of Furniture	30	57	55	53	52
Manufacture of Textile Wearing and Apparel	66	56	56	55	49
Manufacture of Non-metallic Mineral Products	125	56	58	50	47
Manufacture of Rubber Products	26	56	58	48	40
Smelting and Pressing of Ferrous Metals	32	56	56	56	52
Processing of Petroleum and Nuclear Fuel	10	55	55	55	40

Notes:

1. Industries are sorted by Diffusion Index for Unit Cost in descending order. The table includes industries with more than three firms.

Table 5.3 Regions with Unit Cost Increase More Significant than National Average

	Diffusion Indices				
	Number of Firms	Unit Cost Index	Labor Cost Index	Raw Material Cost Index	Price Index
Nation	2033	55	53	50	47
Ningxia	5	60	60	60	40
Guangxi	35	60	54	57	49
Guangdong	265	58	54	51	49
Zhejiang	298	58	53	49	45
Fujian	89	58	53	51	50
Jiangsu	302	58	54	48	45
Anhui	72	57	56	49	51
Shandong	191	56	53	48	48
Guizhou	9	56	56	50	56
Chongqing	30	55	53	53	52

Notes:

1. Provinces are sorted by Diffusion Index for Unit Cost in descending order. The table includes provinces with more than three firms.

Table 6. Financing Environment

Table 6.1 Overall

	% Firms with Loans		% Firms with New Loans		Collateralization Rate %		Diffusion Index - Lending Attitude		Diffusion Index - Interest Rate	
	Q2	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2	Q1
Nation	2,033	2,032	24	25	4	3	63	61	43	40
<i>With or Without Investment</i>										
Firms with Investment	188	156	30	31	10	6	72	81	44	29
Firms without Investment	1,845	1,876	23	25	4	3	61	58	42	42
<i>By Size</i>										
Large	726	755	27	27	4	3	68	61	45	39
Medium	699	675	24	27	4	3	67	64	44	42
Small	608	602	20	20	4	3	53	55	39	37
<i>By Ownership</i>										
State-owned	78	74	19	25	2	0	38	76	29	23
Collectively-owned	38	38	18	21	5	5	50	50	25	25
Private	1,656	1,642	25	27	5	3	64	62	43	39
Foreign -owned	303	329	17	16	2	2	65	57	42	50
<i>By Product Type</i>										
Consumer Goods - Durable	414	409	26	27	5	5	63	69	43	36
Consumer Goods - Nondurable	643	613	22	27	5	2	65	59	39	41
Capital Goods	168	195	28	26	5	5	56	42	44	40
Intermediate Goods	809	816	24	22	3	2	63	63	45	41

Notes:

1. A higher Diffusion Index for lending attitude reflects easier lending.
2. A higher Diffusion Index for interest rate reflects higher interest rate.

Table 6.2 Sources of Financing

The most important source of financing

Sources	Number of Firms	% of Firms
Internal Funds	2011	99
Founder	44	2
Bank	19	1
Non-official finance institution	5	0
Stock market	2	0
Relatives and friends	1	0
Others	1	0

The second most important source of financing

Sources	Number of Firms	% of Firms
Founder	474	49
Bank	461	48
Internal Funds	17	2
Relatives and friends	5	1
Others	4	0
Non-official finance institution	2	0
Stock market	1	0

Appendix 1. Industry and Regional Ranking of Excess Capacity

Table A1. Industry and Regional Ranking of Excess Capacity

Table A1.1 Industry Ranking of Excess Capacity

Industry	Number of Firms		% of Firms with 20% excess capacity and above		% of Firms with 10% excess capacity and above	
	Q2	Q1	Q2	Q1	Q2	Q1
	Mining and Processing of Non-ferrous Metal	6	7	67	71	67
Processing of Petroleum and Nuclear Fuel	10	8	60	63	70	75
Smelting and Pressing of Ferrous Metals	32	29	38	48	47	59
Manufacture of Non-metallic Mineral Products	125	124	37	40	50	53
Mining and Processing of Nonmetal Ores	11	11	36	36	64	64
Smelting and Pressing of Non-ferrous Metals	29	28	31	32	41	46
Processing of Wood Products	35	35	26	26	37	37
Manufacture of Metal Products	141	142	28	25	43	42
Manufacture of Electric Machinery and Apparatus	142	148	25	22	39	39
Processing of Agricultural and Related Products	97	102	18	21	47	54
Manufacture of Furniture	30	31	13	16	27	29
Manufacture of Measuring Instruments	39	39	18	15	23	23
Manufacture of Foods	52	52	15	13	29	29
Manufacture of Paper and Paper Products	53	54	9	13	32	28
Manufacture of Leather, Fur, Feather, Related Products and Footwear	40	40	10	13	43	43
Manufacture of Chemical Products	126	121	10	12	33	31
Manufacture of Cultural and Sports Products	23	20	9	10	9	10
Printing, Reproduction of Recording Media	56	58	7	9	34	29
Manufacture of Beverage	38	35	5	9	47	29
Manufacture of Transport Equipment	86	98	5	8	21	20
Manufacture of Special-purpose Machinery	114	111	18	7	31	13
Manufacture of Plastics	96	95	5	6	38	43
Power Production and Supply	32	33	3	6	19	18
Computers, Communication and Electric Equipment	77	87	6	6	26	22
Manufacture of General-purpose Machinery	179	177	4	6	5	8
Manufacture of Textile Wearing and Apparel	66	75	5	5	9	25
Manufacture of Medicines	61	57	5	5	21	19
Manufacture of Rubber Products	26	24	12	4	35	21
Manufacture of Textiles	133	123	2	2	2	2
Manufacture of Handicrafts and Others	42	39	2	0	24	15
Manufacture of Chemical Fibers	9	8	0	0	22	13
Coal Mining and Washing	6	0	33	0	33	0
Production and Supply of Water	17	12	0	0	0	0

Notes:

Industries are sorted based on the percentage of firms with over 20% excess capacity in descending order. The ranking includes industries with more than three firms.

Table A1.2 Regional Ranking of Excess Capacity

Province	Number of Firms		% of Firms with 20% excess capacity and above		% of Firms with 10% excess capacity and above	
	Q2	Q1	Q2	Q1	Q2	Q1
Guizhou	9	7	33	43	33	43
Yunnan	22	20	27	40	45	60
Jilin	20	23	30	35	50	48
Shaanxi	26	21	27	33	38	48
Hunan	34	32	26	28	32	34
Liaoning	95	92	27	27	48	48
Inner Mongolia	14	15	29	27	36	33
Sichuan	47	53	21	25	32	38
Tianjin	50	50	30	22	48	40
Hebei	83	88	17	22	36	38
Anhui	72	63	18	21	40	41
Gansu	5	5	0	20	0	20
Henan	63	64	14	19	38	34
Heilongjiang	26	25	19	16	27	28
Beijing	35	38	17	16	31	29
Shanxi	22	21	27	14	45	33
Chongqing	30	29	17	14	33	24
Shandong	191	196	10	14	25	26
Jiangxi	41	38	15	13	24	18
Jiangsu	302	308	11	10	24	25
Fujian	89	87	10	10	34	33
Shanghai	99	100	11	10	25	21
Zhejiang	298	300	10	10	23	24
Guangdong	265	257	8	7	24	23
Guangxi	35	34	14	6	34	32
Hubei	49	56	8	4	27	14
Ningxia	5	0	60	0	60	0
Xinjiang	5	0	40	0	60	0

Notes:

Provinces are sorted based on the percentage of firms with over 20% excess capacity in descending order. The ranking includes provinces with more than three firms.

Appendix 2. Industry and Regional Ranking of Excess Capacity

Table A2. Industry and Regional Diffusion Index for Cost and Price

Table A2.1 Industry Diffusion Index for Cost and Price

		Diffusion Indices									
		Number of Firms		Unit Cost Index		Labor Cost Index		Raw Material Cost Index		Price Index	
		Q2	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2	Q1
Nation		2,033	2,032	55	59	53	54	50	46	47	44
<i>Mining</i>											
	Coal Mining and Washing	6	3	58	50	50	50	60	50	58	67
	Mining and Processing of Ferrous Metal Ores	2	2	0	50	0	50	0	50	0	50
	Mining and Processing of Non-ferrous Metal	6	7	50	43	50	43	50	50	67	29
	Mining and Processing of Nonmetal Ores	11	11	59	64	55	64	55	50	45	36
<i>Production and Supply of Electricity, Heat, Gas and Water</i>											
	Power Production and Supply	32	33	47	50	47	50	52	50	42	50
	Production and Supply of Water	17	12	50	50	50	50	50	50	50	50
	Production and Supply of Gas	1	0	50	0	50	0	50	0	50	0
<i>Light Manufacturing</i>											
	Processing of Agricultural and Related Products	97	102	42	51	45	51	43	50	53	49
	Manufacture of Foods	52	52	64	62	63	59	59	59	56	51
	Manufacture of Beverage	38	35	54	49	54	51	54	47	50	49
	Manufacture of Textiles	133	123	96	95	60	53	46	23	33	19
	Manufacture of Textile Wearing and Apparel	66	75	56	53	56	53	55	49	49	51
	Manufacture of Leather, Fur, Feather, Related Products and Footwear	40	40	59	55	55	54	53	53	55	46
	Processing of Wood Products	35	35	59	60	60	64	59	53	50	47
	Manufacture of Furniture	30	31	57	71	55	73	53	58	52	53
	Manufacture of Paper and Paper Products	53	54	52	50	52	51	50	49	50	45
	Printing, Reproduction of Recording Media	56	58	52	52	51	52	52	52	49	49
	Manufacture of Cultural and Sports Products	23	20	59	70	59	73	52	48	50	40

Appendix

	Manufacture of Medicines	61	57	50	50	50	50	51	50	51	50
	Manufacture of Handicrafts and Others	42	39	53	50	53	54	49	49	49	49
	Recycling and Disposal of Waste	1	3	50	50	50	50	50	50	50	50
<i>Chemical Industry</i>											
	Processing of Petroleum and Nuclear Fuel	10	8	55	63	55	63	55	56	40	38
	Manufacture of Chemical Products	126	121	53	51	56	53	50	46	50	48
	Manufacture of Chemical Fibers	9	8	72	50	72	56	67	50	50	50
	Manufacture of Rubber Products	26	24	56	65	58	67	48	44	40	38
	Manufacture of Plastics	96	95	67	67	58	52	43	38	35	35
<i>Equipment Manufacturing</i>											
	Manufacture of General-purpose Machinery	179	177	41	86	45	57	41	26	44	23
	Manufacture of Special-purpose Machinery	114	111	50	52	50	52	51	51	47	48
	Manufacture of Transport Equipment	86	98	53	52	53	55	49	49	49	46
	Manufacture of Electric Machinery and Apparatus	142	148	50	50	50	50	50	50	50	49
	Computers, Communication and Electric Equipment	77	87	52	53	51	55	51	50	47	45
	Manufacture of Measuring Instruments	39	39	59	55	59	55	50	51	47	46
<i>Other Heavy Manufacturing</i>											
	Manufacture of Non-metallic Mineral Products	125	124	56	58	58	58	50	52	47	48
	Smelting and Pressing of Ferrous Metals	32	29	56	64	56	64	56	52	52	52
	Smelting and Pressing of Non-ferrous Metals	29	28	52	59	52	59	52	54	50	48
	Manufacture of Metal Products	141	142	51	50	50	50	51	49	49	49

Notes:

The table includes industries with more than three firms.

Table A2.2 Regional Diffusion Index for Cost and Price

		Diffusion Indices									
		Number of Firms		Unit Cost Index		Labor Cost Index		Raw Material Cost Index		Price Index	
		Q2	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2	Q1
	Nation	2033	2,032	55	59	53	54	50	46	47	44
<i>North China</i>											
	Beijing	35	38	51	55	51	53	50	49	49	46
	Tianjin	50	50	54	55	54	55	50	46	49	46
	Hebei	83	88	52	56	51	49	51	43	46	40
<i>Northeast</i>											
	Liaoning	95	92	54	58	51	56	53	49	47	41
	Jilin	20	23	53	57	53	54	55	54	53	52
	Heilongjiang	26	25	50	56	50	54	48	48	48	50
<i>Northwest</i>											
	Inner Mongolia	14	15	50	60	50	60	46	50	46	47
	Shaanxi	26	21	52	57	56	60	46	48	48	43
	Gansu	5	5	40	50	50	50	40	50	40	50
	Ningxia	5	5	60	60	60	50	60	50	40	60
	Xinjiang	5	4	50	50	70	50	40	50	60	50
<i>Central North</i>											
	Shanxi	22	21	45	57	50	50	48	55	45	45
	Shandong	191	196	56	62	53	55	48	45	48	44
	Henan	63	64	51	57	52	52	49	47	47	44
<i>Southwest</i>											
	Chongqing	30	29	55	55	53	52	53	46	52	43
	Sichuan	47	53	48	55	49	52	49	48	47	44
	Guizhou	9	7	56	57	56	57	50	50	56	42
	Yunnan	22	20	45	58	48	58	48	53	55	53
<i>East China</i>											
	Shanghai	99	100	51	61	53	54	49	45	48	43
	Jiangsu	302	308	58	63	54	55	48	43	45	41
	Zhejiang	298	300	58	63	53	54	49	44	45	41
<i>South China</i>											
	Fujian	89	87	58	60	53	56	51	46	50	46
	Guangdong	265	257	58	58	54	55	51	47	49	45
	Guangxi	35	34	60	57	54	57	57	47	49	46
	Hainan	1	1	50	50	50	50	50	50	50	50
<i>Central South</i>											
	Anhui	72	63	57	61	56	55	49	49	51	46
	Jiangxi	41	38	54	49	55	51	51	49	50	49
	Hubei	49	56	52	57	52	51	49	44	45	42
	Hunan	34	32	51	56	54	56	48	50	46	45

Notes:

The table includes provinces with more than three firms.

Appendix 3. Sampling Procedure

3.1 The Population

The initial sample of our panel is taken from the 2008 Economic Census. This is the most complete and reliable economic census data available. A new round of Economic Census is currently ongoing.

Although the 2008 Economic Census is our best choice, it is done seven years ago. Firm characteristics, such as industry, might have changed significantly. Thus we ask firms about their main products and product types. But we cannot cover companies established after 2008 this problem can only be resolved when the latest Economic Census data (2013 are made available to the public).

2008 Economic Census database is made of provincial databases each containing two sets of data: one uses industrial units and the other uses legal person units.¹ We start with the legal person units in 2008 Economic Census database. We then drop non-industrial firms and firms with sales below five million RMB to obtain the population of what NBS terms as “sizable” industrial firms.

3.2 Sampling Procedure

Below is a step-by-step description of the procedure to obtain our initial survey sample in our first survey, that is, the 2014 Q2 survey.

1. Simplify industrial classification code. Using Industrial classification for national economic activities (GBT4754-2002)² as the standard, we only define firms’ industry up to major groups (two digit code from 01 to 98)³.
2. Simplify area code. We use the first two digits to place firms in 31 provinces and municipalities.
3. Remove nonindustrial firms: using industry code specified in step 1, we remove those with code smaller than 6 or larger than 46, retaining 39 industry categories. Those left are mining (06-11), manufacturing (13-43) and electricity, gas and water production and processing (44-46).
4. Remove below-scale firms: we remove those with less than 5,000,000RMB in annual main business income, this step removed about $\frac{3}{4}$ of total firms. As of this step, we obtain the population of sizable industrial firms, which consists of 488,052 firms.
5. Classify firms by size into 3 categories using 33% and 66% percentiles in main business income.
6. Take a stratified random sample using size, region and industry as strata, taking 2.1% of the population. The final sample consists of 10,139 firms.

¹ Legal person units are composed of industrial activity units, industrial activity units are all under management and control of legal person units.

² Since the original database is based on census conducted in 2008, we use GBT4754-2002 industry classification rather than the newer GBT4754-2011 classification.

³ Industrial classification for national economic activities (GBT4754-2002) classifies firms into division, major group, minor group, subgroup, in order of increasing detail. For example, the subgroup 1361 seafood frozen processing belongs in division A (manufacturing), major group 13 (agriculture and by-product processing), and minor group 136 (seafood processing).

In our Q2 survey, we started from the 2,032 firms in our last response sample, and obtain responses from 1,523 firms. These firms match the population in terms of industry, region, and sizes reasonably well. Nevertheless, we draw an additional survey samples with an industry-region-size distribution such that the final response sample would match the population, assuming (1) random responses and (2) a 20% response rate. We obtained 510 responses from this new sample, resulting in a total of 2,033 firms in our final response sample.

3.3 Survey Process

The survey is through phone interviews. Figure A1 reports the distribution of the number of phone calls, duration of the calls, and the interviewees' positions in the companies.

3.4. Sample Representativeness

Tables A3.1-A3.3 show that the distribution of the population and the Q2 response sample, as well as the 1,523 firms that were also in the Q1 sample, in terms of industry, region, and sizes. Note that as we are sampling 2.1% of the population, some small strata may not be sampled. Specifically, Qinghai and Tibet are two regions not sampled; and Mining of other Ores, Extraction of Petroleum and Natural Gas and Manufacture of Tobacco are three industries not sampled. Furthermore, reflecting the sluggish performance of Coal Mining industry, the number of firms responding to our survey is declining. Overall, our response sample represents the population quite well.

3.5 Seasonality

Theoretically, there are no obvious ways to adjust for seasonality, especially given the relatively small number of surveys we have conducted. We deal with this issue by asking directly the firms about seasonality and its impact. As shown in Figure A1.4, the majority (84%) of firms report no seasonality. For 8% of the firms, seasonality impact is below 5%. Most importantly, the impact of seasonality is roughly symmetrical distributed. Thus, in aggregate, seasonality is not likely to bias our results and we do not adjust for seasonality.

Figure A1. Phone Interviews – number of calls, duration and interviewees
Figure A1.1 Number of Calls

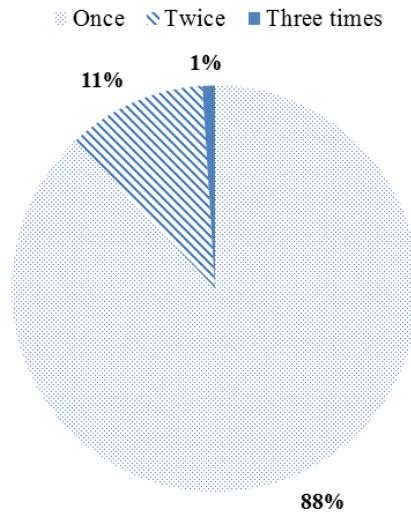


Figure A1.2 Duration of Calls

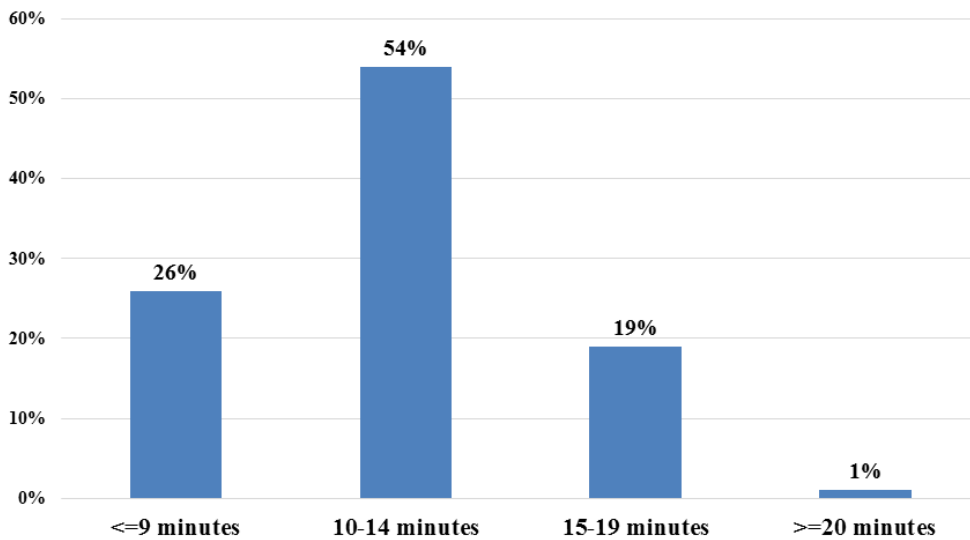


Figure A1.3 Interviewees' Positions

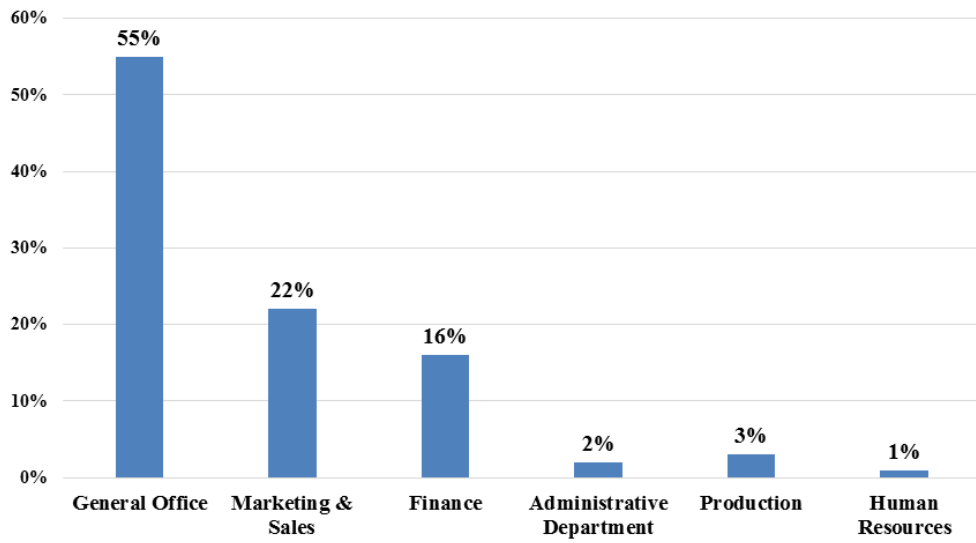


Figure A1.4 Seasonality

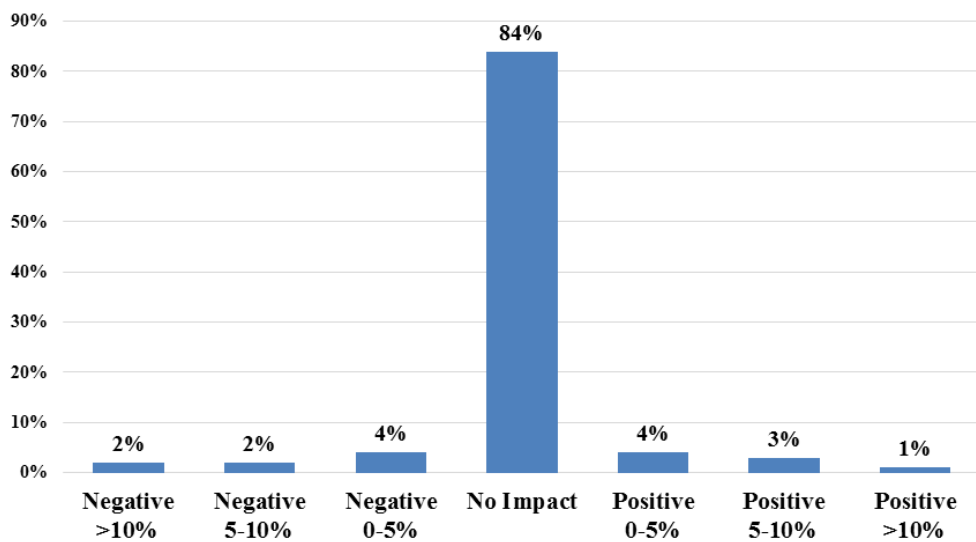


Table A3. Comparisons between Survey Sample and the Population**Table A3.1 Industry Distribution**

	Population		1,523 Firms From Q1 Survey		Final Q2 Response Sample	
	Number of Firms	Percent	Number of Firms	Percent	Number of Firms	Percent
Power Production and Supply	6,719	1.38	17	1.12	32	1.57
Manufacture of Electric Machinery and Apparatus	28,972	5.94	113	7.42	142	6.98
Manufacture of Textile Wearing and Apparel	21,271	4.36	50	3.28	66	3.25
Manufacture of Textiles	38,945	7.98	75	4.92	133	6.54
Mining and Processing of Nonmetal Ores	4,900	1.00	9	0.59	11	0.54
Manufacture of Non-metallic Mineral Products	34,710	7.11	99	6.50	125	6.15
Recycling and Disposal of Waste	1,363	0.28	1	0.07	1	0.05
Manufacture of Handicrafts and Others	8,588	1.76	32	2.10	42	2.07
Mining and Processing of Ferrous Metal Ores	5,390	1.10	2	0.13	2	0.10
Smelting and Pressing of Ferrous Metals	8,893	1.82	24	1.58	32	1.57
Manufacture of Chemical Fibers	2,374	0.49	5	0.33	9	0.44
Manufacture of Chemical Products	30,568	6.26	94	6.17	126	6.20
Computers, Communication and Electric Equipment	16,338	3.35	65	4.27	77	3.79
Manufacture of Furniture	6,114	1.25	24	1.58	30	1.48
Manufacture of Transport Equipment	20,878	4.28	77	5.06	86	4.23
Manufacture of Metal Products	29,039	5.95	117	7.68	141	6.94
Manufacture of Beverage	5,824	1.19	25	1.64	38	1.87
Coal Mining and Washing	12,266	2.51	3	0.20	6	0.30
Processing of Wood Products	11,469	2.35	30	1.97	35	1.72
Processing of Agricultural and Related Products	25,501	5.23	78	5.12	97	4.77
Manufacture of Leather, Fur, Feather, Related Products and Footwear	9,932	2.04	32	2.10	40	1.97
Mining of other Ores	46	0.01	0	0	0	0
Production and Supply of Gas	1,024	0.21	1	0.07	1	0.05
Extraction of Petroleum and Natural Gas	322	0.07	0	0	0	0
Processing of Petroleum and Nuclear Fuel	2,667	0.55	7	0.46	10	0.49
Manufacture of Foods	8,723	1.79	44	2.89	52	2.56
Production and Supply of Water	2,326	0.48	11	0.72	17	0.84
Manufacture of Plastics	22,984	4.71	61	4.01	96	4.72
Manufacture of General-purpose Machinery	42,879	8.79	125	8.21	179	8.80
Manufacture of Cultural and Sports Products	5,310	1.09	18	1.18	23	1.13
Manufacture of Rubber Products	5,277	1.08	19	1.25	26	1.28
Manufacture of Tobacco	163	0.03	0	0	0	0
Manufacture of Medicines	6,801	1.39	46	3.02	61	3.00
Manufacture of Measuring Instruments	6,474	1.33	30	1.97	39	1.92
Printing, Reproduction of Recording Media	7,681	1.57	44	2.89	56	2.75
Mining and Processing of Non-ferrous Metal	2,885	0.59	5	0.33	6	0.30
Smelting and Pressing of Non-ferrous Metals	9,175	1.88	19	1.25	29	1.43
Manufacture of Paper and Paper Products	11,389	2.33	36	2.36	53	2.61
Manufacture of Special-purpose Machinery	21,837	4.47	85	5.58	114	5.61
Total	488,017	100	1,523	100	2,033	100

Table A3.2 Regional Distribution

	Population		1,523 Firms From Q1 Survey		Final Q2 Response Sample	
	Number of Firms	Percent	Number of Firms	Percent	Number of Firms	Percent
Anhui	13,600	2.79	52	3.41	72	3.54
Beijing	7,911	1.62	28	1.84	35	1.72
Fujian	19,528	4.00	69	4.53	89	4.38
Gansu	2,113	0.43	4	0.26	5	0.25
Guangdong	59,050	12.1	182	11.95	265	13.03
Guangxi	5,699	1.17	28	1.84	35	1.72
Guizhou	3,497	0.72	7	0.46	9	0.44
Hainan	657	0.13	1	0.07	1	0.05
Hebei	17,731	3.63	72	4.73	83	4.08
Henan	19,395	3.97	47	3.09	63	3.10
Heilongjiang	4,919	1.01	19	1.25	26	1.28
Hubei	13,058	2.68	42	2.76	49	2.41
Hunan	12,378	2.54	21	1.38	34	1.67
Jilin	5,328	1.09	17	1.12	20	0.98
Jiangsu	80,695	16.54	211	13.85	302	14.85
Jiangxi	10,145	2.08	29	1.90	41	2.02
Liaoning	22,335	4.58	79	5.19	95	4.67
Inner Mongolia	5,268	1.08	10	0.66	14	0.69
Ningxia	1,288	0.26	2	0.13	5	0.25
Qinghai	519	0.11	0	0	0	0
Shandong	43,369	8.89	149	9.78	191	9.39
Shanxi	7,128	1.46	17	1.12	22	1.08
Shaanxi	4,398	0.9	18	1.18	26	1.28
Shanghai	20,253	4.15	78	5.12	99	4.87
Sichuan	14,795	3.03	35	2.30	47	2.3
Tianjin	7,901	1.62	39	2.56	50	2.46
Tibet	112	0.02	0	0	0	0
Xinjiang	2,126	0.44	2	0.13	5	0.25
Yunnan	5,291	1.08	15	0.98	22	1.08
Zhejiang	69,935	14.33	225	14.77	298	14.66
Chongqing	7,595	1.56	25	1.64	30	1.48
Total	488,017	100	1,523	100	2,033	100

Table A3.3 Comparison of Company Characteristics

	Population		1,523 Firms From Q1 Survey		Final Q2 Response Sample	
	Mean	Median	Mean	Median	Mean	Median
Assets	90,050	12,920	100,975	17,828	92,964	17,041
Sales	104,697	20,072	107,414	24,564	100,189	22,955
Employment	182	70	197	82	195	80
Sales Per Capita	687	310	544	299	578	300
Total	488,017	100	1,523	100	2,033	100