China's Industrial Economy
2018 Q3 Report[1]

Jie Gan

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

[1] This report is based on a nationwide quarterly survey of industrial firms, which 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 Harry Leung and Jessy Yao who provided support to the data analysis and presentation.

Executive Summary

Q3 Business Sentiment Index continued to be in a slight expansion, making the first three quarters of 2018 the first period of expansion since the survey was launched four years ago. Other signs of improvements included a slight expansion in production, electricity consumption, and domestic orders. However, investment was still sluggish and overcapacity remains prevalent, involving two-thirds of the firms. The overall impact of the trade war has shown up, but is limited overall. The export shrank slightly and 15% of firms were affected by the trade war in Q3; but merely 4% of firms reported a large impact.

Overall, based on our industrial survey and macro data, the current market pessimism is less driven by the economic fundamentals, but rather is mainly caused by sentiment due to the trade war, the effort to deleverage, and thus reduced liquidity. The vulnerability of the Chinese economy comes from its structural problems, including a lack of core technologies in some areas and a high level of debt due to persistently loose monetary policies.

While some easing in monetary policy may be needed to prevent systemic meltdown, it is unwise to further stimulate the economy through leverage and money printing. The current situation calls for a new round of economic reform and institutional building. China still has a number of areas with great potential that, if properly developed, could sustain the country's long term growth. These areas include domestic consumption, technology innovation, urbanization, and reform of state-owned enterprises. We believe the best strategy to insure against external shocks is to enhance the system's internal strength. We remain optimistic about the long term prospects of the Chinese industrial economy.

Introduction

This report is based on data collected from our quarterly surveys of around 2,000 industrial firms in China. Conducted through telephone interviews, this study is now in its fourth year, having launched in the second quarter of 2014. If we exclude the agricultural, real estate and financial sectors from China's GDP, the industrial sector now accounts for close to 50% of non-agricultural sectors.

Our survey design ensures that our sample fully represents industry, region 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 the state of the economy.

There were a total of 2,040 firms surveyed for our 2018 Q3 report, of which 1,717 firms were also polled in our 2018 Q2 survey. The initial survey sample was based on a stratified random sampling by industry, region and size from the 2008 Economic Census. Starting from 2017 Q2, we have also surveyed additional firms from the 2013 Industrial Enterprises database, which allows us to cover firms founded after 2008. Appendix A details the sampling procedure and compares our sample with the population.

I. 2018 Q3 Key Findings

I.1 Operating Conditions Continued to Improve

In Q3, the Business Sentiment Index[2] stood at 51, the same as the previous two quarters, indicating a slight expansion. This made the first three quarters in 2018 the first expansion period since the survey was launched in 2014 Q2 (Figure 1)[3]. The operating conditions have continued to improve and reached a 3-year high (58). The diffusion index for investment timing also increased by one point, to a historical high of 44, though still below the turning point of 50. Other signs of improvement included a slight expansion in production, electricity consumption and, domestic orders.

[2] Our BSI is the simple average of three diffusion indices, including current operating conditions, expected change in operating conditions and investment timing. Compared with other economic indices, our BSI is more forward-looking and is a reflection of the absolute level of economic activities.

[3] Specifically, 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?" The 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 100 * % of firms answering "good" + 50 * % of firms answering "neutral". The diffusion index ranges between 0 and 100. A larger value indicates better operating conditions, with 50 marking the turning point between expansion and contraction.

This quarter's expansion was mainly driven by state-owned and foreign firms, with the diffusion indices being 60 and 56 respectively (Q2: 59 and 55).

Investments were still weak and only 4% of the firms made expansionary investments (Q2: 3%) (Figure 2).

I.2 Continued Cost Rises Driven by Raw Materials

Unit costs continued to rise in Q3. About 29% of the firms reported increased unit costs (Q2: 35%). The diffusion index stood at 64, three points down from the previous quarter. Firms with a significant increase in costs (i.e. quarterly costs rise above 5%) accounted for 6%, slightly lower than the 7% seen in Q2 (Figure 3).

Unit cost increases were driven by raw material costs, the diffusion index of which was 65. It is noteworthy that the proportion of firms that saw increases in raw material costs above 3% was 13% (Q2: 11%).

I.3 Limited Impact of Trade War

The impact of the Sino-US trade war has begun to emerge but was limited overall. The export orders turned from a slight expansion in Q2 (diffusion index: 51) to a slight contraction in Q3 (diffusion index: 49) in Q3. 15% of firms indicated they were affected by the trade war and 4% reported a significant impact (Figure 11).

Not surprisingly, affected firms were mainly export firms, which account for 31% of our sample. Among these export firms, 29% were affected in Q3 and 8% reported a significant impact. Besides, 3% of firms expected to be affected significantly by the trade war within the future two years.

The top five most affected industries included Rubber & Plastic Products, Processing of Petroleum & Nuclear Fuel, Textile, Paper Products and Smelting & Pressing of Non-ferrous Metals. 24% to 31% of firms in these industries are affected. Among industries with a significant impact, the two most affected ones are Textile (11%) and Rubber & Plastic Products (6%).

II. Challenges and Priorities

II.1 Overall Conditions and Industry & Regional Distribution

Similar to Q2, our major indices in Q3 generally remained stable. As shown in Figure 4, production, electricity consumption and inventory increased slightly (51) while the employment stayed flat (50).

As shown in Table 2.2, the top three industries based on BSI were Gas Production & Supply (74), Power Production & Supply (60) and Manufacturing of Foods (58). The top two industries have been on the list for six and ten consecutive quarters, respectively. The worst performing industries were Mining & Processing of Ferrous Metal Ores (36), Non-metallic Mineral Products (42), Coal Mining and Washing (42), Smelting & Pressing of Ferrous Metals (45) and Metal Products (46). Smelting & Pressing of Ferrous Metals and Non-metallic Mineral Products have been persistently on this list for five and nine consecutive quarters, respectively.

Table 3.1 displays regional business conditions. In Q3, the BSI ranged from 43 (Ningxia) to 57 (Xinjiang). Specifically, among the top-performing list of Q3, Guangxi and Guizhou appeared for four and three consecutive quarters respectively. The bottom five provinces were Ningxia (43), Hebei (45), Tianjin (48), Shanxi (48) and Shaanxi (49). Ningxia and Hebei have appeared on the list nine and ten times respectively in the fifteen quarters since 2015 Q1.

II.2 Challenges and Priorities

Weak demand is still by far the biggest challenge for the industrial economy (Figure 5). 62% of the firms surveyed in Q3 cited a lack of orders. Costs were listed as the second largest issue, with raw material and labor costs cited by 19% and 12% of firms, respectively. 11% of firms cited macroeconomic and industrial policies as limiting factors while another 12% of firms cited environmental concerns. In addition, financing was not found to be a bottleneck, with only 1% replying that financing was a limiting factor, a finding consistent with past surveys.

II.2.1 Overcapacity Still Prevalent

In 2018 Q3, two-thirds (66%) of the firms reported oversupply in the domestic market, with a diffusion index of 82 (Q2: 82), still close to historically high levels. The severity of overcapacity seems to increase slightly in Q3. 32% of the firms reported that their excess capacity was above 10%, up from 31% in Q2, while 14% (Q2: 11%) reported that their excess capacity was above 20% (Figure 6A).

We categorize an industry as having severe excess capacity if more than 10% of firms in the industry report an excess capacity of more than 20%. There are 38 industries and 31 regions in total. In Q3, the number of industries and regions with severe excess capacity accounted for about half and one-third of the total firms respectively (17 industries and 19 regions in 2018 Q3 versus 14 industries and 17 regions in 2018 Q2) (Figure 6B).

It is also worth noting that overcapacity in the international market was substantially better than in the domestic market, with the diffusion index 6 points lower (Figure 6A).

Weak demand has not caused inventory problems: thanks to the "order-based" production model adopted by many Chinese firms. In Q3, for example, as many as 47% of firms said they did not have significant levels of inventory because they started production only after receiving orders. For those carrying inventories, 83% said that they expected their inventory to be digested within three months, with a further 13% saying it would take between four to six months. This leaves only 4% of the whole sample who said they expected to carry inventory for more than six months.

II.2.2 Curtailment of Overcapacity

Each quarter, we attempt to call back all the firms that have been surveyed in the previous quarter. In Q3, about 2.7% of firms had suspended production or were suspected to have suspended production. Those suspected of having suspended production included cases where, after between five to nine attempts to reach them, the phone number was either wrong, suspended or did not exist, and the line could not be connected or was busy (Figure 7A).

As shown in Figure 7B, employment reduction began to drop gradually from the peak in 2016. In Q3, the proportion of firms reducing workers by more than 10% was 1.1% (Q2: 0.7%), while the proportion of firms reducing workers by more than 20% was 0.4% (Q2: 0.7%). Based on the size distribution of firms with employment reduction and the number of industrial workers in 2016 being 220 million, we estimate that a total of 700,000 jobs were cut in 2018 Q3.

Consistent with an improved industrial structure, firms with severe overcapacity are more likely to reduce employment and production. Among those with severe overcapacity (above 20%), the proportions of firms reducing production by more than 5% and 10% were 27% and 20%, respectively, both significantly more than that of the whole sample (9% and 6%). Moreover, the proportions of firms reducing employment by more than 5% and 10% were 5% and 3% respectively, also higher than that of the whole sample (1.7% and 1.1%).

About 61% of firms reported a capacity utilization rate above 90%, up from last quarter's 59%, whereas, the proportion of firms with capacity utilization rate below 70% increased to 16% (Q2: 14%) (Figure 8). There is no consensus as to what level of capacity utilization should be considered healthy. However, if we take the examples of the two largest western industrial nations, the US and Germany, their monthly average capacity utilizations were 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 the low profit margin of Chinese industrial firms, their sustainable utilization rate may be higher than that of their western counterparts.

Consistent with overcapacity and the resulting lack of orders, 26% of firms reported difficulties in collecting trade receivables from their customers in 2018 Q3 (Q2: 28%). This problem was more prominent among private firms (28%，Q2: 30%) and firms producing capital goods and intermediate goods (34% and 30%, respectively；Q2: 38% and 33%). SOEs were disproportionally more likely to delay payment, accounting for about 14% (Q2: 11%) of all firms that have done so.

II.2.3 Low Margins

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 19% of the firms surveyed had gross margins below 10%, while the proportion of firms with gross margins above 15% was 33% (Q2: 36%). Low margins may make it difficult for firms to invest in R&D and industrial upgrading.

II.2.4 Financing is Not a Bottleneck

Our survey has consistently found, since its inception in the second quarter of 2014, that financing is not a bottleneck for the industrial economy. In Q3, only 1% of firms cited financing as a constraining factor. 19% of firms said they had sufficient funds, 79% answered “neutral”, while only 2% reported insufficient funds (Figure 10A). Of those, the vast majority (95%) reported insufficient funds for production, not for expansion.

As shown in Table 6.1 and Figure 10B, only a small fraction of firms (1.5%) obtained new loans in Q3. When asked about the reasons, the vast majority of firms without new loans (99%) reported that they did not have the need for capital. Moreover, the diffusion index reflecting an “accommodating” bank lending attitude was 65 (Q2: 60), while the percentage of firms reporting a “difficult” lending attitude stayed at a low level of 9% in Q3 (Q2: 13%) (Figure 10C). None of the firms in our sample borrowed money from non-bank financial institutions in Q3.

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 95% of surveyed firms reporting this as their primary funding source. The second most important source of funds is bank loans and the founder’s own capital, reported by 69% and 31%, respectively, in Q3. Sources of financing were highly concentrated in Chinese firms: in the case of internal funds, 96% of firms reported that this largest financing source accounted for more than 50% of their total funds. These patterns have been highly consistent over time.

Taken together, against the background of overcapacity, investment opportunity has been scarce, resulting in low loan demand. Thus, financing is not a bottleneck for the industrial economy at the moment. While some easing in monetary policy may be needed to prevent a systemic meltdown, it is unwise to further stimulate the economy through leverage and money printing.

III. Conclusion

In Q3, the Business Sentiment Index continued to be in a slight expansion, making the first three quarters of 2018 the first period of expansion in the past four years and since the survey began in 2014Q2. Other signs of improvements included a slight expansion in production, electricity consumption, and domestic orders. However, investment was still sluggish and due to the persistent severity of overcapacity, there is still a need to reduce production capacity. The impact of the trade war has shown up but is limited overall. 15% of firms were affected by the trade war and 4% of firms indicated a significant impact.

Overall, based on our industrial survey and macro data, the current market pessimism is less driven by the economic fundamentals, but rather is mainly caused by sentiment due to the trade war, the effort to deleverage and thus reduced liquidity.

The current situation calls for a new round of economic reform and institutional building. China still has a number of areas with great potential that, if properly developed, could sustain the country's long term growth. These areas include domestic consumption, technology innovation, urbanization, and reform of state-owned enterprises. We remain optimistic about the long term prospects of the Chinese industrial economy.

Figure 1. Business Sentiment Index

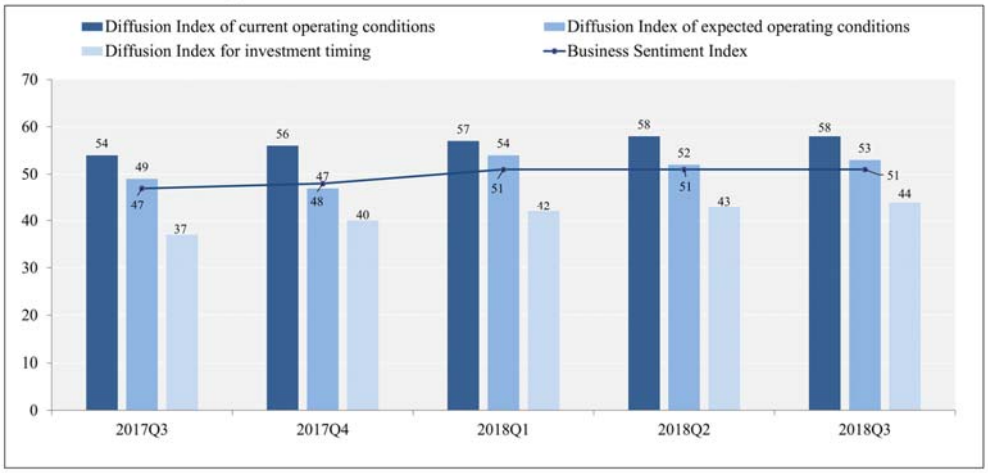

Figure 2. Investment

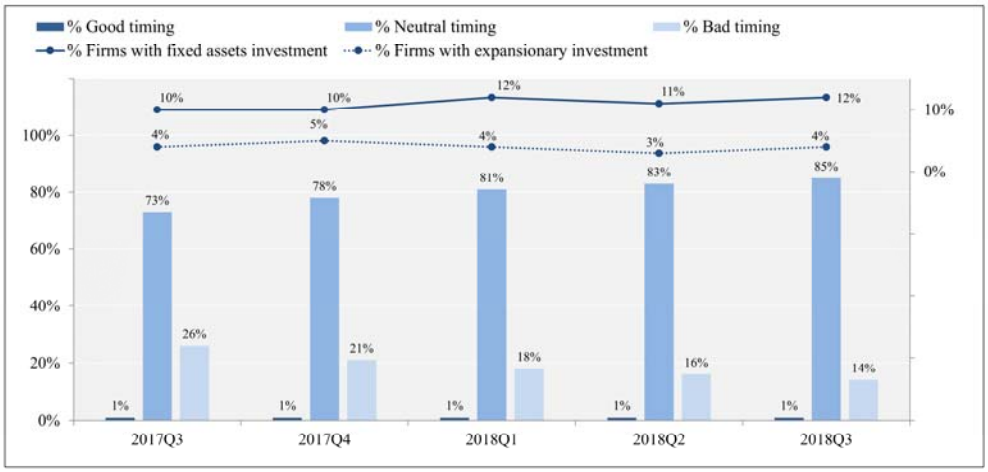

Figure 3. Costs

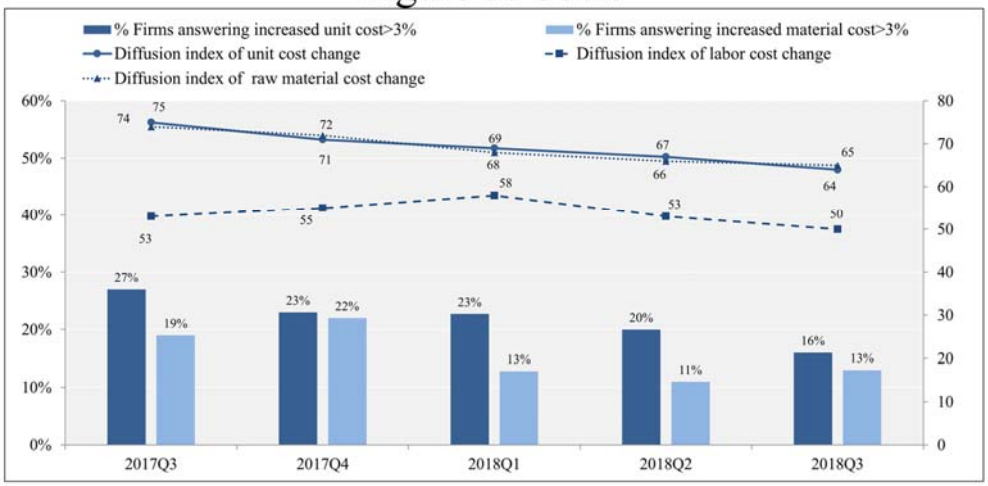

Figure 4. Other Main Economic Indices

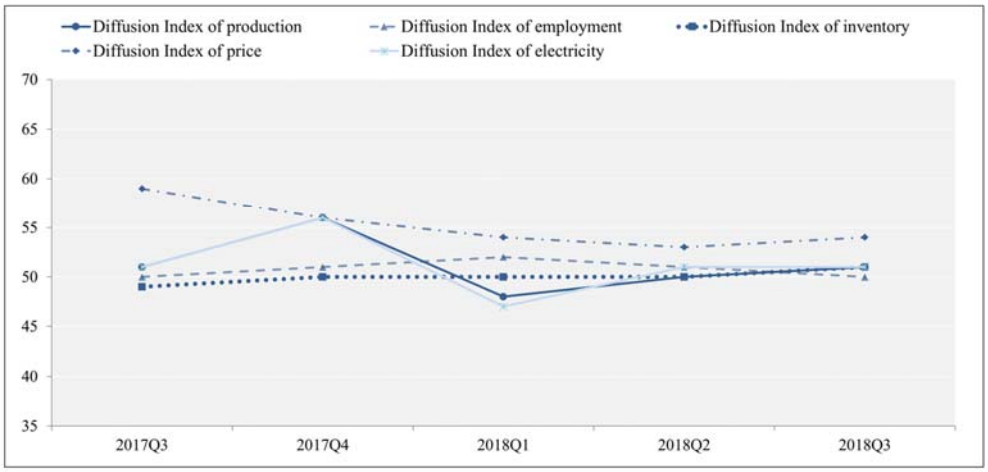

Figure 5. Factors Constraining Production of Next Quarter

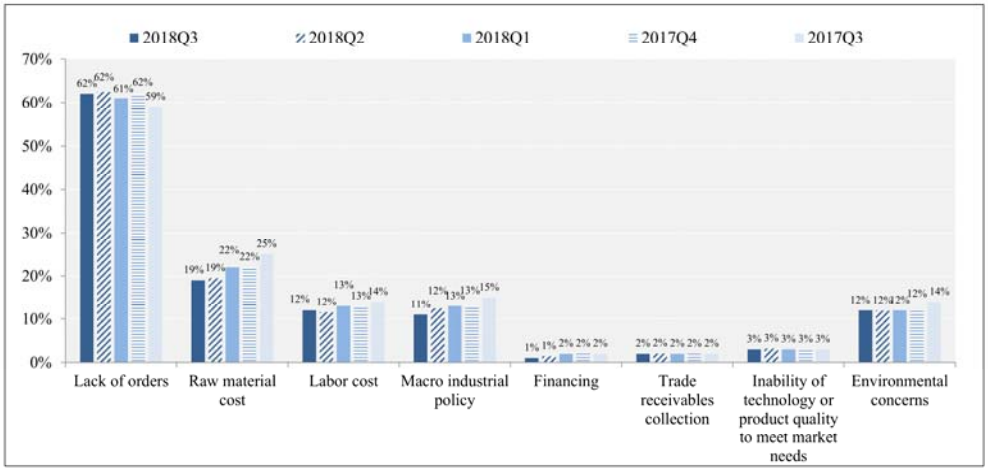

Figure 6A. Excess Capacity

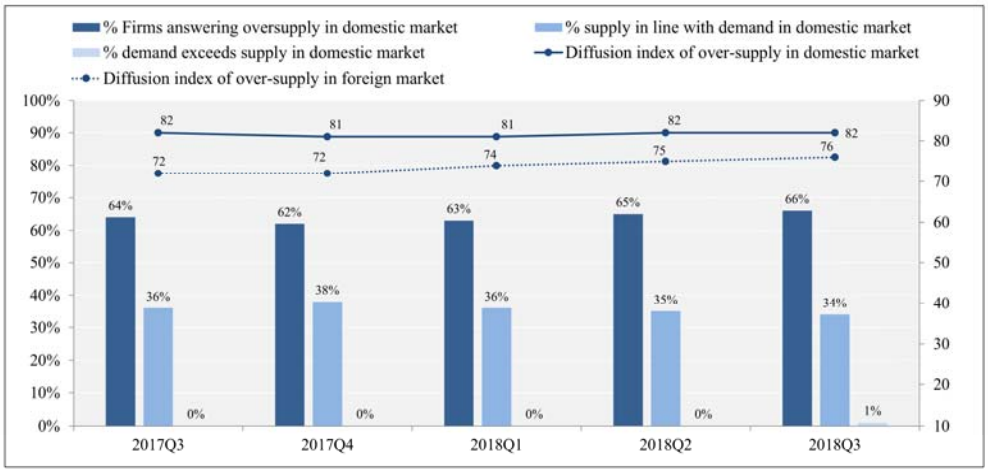

Figure 6B. Firms with Severe Excess Capacity

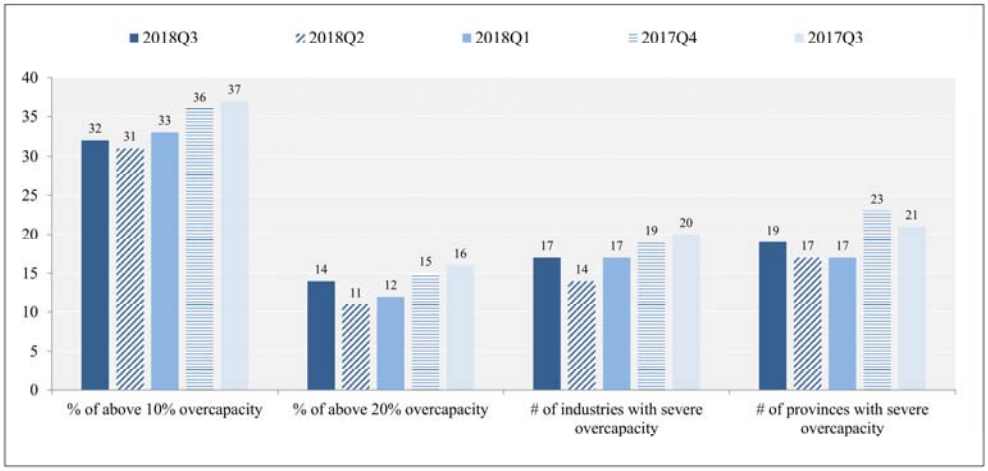

Figure 7A. Suspended Production

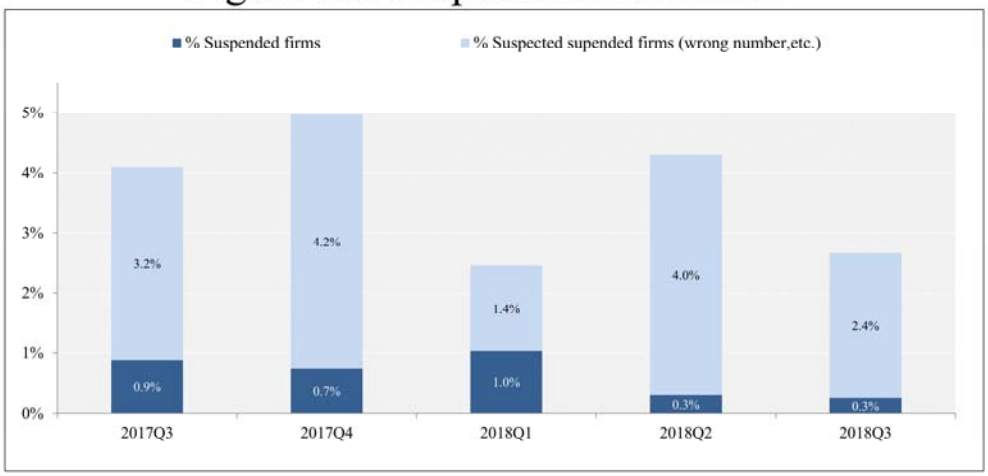

Figure 7B. Firms with Employment Reduction

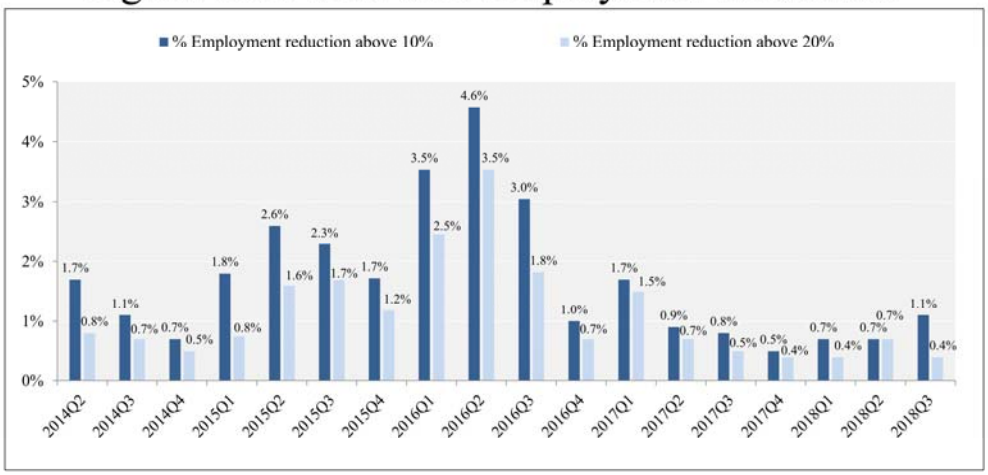

Figure 8. Capacity Utilization

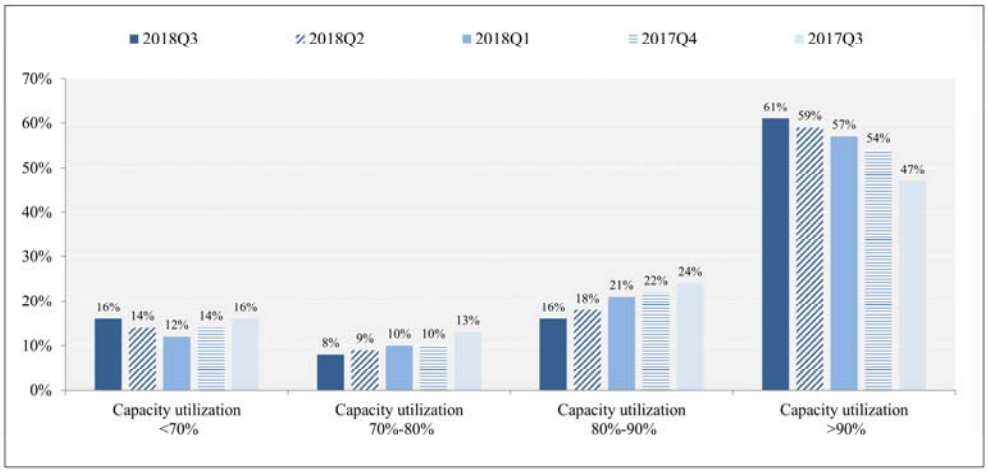

Figure 9. Gross Margins

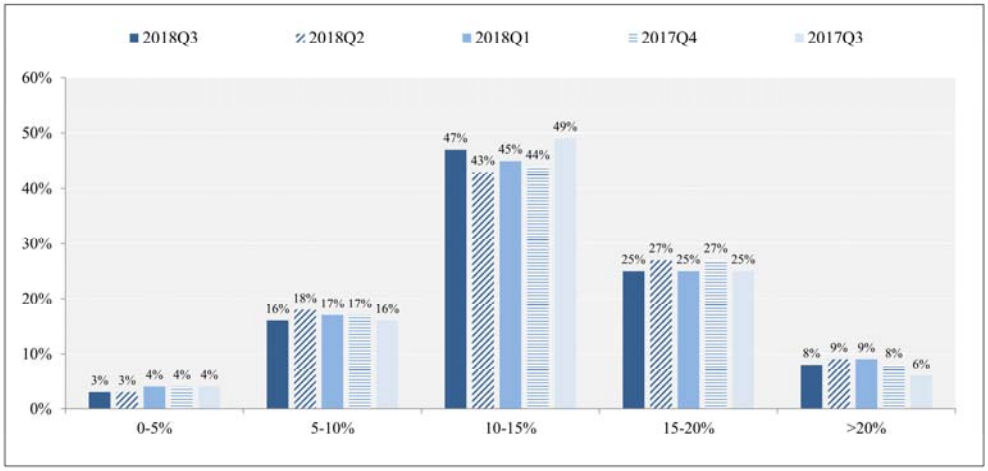

Figure 10. Financing

Figure 10A. Sufficient Capital

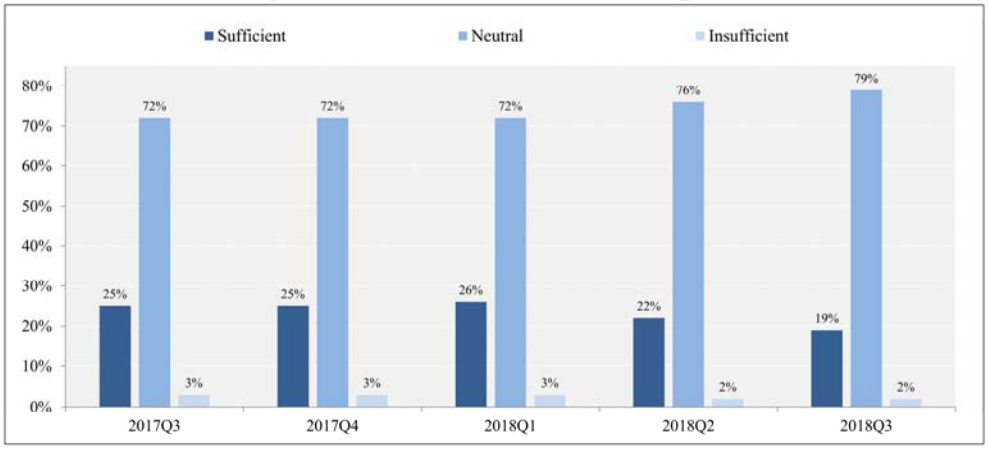

Figure 10B. New Loans

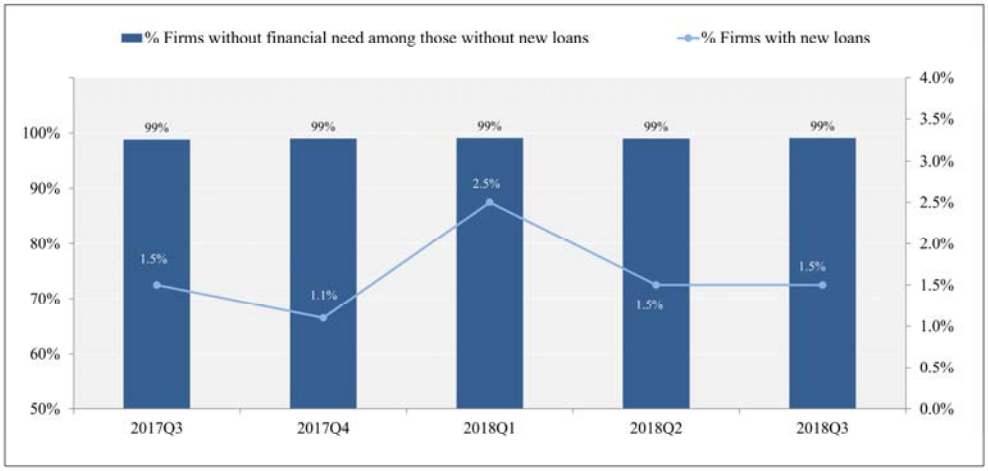

Figure 10C. Lending Attitude

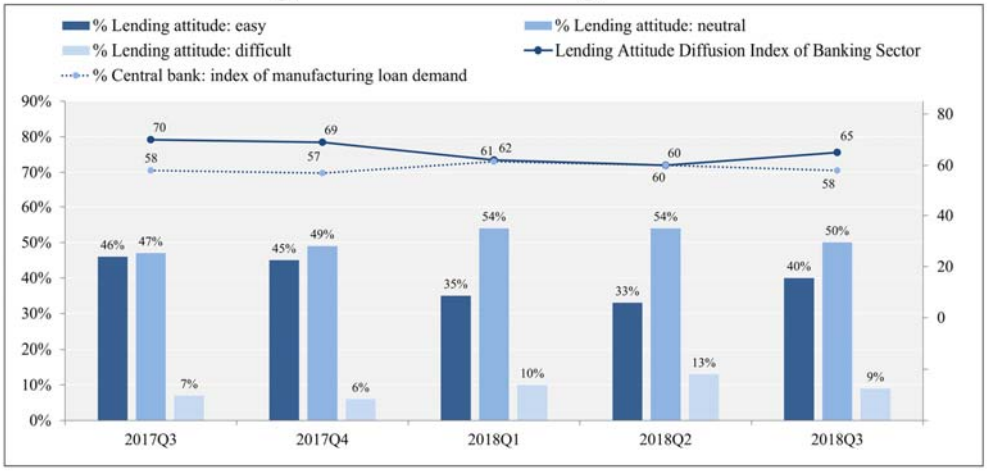

Figure 11. % of Firms Affected by Trade War

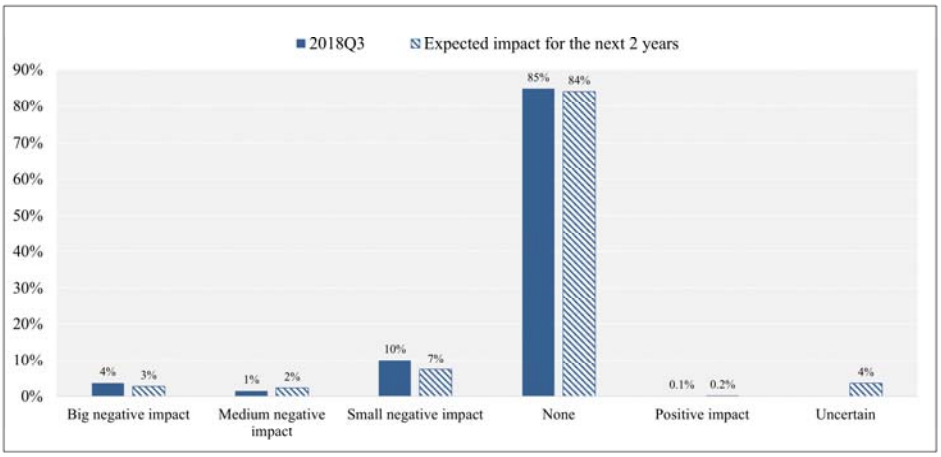

Table 1. Operating Conditions of Industrial Firms
Table 1.1

	Number of Firms		Business Sentiment Index		Diffusion Index - Operating Conditions		Diffusion Index - Expected Change in Operating Conditions		Diffusion Index - Good Timing for Investment	
	Q3	Q2	Q3	Q2	Q3	Q2	Q3	Q2	Q3	Q2
Nation	2,040	2,033	51	51	58	58	53	52	44	43
By Size										
Large	680	678	53	53	60	61	53	52	46	45
Medium	680	677	52	51	59	58	53	52	44	44
Small	680	678	49	49	54	55	52	53	41	39
By Ownership										
State-owned	103	106	60	59	79	77	53	54	48	47
Collectively-owned	22	24	48	51	57	63	50	54	36	38
Private	1,719	1,713	50	50	56	56	52	52	43	42
Foreign-owned	196	190	56	55	67	65	56	54	46	45
By Product Type										
Consumer Goods - Durable	272	304	51	50	58	57	52	52	42	41
Consumer Goods - Nondurable	652	670	54	53	62	62	56	53	44	43
Capital Goods	140	135	53	53	60	60	51	53	47	46
Intermediate Goods	976	924	50	50	55	55	51	52	43	42

Table 1.2

	% of Firms with Fixed Investment		% of Firms with Expansionary Investment		Diffusion Index - Production		Diffusion Index - Employment		Diffusion Index - Price	
	Q3	Q2	Q3	Q2	Q3	Q2	Q3	Q2	Q3	Q2
Nation	12	11	4	3	51	50	50	51	54	53
By Size										
Large	14	12	5	3	51	51	51	51	53	52
Medium	12	12	3	3	52	50	50	51	54	52
Small	11	9	4	2	50	48	49	50	54	53
By Ownership										
State-owned	15	16	3	2	55	57	50	51	50	51
Collectively-owned	18	17	5	4	48	50	45	48	50	50
Private	11	10	4	3	50	49	50	51	54	53
Foreign-owned	18	14	8	5	53	54	52	52	54	54
By Product Type										
Consumer Goods - Durable	8	10	3	4	50	49	49	50	55	52
Consumer Goods - Nondurable	15	11	4	2	53	51	51	51	53	52
Capital Goods	13	20	4	5	53	55	54	53	53	52
Intermediate Goods	11	10	4	3	49	48	49	51	54	53

Notes:

1. Diffusion Index (DI) is computed using the percentage of firms that answer "increase" (% increase) and "same" (% same) according to the formula: (% increase + 0.5 * % 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	
	Q3	Q2	Q3	Q2	Q3	Q2	Q3	Q2	Q3	Q2	Q3	Q2
Nation	2,040	2,033	51	51	58	58	53	52	12	11	44	43
Mining												
Coal Mining and Washing	22	20	42	58	41	68	34	55	5	10	50	50
Mining and Processing of Ferrous Metal Ores	13	13	36	41	31	35	35	38	8	0	42	50
Mining and Processing of Non-ferrous Metal	9	8	46	48	56	50	44	56	11	38	39	38
Mining and Processing of Nonmetal Ores	19	20	48	47	42	43	55	53	0	0	47	45
Production and Supply of Electricity, Heat, Gas and Water												
Power Production and Supply	58	60	60	60	76	73	54	57	14	22	50	50
Gas Production and Supply	13	11	74	65	92	91	81	55	0	9	50	50
Production and Supply of Water	22	22	58	63	91	91	36	52	27	14	45	45
Light Manufacturing												
Processing of Agricultural and Related Products	90	128	49	47	57	54	54	51	16	3	38	36
Manufacturing of Foods	71	63	58	54	63	62	66	56	17	2	45	44
Manufacturing of Beverage	39	43	57	55	60	62	68	59	8	2	42	43
Textiles	103	112	54	55	60	59	55	61	21	13	47	45
Textile Wearing and Apparel	63	55	50	53	57	58	48	56	16	18	46	45
Leather Related Products and Footwear	40	37	53	47	59	53	58	49	8	3	41	39
Processing of Wood Products	35	24	51	53	59	65	47	48	20	25	49	46
Manufacturing of Furniture	30	32	48	48	55	55	47	50	3	6	42	41
Paper and Paper Products	52	52	51	50	59	59	55	52	12	17	39	38
Printing, Reproduction of Recording Media	46	43	56	53	63	63	60	55	17	9	45	42
Cultural and Sports Products	52	49	52	51	53	54	53	51	2	2	49	49
Manufacturing of Medicines	70	70	56	55	64	65	54	51	24	20	50	50
Manufacturing of Others	11	8	42	35	45	31	50	50	0	0	32	25
Recycling and Disposal of Wastes	5	4	53	46	50	50	60	38	0	0	50	50
Chemical Industry												
Processing of Petroleum and Nuclear Fuel	13	14	53	49	54	54	58	46	0	0	46	46
Manufacturing of Chemical Products	126	118	49	49	49	51	51	50	11	6	47	47
Manufacturing of Chemical Fibers	9	10	54	50	56	50	56	55	0	0	50	45
Rubber and Plastic Products	113	112	54	52	64	62	54	53	13	8	42	42
Equipment Manufacturing												
General-purpose Machinery	105	102	50	49	52	53	51	50	8	11	45	45
Special-purpose Machinery	121	116	55	55	65	64	51	52	13	20	50	49
Manufacturing of Automotive	77	78	49	48	55	58	53	47	23	12	40	38
Manufacturing of Railways, Ships and Other Transportation	35	31	58	58	66	69	57	53	17	13	51	50
Electric Machinery and Apparatus	140	144	54	56	70	70	56	60	10	15	37	36
Computers, Communication and Electric Equipment	63	70	52	51	55	54	51	50	13	9	51	50
Manufacturing of Measuring Instruments	36	37	50	50	60	61	49	50	0	0	40	41
Repair of Metal Products, Machinery and Equipment	4	4	46	46	50	50	50	50	0	25	38	38
Other Heavy Manufacturing												
Non-metallic Mineral Products	110	102	42	43	42	41	45	50	5	3	39	37
Smelting and Pressing of Ferrous Metals	72	68	45	43	42	40	48	46	3	1	44	43
Smelting and Pressing of Non-ferrous Metals	33	32	49	49	55	55	47	50	9	25	45	44
Metal Products	120	121	46	45	55	55	50	50	17	21	33	31

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	
	Q3	Q2	Q3	Q2	Q3	Q2	Q3	Q2	Q3	Q2
Nation	2,040	2,033	51	51	58	58	12	11	44	43
Top Five										
Gas Production and Supply	13	11	74	65	92	91	0	9	50	50
Power Production and Supply	58	60	60	60	76	73	14	22	50	50
Manufacturing of Foods	71	63	58	54	63	62	17	2	45	44
Production and Supply of Water	22	22	58	63	91	91	27	14	45	45
Manufacturing of Railways, Ships and Other Transportation	35	31	58	58	66	69	17	13	51	50
Mining and Processing of Ferrous Metal Ores	13	13	36	41	31	35	8	0	42	50
Non-metallic Mineral Products	110	102	42	43	42	41	5	3	39	37
Coal Mining and Washing	22	20	42	58	41	68	5	10	50	50
Smelting and Pressing of Ferrous Metals	72	68	45	43	42	40	3	1	44	43
Metal Products	120	121	46	45	55	55	17	21	33	31

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	
	Q3	Q2	Q3	Q2	Q3	Q2	Q3	Q2	Q3	Q2	Q3	Q2
Nation	2,040	2,033	51	51	58	58	53	52	12	11	44	43
North China												
Beijing	36	33	51	50	57	56	54	52	8	6	43	42
Tianjin	49	48	48	49	55	56	48	51	10	19	42	41
Hebei	95	93	45	47	52	51	45	52	13	9	38	37
Northeast												
Liaoning	91	85	52	52	57	56	53	55	5	2	46	45
Jilin	22	29	52	48	61	57	52	48	18	10	41	40
Heilongjiang	24	25	52	50	54	56	60	54	29	24	42	40
Northwest												
Inner Mongolia	25	23	50	51	52	54	48	48	12	4	50	50
Shaanxi	31	28	49	52	55	57	52	57	3	7	42	41
Gansu	6	7	56	48	50	50	67	50	50	29	50	43
Qinghai	2	2	42	50	50	50	25	50	0	0	50	50
Ningxia	5	5	43	40	40	40	60	50	20	20	30	30
Xinjiang	12	12	57	49	58	54	63	46	25	0	50	46
Central North												
Shanxi	22	22	48	53	52	59	48	57	27	18	43	43
Shandong	217	221	52	52	60	61	52	52	7	8	44	43
Henan	89	92	51	51	58	59	53	52	8	11	43	42
Southwest												
Chongqing	36	31	51	49	56	53	54	52	6	10	44	44
Sichuan	73	70	51	50	53	53	55	51	7	3	46	45
Guizhou	13	13	53	55	54	58	54	58	8	8	50	50
Yunnan	25	27	51	53	64	63	46	54	12	15	42	43
East China												
Shanghai	63	65	53	49	62	59	54	49	8	9	42	40
Jiangsu	239	243	51	51	58	58	52	52	13	13	44	44
Zhejiang	227	236	51	51	59	59	52	54	20	15	43	42
South China												
Fujian	98	102	52	49	59	57	55	50	12	11	43	41
Guangdong	224	214	52	52	59	60	53	53	13	13	45	45
Guangxi	42	36	54	54	60	61	56	56	12	11	46	44
Hainan	2	2	58	58	100	100	50	50	0	0	25	25
Central South												
Anhui	93	87	53	50	59	57	55	50	19	10	45	42
Jiangxi	52	54	52	52	57	57	55	56	13	9	45	44
Hubei	69	68	50	51	57	59	51	53	4	7	42	41
Hunan	58	60	51	52	58	60	53	55	14	10	42	41

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	
	Q3	Q2	Q3	Q2	Q3	Q2	Q3	Q2	Q3	Q2
Nation	2,040	2,033	51	51	58	58	12	11	44	43
Top Five										
Xinjiang	12	12	57	49	58	54	25	0	50	46
Gansu	6	7	56	48	50	50	50	29	50	43
Guangxi	42	36	54	54	60	61	12	11	46	44
Guizhou	13	13	53	55	54	58	8	8	50	50
Shanghai	63	65	53	49	62	59	8	9	42	40
Bottom Five										
Ningxia	5	5	43	40	40	40	20	20	30	30
Hebei	95	93	45	47	52	51	13	9	38	37
Tianjin	49	48	48	49	55	56	10	19	42	41
Shanxi	22	22	48	53	52	59	27	18	43	43
Shaanxi	31	28	49	52	55	57	3	7	42	41

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	
	Q3	Q2	Q3	Q2	Q3	Q2	Q3	Q2
Nation	2,040	2,033	82	82	76	75	51	50
By Size								
Large	680	678	79	79	73	72	50	50
Medium	680	677	82	83	77	75	52	51
Small	680	678	86	85	79	78	51	49
By Ownership								
State-owned	103	106	60	60	64	63	55	48
Collectively-owned	22	24	76	85	60	67	43	46
Private	1,719	1,713	84	84	77	76	51	50
Foreign -owned	196	190	80	82	75	75	51	52
By Product Type								
Consumer Goods - Durable	272	304	75	77	65	65	53	53
Consumer Goods - Nondurable	652	670	79	77	78	75	52	49
Capital Goods	140	135	79	80	67	69	53	52
Intermediate Goods	976	924	87	88	83	81	50	49

Table 4.2 Industries with Severe Excess Capacity

Industry	Number of Firms	% of Firms with 20% excess capacity and above	% of Firms with 10% excess capacity and above
Mining and Processing of Ferrous Metal Ores	13	85	92
Processing of Petroleum and Nuclear Fuel	13	54	54
Mining and Processing of Nonmetal Ores	19	42	47
Coal Mining and Washing	22	36	45
Non-metallic Mineral Products	110	35	45
Smelting and Pressing of Non-ferrous Metals	33	30	36
Processing of Wood Products	35	26	49
Smelting and Pressing of Ferrous Metals	72	25	36
Electric Machinery and Apparatus	140	20	34
Manufacturing of Medicines	70	19	30
Manufacturing of Others	11	18	64
Metal Products	120	16	42
Manufacturing of Furniture	30	13	23
Printing, Reproduction of Recording Media	46	13	35
Manufacturing of Automotive	77	13	35
Processing of Agricultural and Related Products	90	11	31
Textile Wearing and Apparel	63	11	17

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

Province	Number of Firms	% of Firms with 20% excess capacity and above	% of Firms with 10% excess capacity and above
Inner Mongolia	25	28	36
Shanxi	22	27	36
Henan	89	25	42
Sichuan	73	23	37
Jilin	22	23	45
Shaanxi	31	23	39
Ningxia	5	20	40
Hebei	95	19	47
Beijing	36	17	28
Shandong	217	16	30
Guizhou	13	15	38
Tianjin	49	14	35
Hubei	69	13	28
Jiangsu	239	13	32
Heilongjiang	24	13	29
Liaoning	91	12	31
Fujian	98	11	31
Chongqing	36	11	25
Hunan	58	10	28

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

	Number of Firms		Diffusion Indices							
			Unit Cost Index		Labor Cost Index		Raw Material Cost Index		Price Index	
	Q3	Q2	Q3	Q2	Q3	Q2	Q3	Q2	Q3	Q2
Nation	2,040	2,033	64	67	50	53	65	66	54	53
By Size										
Large	680	678	62	66	51	53	63	65	53	52
Medium	680	677	64	66	50	52	65	65	54	52
Small	680	678	65	69	49	53	67	67	54	53
By Ownership										
State-owned	103	106	52	56	50	52	55	59	50	51
Collectively-owned	22	24	64	73	48	58	69	71	50	50
Private	1719	1713	65	68	50	53	66	66	54	53
Foreign -owned	196	190	61	68	52	55	63	67	54	54
By Product Type										
Consumer Goods - Durable	272	304	70	72	50	55	69	70	55	52
Consumer Goods - Nondurable	652	670	62	67	50	53	64	65	53	52
Capital Goods	140	135	69	66	54	56	69	66	53	52
Intermediate Goods	976	924	63	66	50	52	64	65	54	53

Table 5.2 Industries 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	2,040	64	50	65	54
Manufacturing of Chemical Fibers	9	83	56	78	78
Manufacturing of Furniture	30	80	50	80	65
Leather Related Products and Footwear	40	79	44	80	53
Manufacturing of Foods	71	78	54	78	54
Manufacturing of Automotive	77	73	49	74	51
Manufacturing of Others	11	73	55	77	59
Non-metallic Mineral Products	110	71	51	69	57
Manufacturing of Measuring Instruments	36	69	50	70	54
Mining and Processing of Non-ferrous Metal	9	67	44	67	50
Smelting and Pressing of Non-ferrous Metals	33	67	45	67	55
General-purpose Machinery	105	67	51	66	53
Manufacturing of Railways, Ships and Other Transportation	35	66	49	66	50
Cultural and Sports Products	52	66	53	65	54
Special-purpose Machinery	121	65	55	66	50
Smelting and Pressing of Ferrous Metals	72	65	51	63	55
Manufacturing of Medicines	70	64	50	64	54
Rubber and Plastic Products	113	64	50	68	56

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	2,040	64	50	65	54
Shaanxi	31	73	52	73	53
Henan	89	68	51	69	54
Hebei	95	68	51	67	53
Anhui	93	67	50	66	54
Gansu	6	67	50	70	58
Shanghai	63	66	47	67	52
Beijing	36	65	47	65	56
Hunan	58	65	50	67	54
Shandong	217	65	52	65	56
Chongqing	36	64	50	66	50
Liaoning	91	64	50	65	52
Tianjin	49	64	49	62	58
Jilin	22	64	52	60	52
Hubei	69	64	50	67	53
Zhejiang	227	64	49	67	55

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

	Number of Firms		% Firms with Loans		% Firms with New Loans		Diffusion Index - Lending Attitude		Diffusion Index - Interest Rate	
	Q3	Q2	Q3	Q2	Q3	Q2	Q3	Q2	Q3	Q2
Nation	2,040	2,033	24	25	2	2	65	60	52	51
With or Without Investment										
Firms with Investment	250	218	32	37	2	4	68	63	51	50
Firms without Investment	1,790	1,815	23	24	1	1	64	59	52	52
By Size										
Large	680	678	25	26	2	2	68	60	52	50
Medium	680	677	23	25	1	1	62	64	52	54
Small	680	678	25	25	1	1	65	58	51	50
By Ownership										
State-owned	103	106	21	22	1	1	60	50	60	50
Collectively-owned	22	24	18	17	0	0	NA	NA	NA	NA
Private	1,719	1,713	25	26	2	2	65	60	52	51
Foreign -owned	196	190	21	22	1	2	70	67	50	50
By Product Type										
Consumer Goods - Durable	272	304	24	26	1	2	73	67	50	50
Consumer Goods - Nondurable	652	670	26	27	2	2	61	52	54	53
Capital Goods	140	135	36	39	1	2	57	38	50	50
Intermediate Goods	976	924	21	22	1	1	70	70	50	50

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	1940	95
Founder	104	5
Relatives and friends	0	0
Bank	6	0
Stock market	1	0
Non-official finance institution	0	0
Others	0	0

The second most important source of financing

Sources	Number of Firms	% of Firms
Bank	494	69
Founder	221	31
Others	1	0
Internal Funds	1	0
Stock market	1	0
Non-official finance institution	0	0
Relatives and friends	0	0

Appendix 1. 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	
	Q3	Q2	Q3	Q2	Q3	Q2
Mining and Processing of Ferrous Metal Ores	13	13	85	77	92	85
Processing of Petroleum and Nuclear Fuel	13	14	54	57	54	57
Mining and Processing of Nonmetal Ores	19	20	42	50	47	60
Coal Mining and Washing	22	20	36	10	45	40
Non-metallic Mineral Products	110	102	35	36	45	47
Smelting and Pressing of Non-ferrous Metals	33	32	30	13	36	25
Processing of Wood Products	35	24	26	25	49	50
Smelting and Pressing of Ferrous Metals	72	68	25	37	36	47
Electric Machinery and Apparatus	140	144	20	11	34	31
Manufacturing of Medicines	70	70	19	13	30	23
Manufacturing of Others	11	8	18	13	64	38
Metal Products	120	121	16	12	42	54
Manufacturing of Furniture	30	32	13	19	23	25
Printing, Reproduction of Recording Media	46	43	13	2	35	21
Manufacturing of Automotive	77	78	13	1	35	21
Processing of Agricultural and Related Products	90	128	11	2	31	22
Textile Wearing and Apparel	63	55	11	9	17	18
Manufacturing of Foods	71	63	10	11	23	24
Textiles	103	112	10	2	20	21
Rubber and Plastic Products	113	112	9	4	27	38
Manufacturing of Measuring Instruments	36	37	8	8	8	8
General-purpose Machinery	105	102	6	6	39	40
Power Production and Supply	58	60	5	2	5	2
Manufacturing of Beverage	39	43	5	5	8	5
Manufacturing of Chemical Products	126	118	5	6	46	42
Paper and Paper Products	52	52	4	10	33	33
Manufacturing of Railways, Ships and Other Transportation	35	31	3	3	29	19
Leather Related Products and Footwear	40	37	3	8	25	32
Special-purpose Machinery	121	116	2	5	15	16
Computers, Communication and Electric Equipment	63	70	2	3	32	34
Manufacturing of Chemical Fibers	9	10	0	0	33	40
Repair of Metal Products, Machinery and Equipment	4	4	0	0	25	25
Mining and Processing of Non-ferrous Metal	9	8	0	0	22	25
Cultural and Sports Products	52	49	0	0	8	8
Production and Supply of Water	22	22	0	0	0	0
Recycling and Disposal of Wastes	5	4	0	0	0	0
Gas Production and Supply	13	11	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	
	Q3	Q2	Q3	Q2	Q3	Q2
Inner Mongolia	25	23	28	26	36	39
Shanxi	22	22	27	14	36	23
Henan	89	92	25	17	42	35
Sichuan	73	70	23	21	37	37
Jilin	22	29	23	10	45	28
Shaanxi	31	28	23	18	39	29
Ningxia	5	5	20	20	40	40
Hebei	95	93	19	22	47	51
Beijing	36	33	17	12	28	30
Shandong	217	221	16	9	30	28
Guizhou	13	13	15	8	38	46
Tianjin	49	48	14	8	35	38
Hubei	69	68	13	6	28	22
Jiangsu	239	243	13	10	32	30
Heilongjiang	24	25	13	12	29	20
Liaoning	91	85	12	12	31	34
Fujian	98	102	11	12	31	30
Chongqing	36	31	11	16	25	23
Hunan	58	60	10	13	28	32
Jiangxi	52	54	10	13	31	31
Guangdong	224	214	9	7	24	24
Anhui	93	87	9	6	27	34
Xinjiang	12	12	8	17	17	33
Guangxi	42	36	7	3	26	28
Zhejiang	227	236	7	4	24	25
Shanghai	63	65	6	6	24	28
Yunnan	25	27	4	4	20	15
Gansu	6	7	0	0	33	14

Notes:
Provinces are sorted based on the percentage of firms with over 20% excess capacity in descending order.

Appendix 2. 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	
	Q3	Q2	Q3	Q2	Q3	Q2	Q3	Q2	Q3	Q2
Nation	2040	2033	64	67	50	53	65	66	54	53
Mining										
Coal Mining and Washing	22	20	45	48	48	53	45	48	45	45
Mining and Processing of Ferrous Metal Ores	13	13	54	54	50	50	54	54	46	42
Mining and Processing of Non-ferrous Metal	9	8	67	81	44	63	67	81	50	50
Mining and Processing of Nonmetal Ores	19	20	53	53	50	50	53	53	53	55
Production and Supply of Electricity, Heat, Gas and Water										
Power Production and Supply	58	60	52	50	50	50	54	50	51	50
Gas Production and Supply	13	11	50	50	50	50	NA	NA	50	50
Production and Supply of Water	22	22	50	50	50	50	NA	50	50	50
Light Manufacturing										
Processing of Agricultural and Related Products	90	128	63	68	51	52	58	55	49	45
Manufacturing of Foods	71	63	78	89	54	53	78	75	54	52
Manufacturing of Beverage	39	43	59	67	47	52	63	62	55	62
Textiles	103	112	62	75	47	54	67	74	59	58
Textile Wearing and Apparel	63	55	60	55	48	53	62	55	52	49
Leather Related Products and Footwear	40	37	79	77	44	53	80	74	53	53
Processing of Wood Products	35	24	61	50	50	50	61	50	56	50
Manufacturing of Furniture	30	32	80	80	50	50	80	80	65	61
Paper and Paper Products	52	52	59	75	48	62	61	77	50	55

Table A2.1 Industry Diffusion Index for Cost and Price（Continued）

	Diffusion Indices									
	Number of Firms		Unit Cost Index		Labor Cost Index		Raw Material Cost Index		Price Index	
	Q3	Q2	Q3	Q2	Q3	Q2	Q3	Q2	Q3	Q2
Printing, Reproduction of Recording Media	46	43	62	84	52	60	71	84	53	56
Cultural and Sports Products	52	49	66	69	53	53	65	65	54	59
Manufacturing of Medicines	70	70	64	59	50	50	64	59	54	51
Manufacturing of Others	11	8	73	81	55	50	77	88	59	50
Recycling and Disposal of Wastes	5	4	50	50	50	50	50	50	50	50
Chemical Industry										
Processing of Petroleum and Nuclear Fuel	13	14	62	61	50	50	62	61	38	39
Manufacturing of Chemical Products	126	118	63	63	50	51	61	62	56	55
Manufacturing of Chemical Fibers	9	10	83	65	56	50	78	65	78	60
Rubber and Plastic Products	113	112	64	69	50	53	68	68	56	53
Equipment Manufacturing										
General-purpose Machinery	105	102	67	63	51	50	66	63	53	53
Special-purpose Machinery	121	116	65	66	55	58	66	66	50	49
Manufacturing of Automotive	77	78	73	83	49	54	74	81	51	50
Manufacturing of Railways, Ships and Other Transportation	35	31	66	73	49	60	66	73	50	50
Electric Machinery and Apparatus	140	144	59	72	51	54	66	72	56	53
Computers, Communication and Electric Equipment	63	70	57	63	51	50	56	64	50	52
Manufacturing of Measuring Instruments	36	37	69	69	50	51	70	68	54	54
Repair of Metal Products, Machinery and Equipment	4	4	50	50	38	63	50	50	50	50
Other Heavy Manufacturing										
Non-metallic Mineral Products	110	102	71	73	51	52	69	72	57	58
Smelting and Pressing of Ferrous Metals	72	68	65	65	51	51	63	64	55	54
Smelting and Pressing of Non-ferrous Metals	33	32	67	56	45	50	67	58	55	52
Metal Products	120	121	60	56	52	52	61	57	52	52

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	
	Q3	Q2	Q3	Q2	Q3	Q2	Q3	Q2	Q3	Q2
Nation	2,040	2,033	64	67	50	53	65	66	54	53
North China										
Beijing	36	33	65	70	47	55	65	67	56	55
Tianjin	49	48	64	64	49	52	62	62	58	52
Hebei	95	93	68	68	51	52	67	64	53	52
Northeast										
Liaoning	91	85	64	68	50	52	65	67	52	49
Jilin	22	29	64	66	52	59	60	61	52	53
Heilongjiang	24	25	58	60	58	54	60	56	52	52
Northwest										
Inner Mongolia	25	23	56	59	52	52	57	53	48	46
Shaanxi	31	28	73	71	52	52	73	68	53	48
Gansu	6	7	67	71	50	50	70	75	58	57
Ningxia	5	5	50	60	50	50	50	60	50	60
Xinjiang	12	12	50	58	54	50	58	55	46	50
Central North										
Shanxi	22	22	59	61	48	48	57	59	45	50
Shandong	217	221	65	66	52	54	65	65	56	53
Henan	89	92	68	68	51	52	69	68	54	53
Southwest										
Chongqing	36	31	64	65	50	55	66	65	50	50
Sichuan	73	70	60	65	51	52	64	66	54	55
Guizhou	13	13	54	62	50	50	50	54	50	50
Yunnan	25	27	60	67	48	52	64	63	52	52
East China										
Shanghai	63	65	66	67	47	55	67	67	52	54
Jiangsu	239	243	63	67	50	53	65	66	53	52
Zhejiang	227	236	64	68	49	52	67	68	55	54
South China										
Fujian	98	102	63	71	54	54	65	70	55	55
Guangdong	224	214	62	67	49	52	64	68	52	53
Guangxi	42	36	61	69	52	50	60	68	50	58
Central South										
Anhui	93	87	67	67	50	52	66	63	54	49
Jiangxi	52	54	63	70	50	53	69	72	54	55
Hubei	69	68	64	70	50	54	67	67	53	54
Hunan	58	60	65	66	50	53	67	67	54	53

Notes:
The table includes provinces with more than three firms.

Appendix 3. Survey Sampling

3.1 The Population

Staring from 2017Q2, we have included firms in the 2013 Industrial Enterprises database in our sampling. This is the most complete and reliable economic census data available.

Although the 2013 Industrial Enterprises database is our best option, it was still compiled four years ago. A firm's core characteristics, such as industry, might have changed significantly in that time. Thus, we also surveyed firms about their main products and product types.

3.2 Sampling Procedure

Previously, our sampling was based on the population of sizable industrial firms (with sales above 5 million RMB) in the 2008 Economic Census. In order to ensure the comparability of this quarter's survey with those in the previous quarters, we used a sampling procedure as described below:

1. We started from the 2033 firms in our last response sample, which was the result of a random sampling stratified by industry, region and size (see our previous reports for details). Of those, we obtained responses from 1717 firms. Steps 2-3 below describe how we obtain a supplement sample of 1415 firms from the 2013 Industrial Enterprise database, which, assuming a 20% response rate, would yield an additional 283 firms so that the total size of the survey sample is 2,000 firms.

2. We stratified by three size categories, 41 industries and 31 provinces to obtain 3,813 strata in both the 2008 Economic Census and 2013 Industrial Enterprises database populations. Then we compute, in each stratum, the percentage of new firms founded after 2008.

3. Assuming random responses across the above 3,813 strata, we compute the number of firms across strata and the proportion of new firms (founded after 2008) in each stratum, so that the final response sample could match (or approach) the population in terms of industry, region and size, as well as the proportion of new firms. Out of the 1415 firms in our supplementary sample, we obtained 323 responses, resulting in a total of 2040 firms in our final survey sample.

However, we note that to ensure a smooth transition across quarters, this quarter's sample does not match well with the 2013 Industrial Enterprise database population in two dimensions. First, the weight of new firms founded after 2008 is lower. Second, given that the National Bureau of Statistics changed its definition of sizable firms between 2008 and 2013, from sales totaling 5 million RMB up to 20 million RMB, the average firm size is between the two databases. We will resolve these discrepancies gradually in the coming surveys. Moreover, in our data analysis, we have cross-checked that the results relative to those of the last quarter have not been driven by the new sample.

3.3 Survey Process

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

3.4. Sample Representativeness

Tables A3.1-A3.3 show the distribution of the population and the Q3 response sample, as well as the 1717 firms that were also in the Q2 sample, in terms of industry, region and size. Note that as we are sampling 2.1% of the population, some small strata may not be sampled. Specifically, Tibet is a region that has not been sampled, while Mining of other Ores, Extraction of Petroleum & Natural Gas and Manufacture of Tobacco are three industries not sampled. Overall, however, we feel 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 directly asking the firms about seasonality and its impact. As shown in Figure A1.4, the majority of firms (87%) reported no seasonality, while for 6% of the firms, the seasonality impact was below 5%. Most importantly, the impact of seasonality is roughly distributed symmetrically. 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

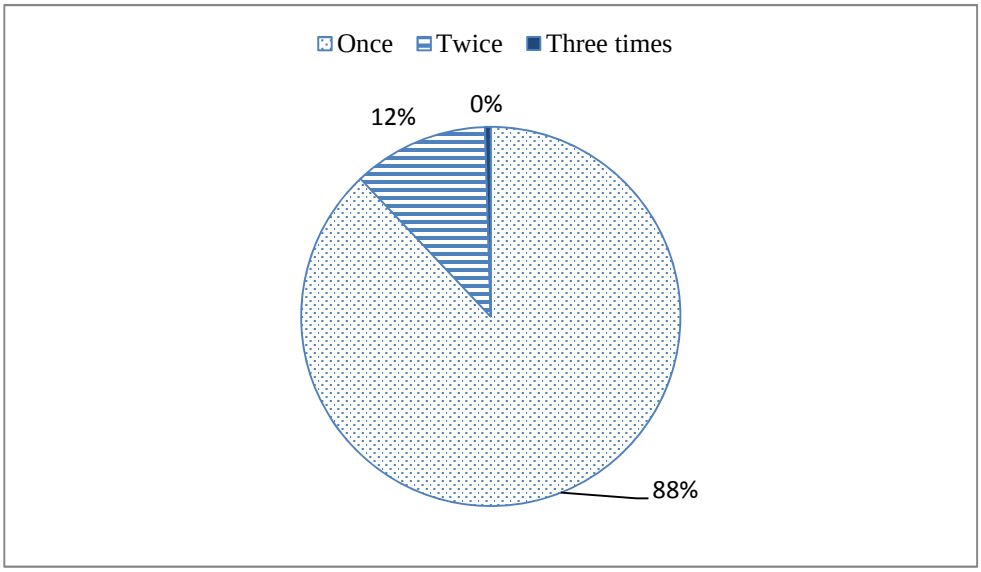

Figure A1.2 Duration of Calls

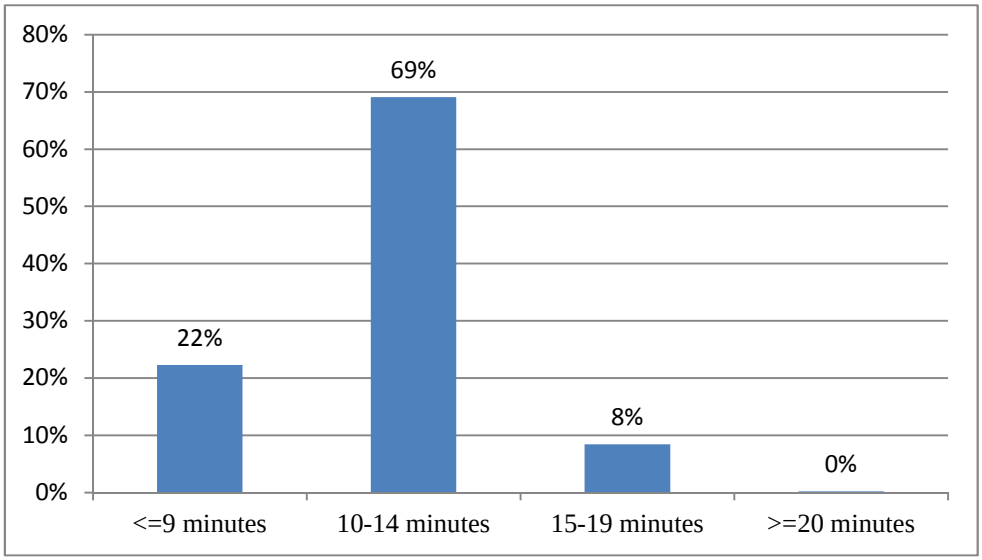

Figure A1.3 Interviewees' Positions

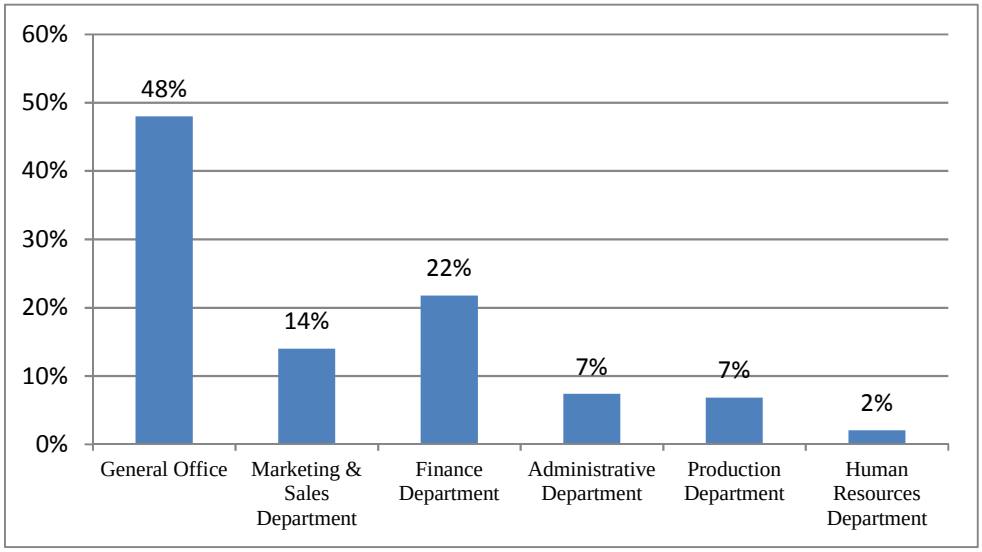

Figure A1.4 Seasonality

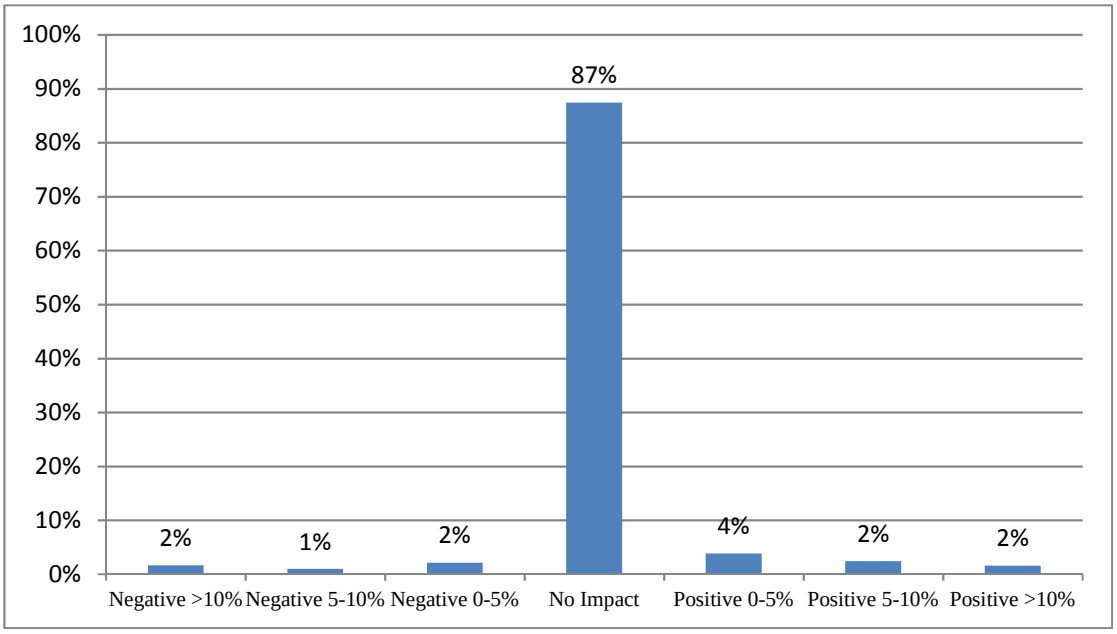

Table A3. Comparisons between Survey Sample and the Population

Table A3.1 Industry Distribution

Industry	Population		1717 Firms From Q2 Survey		Final Q3 Response Sample	
	Number of Firms	Percent	Number of Firms	Percent	Number of Firms	Percent
Power Production and Supply	5,701	1.7	52	3.0	58	2.8
Electric Machinery and Apparatus	21,012	6.2	118	6.9	140	6.9
Textile Wearing and Apparel	14,147	4.2	54	3.2	63	3.1
Textiles	19,591	5.8	88	5.1	103	5.1
Mining and Processing of Nonmetal Ores	3,363	1.0	18	1.1	19	0.9
Non-metallic Mineral Products	29,429	8.7	89	5.2	110	5.4
Recycling and Disposal of Wastes	1,256	0.4	4	0.2	5	0.3
Mining and Processing of Ferrous Metal Ores	3,100	0.9	11	0.6	13	0.6
Smelting and Pressing of Ferrous Metals	10,190	3.0	61	3.6	72	3.5
Manufacturing of Chemical Fibers	1,859	0.6	7	0.4	9	0.4
Manufacturing of Chemical Products	23,402	6.9	98	5.7	126	6.2
Computers, Communication and Electric Equipment	12,540	3.7	52	3.0	63	3.1
Manufacturing of Furniture	4,656	1.4	25	1.5	30	1.5
Repair of Metal Products, Machinery and Equipment	381	0.1	4	0.2	4	0.2
Metal Products	18,498	5.5	107	6.2	120	5.9
Manufacturing of Beverage	5,496	1.6	34	2.0	39	1.9
Other Ancillary Activities of Mining	153	0.1	0	0.0	0	0.0
Coal Mining and Washing	6,680	2.0	14	0.8	22	1.1
Processing of Wood Products	8,154	2.4	20	1.2	35	1.7
Processing of Agricultural and Related Products	22,485	6.7	84	4.9	90	4.4
Leather Related Products and Footwear	7,714	2.3	30	1.8	40	2.0
Mining of other Ores	17	0.0	0	0.0	0	0.0
Manufacturing of Others	1,527	0.5	8	0.5	11	0.5
Manufacturing of Automotive	11,733	3.5	65	3.8	77	3.8
Gas Production and Supply	1,095	0.3	11	0.6	13	0.6
Extraction of Petroleum and Natural Gas	135	0.0	0	0.0	0	0.0
Processing of Petroleum and Nuclear Fuel	1,941	0.6	13	0.8	13	0.6
Manufacturing of Foods	7,388	2.2	49	2.9	71	3.5
Production and Supply of Water	1,310	0.4	21	1.2	22	1.1
Manufacturing of Railways, Ships and Other Transportation	4,277	1.3	28	1.6	35	1.7
General-purpose Machinery	22,163	6.6	84	4.9	105	5.2
Cultural and Sports Products	7,513	2.2	43	2.5	52	2.6
Rubber and Plastic Products	16,327	4.8	99	5.8	113	5.5
Manufacture of Tobacco	122	0.0	0	0.0	0	0.0
Manufacturing of Medicines	6,483	1.9	68	4.0	70	3.4
Manufacturing of Measuring Instruments	3,805	1.1	36	2.1	36	1.8
Printing, Reproduction of Recording Media	4,734	1.4	40	2.3	46	2.3
Mining and Processing of Non-ferrous Metal	1,552	0.5	6	0.4	9	0.4
Smelting and Pressing of Non-ferrous Metals	3,728	1.1	27	1.6	33	1.6
Paper and Paper Products	6,580	2.0	45	2.6	52	2.6
Special-purpose Machinery	15,443	4.6	104	6.1	121	5.9
Total	337,680	100	1,717	100	2,040	100

Table A3.2 Regional Distribution

Province	Population		1717 Firms From Q2 Survey		Final Q3 Response Sample	
	Number of Firms	Percent	Number of Firms	Percent	Number of Firms	Percent
Anhui	14,533	4.3	75	4.4	93	4.6
Beijing	3,506	1.0	30	1.8	36	1.8
Fujian	15,206	4.5	85	5.0	98	4.8
Gansu	1,723	0.5	6	0.4	6	0.3
Guangdong	37,831	11.2	178	10.4	224	11.0
Guangxi	4,919	1.5	31	1.8	42	2.1
Guizhou	2,901	0.9	10	0.6	13	0.6
Hainan	358	0.1	2	0.1	2	0.1
Hebei	12,818	3.8	84	4.9	95	4.7
Henan	18,410	5.5	73	4.3	89	4.4
Heilongjiang	3,882	1.2	22	1.3	24	1.2
Hubei	13,520	4.0	53	3.1	69	3.4
Hunan	12,170	3.6	52	3.0	58	2.8
Jilin	5,136	1.5	20	1.2	22	1.1
Jiangsu	45,138	13.4	208	12.1	239	11.7
Jiangxi	7,424	2.2	45	2.6	52	2.6
Liaoning	15,591	4.6	72	4.2	91	4.5
Inner Mongolia	3,975	1.2	20	1.2	25	1.2
Ningxia	940	0.3	5	0.3	5	0.3
Qinghai	448	0.1	2	0.1	2	0.1
Shandong	37,272	11.0	189	11.0	217	10.6
Shanxi	3,433	1.0	20	1.2	22	1.1
Shaanxi	4,103	1.2	23	1.3	31	1.5
Shanghai	9,101	2.7	52	3.0	63	3.1
Sichuan	11,753	3.5	58	3.4	73	3.6
Tianjin	4,972	1.5	43	2.5	49	2.4
Tibet	54	0.0	0	0.0	0	0.0
Xinjiang	2,031	0.6	8	0.5	12	0.6
Yunnan	3,147	0.9	20	1.2	25	1.2
Zhejiang	36,363	10.8	202	11.8	227	11.1
Chongqing	5,022	1.5	29	1.7	36	1.8
Total	337,680	100	1,717	100	2,040	100

Table A3.3 Comparison of Company Characteristics

	Population 2008		Population 2013		1717 Firms From Q2 Survey		Final Q3 Response Sample	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median
Assets	90,050	12,920	243,118	45,165	264,177	56,130	245,801	55,269
Sales	104,697	20,072	295,142	85,344	269,602	73,631	261,156	75,170
Total	488,017		337,680		1,717		2,040	