

**2014 Q3 Report on China's Industrial Economy
A Large-Sample Firm Survey¹**

November 12, 2014

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¹ This survey is implemented by Beijing Allinfo Co., based on the questionnaire and sample provided by Professor Jie Gan, Director of the Center on Finance and Economic Growth. We thank Beijing Allinfo for its hard work and professionalism.

Executive Summary

It is clear from our surveys that China's industrial economy is still coming to terms with its excess capacity and, as a result, industrial activities are now in slight contraction mode. Our Business Sentiment Index (BSI), which reflects current and expected operating conditions, as well as fixed investment, is 46, below the turning point of 50. However, our investment sentiment index is as low as 27. Reflecting such a sentiment, only 12% of firms (as opposed to 18% in Q2), made fixed investments in Q3, and even fewer firms (7%) had invested more than merely covering depreciation. Given that investment is forward looking and a determinant of future production capacities, the industrial economy is not likely to fully recover any time soon.

There are, however, signs that things are stabilizing. The operating conditions of firms show signs of improvement. The diffusion index is 58, a slight increase from 55 in Q2.

The two main challenges facing the industrial economy are weak demand and rising costs. Oversupply is still widespread: 49% of the firms (as compared with 44% in Q2) reported that supply exceeds demand for their products, and domestic markets are worse than overseas markets. However, likely due to a span of reduced investment, the severity of excess capacity is lower. 10% of firms reported excess capacity of more than 10% in Q3 (as opposed to 15% in Q2). Interestingly, oversupply has not caused inventory problems, due to reduced investment and the "order-based" production model adopted by many Chinese firms.

Costs are still rising overall, but they have also stabilized somewhat. The cost index stands at 64, a substantial drop from 75 in Q2. Meanwhile, output prices have largely stayed the same (with a diffusion index of 51), which, coupled with rising costs, means that the profit margins of many firms continue to decline.

Finally, financing is clearly not a bottleneck for the growth of the industrial sector, due to low investment demand and a generally accommodating lending environment. Only 10% of firms obtained new loans, a drop from 24% in Q2. Firms found the banks' lending attitude to be generally accommodating, with only 9% reporting their lending attitude as "difficult" and the lending-attitude index is 73.

The problems with the industrial sector are structural and fundamental. We maintain the policy suggestions outlined in our Q2 report. The first is to strengthen the policy of increasing domestic demand, which involves raising income and reducing household savings through public services. The other approach is industry upgrade and technological innovation. Finally, we believe that easing monetary policy would not boost the industrial economy.

Introduction

In October, we conducted our second large-sample quarterly survey of industrial firms in China. To truly understand the opportunities and challenges facing the Chinese economy, it is essential to have timely and reliable data and we believe that the best way to obtain such data is through large-sample, micro-level company surveys. Our survey design ensures that our sample fully represents industry, region (provinces), and company sizes. As a result, it provides a complete picture of the Chinese industrial economy. Furthermore, our survey questions allow us to understand the underlying mechanisms, and analyze why the economy is doing well or not.

The business sentiment index (BSI) we construct in this report is, to the best of our knowledge, the most informative one on Chinese economy, for two reasons. First, it is based on a large-sample of firms designed to well represent the Chinese industrial sector. Second, it not only contains information on current operating conditions, which is ex post and relative (to last quarter), but also includes forward-looking investment sentiment that indicates the absolute level of economic activities. In addition to BSI, we compile indices on a range of economic parameters, such as demand, costs, and lending attitude. Finally, we should stress that, while we do publish indices on a regular basis, a more important objective of our work is to conduct a regular in-depth study of the Chinese economy.

In our Q3 survey response sample, there were a total of 2,013 firms, of which 1,381 firms were also in our Q2 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 48,800 industrial firms that have sales of over five million RMB. Appendix A, which details the sampling procedure and compares our Q3 sample with the NBS population, shows that our sample represents the population well in terms of industry, region, size and other company characteristics.

I. China's Industrial Economy: A Slight Contraction

In Q3, 27% of the firms reported that overall operating conditions "improved", 62.6% stayed "the same," and 10.5% "worsened." The resulting diffusion index is a slight increase to 58 from 55 in Q2.² The increase is mainly driven by the fact that the operating conditions of those firms that experienced a decline in Q2 did not worsen in Q3: the percentages of "improved", "the same," and "worsened" were 29%, 53% and

² The diffusion index is computed as % of firms answering "increase" + 0.5 * % of firms answering "same." The diffusion index ranges between 0 and 100. A larger value indicates a better operating condition and 50 is the turning point from between expansion to contraction.

18% in Q2. The Q3 diffusion indices for production and employment stand at 53 and 52 respectively, slightly up from 51 in Q2. The index for expected operating conditions is 52, the same as that in Q2.

It should be noted that the answers regarding current operating conditions are *ex post* and *relative* (to last quarter). That is, 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. This is also the problem with most other indices, including the well-known PMI. One way to deal with this problem is to ask about expected operating conditions. However, this is typically feasible only for the next quarter. More importantly, it seems that firms incline towards answering “the same” and thus it might not be a good predictor of the future. For example, in Q2 the index for expected next-quarter operating conditions was 52 while the actual index is 58 in Q3.

To get an understanding of the state of the economy in an “absolute” sense, one must look at fixed investments, which go up when businesses are prosperous and people are optimistic. When asked to what extent it is now a good time to make fixed investments, only 9% considered the timing to be “good,” 36% answered “average,” and 55% responded “bad,” resulting in a diffusion index of 27, far below the turning point of 50. Consistent with this sentiment, only 12% of firms made fixed investments in Q3, down from 18% in Q2. In addition, the size of the investment was small: for 40% of the firms, the investment was below 3% of firm assets, a level that is probably just enough to cover depreciation. This leaves only about 7% of firms in expansion mode.

To obtain a complete picture of business conditions, we need to consider not only operating conditions relative to last quarter, but also *ex ante* and “absolute” measures of business conditions. To this end, we constructed a Business Sentiment Index (BSI) of Chinese industrial enterprises. It is the simple average of three diffusion indices, including current operating conditions, expected operating conditions, and investment timing. The index construction resembles that of the US Consumer Sentiment Index, hence its name. In Q3, the BSI is 46, indicating a slight contraction.

Table 1 shows the performance of different types of firms. Similar to Q2, there is no significant variation across firms of different sizes, while state-owned enterprises outperformed collectively-owned enterprises and private-sector firms. Firms producing capital goods performed the worst, whereas, in Q2, intermediate goods and durable consumption goods were the worst. This suggests that, as business conditions worsen and businesses cut back investments, the effect has trickled down from intermediate and consumption goods to capital goods.

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. Variation across industries is substantial, with a BSI ranging from 15 to 78. The top five industries include Measuring Instruments & Office Machines (with a BSI of 78), Furniture (72), Water Production & Supply (63), Power Production & Supply (61), and Leather & Fur-Related Products (60). The bottom five are Coal Mining (15), Textiles (34), Smelting & Pressing of Ferrous Metals (36), Plastics (36), and Apparel & Footwear (36). Except for Textiles and Apparel, all are upstream industries. Table 2.2.1 further illustrates that the best performing industries are concentrated on the production of consumption goods, mainly nondurable ones. Among the bottom five industries, firms are mostly in the production of intermediate goods and durable consumer goods.

Table 3 shows regional business conditions. Regional variations are not as large as those found among industries, with BSI ranging from 40 to 55. The best and worst provinces are geographically dispersed (Table 3.2). Among the top five, only two have a BSI above 50 – Heilongjiang (55) and Beijing (52). The bottom five include Shanxi (40), Guangxi (41), Guizhou (42), Inner Mongolia (43) and Liaoning (43).

Table 3.2.1 further illustrates that there is significant industrial variation within these provinces. The most troublesome are the mining industries in Shanxi (17), other heavy industry in Guangxi (30), light manufacturing in Guizhou and Inner Mongolia (33) and the chemical industries in Guangxi (33).³

II. The Biggest Challenge: Weak Demand

Table 4 demonstrates the factors constraining next-quarter production. The conclusion is similar to our findings in Q2. The biggest challenge is weak demand, with 63% of the firms citing a lack of orders as the constraining factor. Costs come second, with 19% and 17% of firms listing labor and raw material costs, respectively. Financing is not a bottleneck, with only 3% replying that financing is a limiting factor.

The problem of oversupply is still widespread: as many as 49% of the firms reported that supply exceeds demand for their products either domestically or internationally. 46% of the firms answered that supply exceeds demand in their domestic markets, as opposed to 42% in Q2. The diffusion index reflecting weak demand is as high as 73 (compared to 71 in Q2). Among the surveyed firms, 44% have exports, and 28% of them reported weak demand in overseas markets. The diffusion index is 63, the same as in Q2.

The level of finished-goods inventory shows a slight decline, with a diffusion index of 47, down slightly from 48 in Q2. It is interesting to note that as many as 42% of firms do not have significant levels of inventory because they produce only after

³ Here we restrict our attention to industries with at least three firms.

taking orders. For those with inventories, the majority (75%) expect the inventory to be digested with three months, with a further 18% saying between three to six months. This leaves only 4% of firms who say they have inventory lasting for more than six months. Overall, insufficient demand has not caused inventory problems, both because firms have responded by scaling down production and because of the “order-based” production model adopted by many Chinese firms.

While weak demand is widespread, probably due to a span of reduced investment, the severity of excess capacity has improved. 10% of the firms reported excess capacity of more than 10% (as opposed to 15% in Q2), and 5% had excess capacity exceeding 20% (as opposed to 7.5% in Q2). In Table 4.2, we categorize an industry as having severe excess capacity if more than 10% of the firms reported excess capacity of more than 20%. (See Table A.1 in the Appendix for excess capacity in all industries.) There are six industries on the list (as opposed to 11 in Q2), including Chemical Fibers, Beverage, Water Production & Supply, Rubber Products, Non-ferrous Metal, and Leather & Fur-Related Products.

Using the same criteria, four provinces (as opposed to ten in Q2) exhibit severe excess capacity, including Shaanxi, Inner Mongolia, Henan and Yunnan. Two provinces on the list are also among the five worst-performing provinces in terms of overall business conditions.

III. The Second Challenge: Rising Costs

While rising costs are still the second biggest challenge facing industrial firms, cost increases have stabilized a little. As shown in Table 6.1, 31% of the firms in Q3 (as opposed to 50% in Q2) reported an increase in unit costs. The diffusion index is 64, a substantial drop from 75 in Q2. Rising labor costs occurred in 37% of the firms, as opposed to 71% in Q2, resulting in a diffusion index of 68 in Q3, versus 85 in Q2. Raw material costs rose in 24% of firms, as opposed to 44% in Q2. The diffusion index is 59 in Q3, versus 69 in Q2. These numbers suggest that, while cost increases are still widespread, they are affecting fewer firms.

The impact of rising costs depends on to what extent firms can raise output prices in relation to costs. The price index is 51. Given weak demand, firms are unable to raise prices to reflect costs, resulting in squeezed profit margins.

Tables 6.2 and 6.3 report industries and provinces with cost indices above the national average. Cost indices for all regions and industries are listed in Appendices 2.1 and 2.2.

IV. Financing is Not a Bottleneck

Table 7.2 provides an overview of how Chinese firms are financed.

Internally-generated funds are, by far, the most important source of financing, with 91% of the firms reporting this as their primary funding source. The second and third most important sources of financing are bank loans, as is the case for 5% of firms, and the founder's own capital, for 4% of firms. Sources of financing are highly concentrated in Chinese firms: 91% of firms report that their largest financing sources account for more than 50% of their total funds.

Consistent with a low investment rate, only 10% of firms obtained new loans in Q3, a drop from 24% in Q2. Among the firms without new loans, the vast majority (98%) reported that they do not have the need for capital. Most of the loans (70%) are collateralized, with typical sources of collateral being land and plants (used by 79% of firms) and machinery and equipment (used by 15% of firms). Finally, it is worth noting that SOEs are disproportionately more likely to obtain new loans.

As in Q2, firms found the banks' lending attitude to be generally accommodating in Q3, with 56% answering "easy", 35% answering "moderate" and 9% answering "difficult". The diffusion index reflecting an easy lending attitude is 73. The cost of borrowing mostly stayed the same, with a diffusion index of 54.

It is rare for firms to borrow from sources other than banks, consistent with anecdotal evidence that the low profit margins of industrial firms do not allow them to borrow from expensive, informal lending agencies. In Q3, only 15 firms (less than 1%) reported borrowings from other financing institutions. The interest rate on these loans is typically below 10%.

In summary, a low level of investment, combined with a generally accommodating lending environment, implies that financing is not a constraining factor for industrial growth at this stage.

V. Conclusion

It is clear from our surveys that China's industrial economy is still digesting its excess capacity and, as a result, overall industrial activities are currently in slight contraction mode. Our Business Sentiment Index (BSI) is 46, below the turning point of 50. The investment sentiment index is as low as 27. Reflecting such a sentiment, only 12% of firms (as opposed to 18 in Q2), made fixed investments, and even fewer firms (7%) had invested more than merely covering depreciation. Given that investment is forward looking and a determinant of future production capacities, it would seem that the industrial economy will not recover any time soon.

There are, however, signs that things are stabilizing. The operating conditions of firms show signs of improvement. The diffusion index is 58, a slight increase from 55 in Q2. While oversupply, the main challenge facing industrial firms, is still

widespread: 49% of the firms reported that supply exceeds demand for their products, the severity of excess capacity is lower, likely due to a span of reduced investment. Costs are still rising overall, but they have also stabilized somewhat. Output prices have largely stayed the same, meaning that the profit margins of many firms continue to decline. Finally, financing is clearly not a bottleneck for the growth of the industrial sector, due to low investment demand and a generally accommodating lending environment.

To direct the industrial sector out of contraction and stagnation, the government needs to formulate long term policies. The first is to strengthen the policy of increasing domestic demand, which involves raising income and reducing household savings through public services. The other approach to dealing with both weak demand and rising costs is industry upgrade and technological innovation. Finally, easing monetary policy would not boost the industrial economy, but would only sustain excess capacity and thus hurt the industrial sector in the long run.

Table1. Operating Conditions of Industrial Firms

	Number of Firms	Business Sentiment Index	Diffusion Index - Operating Conditions		Diffusion Index - Expected Operating Conditions		Diffusion Index - Good Time for Investment	% of Firms with Fixed Investment		Diffusion Index - Production		Diffusion Index - Employment	
			Q3	Q2	Q3	Q2		Q3	Q2	Q3	Q2	Q3	Q2
<i>By Size</i>													
Nation	2013	46	58	55	52	52	27	12	16	53	51	52	51
Large	747	46	61	57	50	53	28	13	19	55	53	54	53
Medium	668	46	57	53	53	50	28	11	14	53	50	52	50
Small	598	44	55	56	52	51	25	11	13	52	50	51	49
<i>By Ownership</i>													
State-owned	130	52	68	68	52	54	37	12	21	58	58	54	57
Collectively-owned	68	41	52	49	48	45	24	15	8	49	43	52	47
Private	1815	45	58	55	52	52	27	11	16	53	51	52	51
<i>By Product Type</i>													
Consumer Goods - Durable	530	47	55	53	56	51	30	8	12	53	47	53	48
Consumer Goods - Nondurable	521	48	65	62	51	55	28	12	22	58	53	52	54
Capital Goods	183	41	53	58	49	50	21	9	14	49	55	52	57
Intermediate Goods	779	44	57	53	49	50	26	14	16	52	51	52	51

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 DI's for Operating Conditions, Expected Operating Conditions and Good Time 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		% of Firms with Fixed Investment	
			Q3	Q2	Q3	Q2
			Nation			
	2013	46	58	55	12	16
<i>Mining</i>						
Coal Mining and Washing	10	15	10	15	30	30
Mining and Processing of Ferrous Metal Ores	3	6	17	50	0	0
Mining and Processing of Non-ferrous Metal	8	44	63	50	25	0
Mining and Processing of Nonmetal Ores	6	39	42	30	0	0
<i>Production and Supply of Electricity, Heat, Gas and Water</i>						
Power Production and Supply	32	61	80	97	16	11
Production and Supply of Gas	3	39	50	50	0	0
Production and Supply of Water	21	63	88	93	10	9
<i>Light Manufacturing</i>						
Processing of Agricultural and Related Products	98	43	56	56	9	25
Manufacture of Foods	48	44	70	77	17	51
Manufacture of Beverage	29	47	71	56	17	32
Manufacture of Textiles	105	34	47	51	6	12
Manufacture of Apparel and Footwear	67	36	44	51	4	0
Leather and Fur-Related Products	28	60	66	63	4	11
Processing of Wood Products	16	42	50	59	13	18
Manufacture of Furniture	45	72	78	61	7	28
Manufacture of Paper and Paper Products	60	48	57	67	18	9
Printing, Reproduction of Recording Media	53	56	60	54	13	21
Manufacture of Cultural and Sports Products	31	52	68	50	10	20
Manufacture of Medicines	76	52	75	64	17	25
Manufacture of Handicrafts and Others	41	39	65	56	17	17
<i>Chemical Industry</i>						
Processing of Petroleum and Nuclear Fuel	14	50	68	73	21	45
Manufacture of Chemical Products	132	48	58	58	14	13
Manufacture of Chemical Fibers	7	36	57	21	0	0
Manufacture of Rubber Products	41	41	65	37	10	6
Manufacture of Plastics	88	36	54	53	15	13
<i>Equipment Manufacturing</i>						
Manufacture of General-purpose Machinery	208	41	55	51	10	15
Manufacture of Special-purpose Machinery	133	45	56	54	14	15
Manufacture of Transport Equipment	76	52	60	60	7	16
Manufacture of Electric Machinery and Apparatus	112	44	58	63	14	23
Computers, Communication and Electric Equipment	78	54	63	57	10	11
Manufacture of Measuring Instruments	16	78	56	100	0	0
<i>Other Heavy Manufacturing</i>						
Manufacture of Non-metallic Mineral Products	126	45	60	53	16	19
Smelting and Pressing of Ferrous Metals	28	36	39	52	7	19
Smelting and Pressing of Non-ferrous Metals	37	42	46	48	3	8
Manufacture of Metal Products	136	45	53	49	10	10

Table 2.2 Industry Ranking of Operating Conditions

	Number of Firms	Business Sentiment Index	Diffusion Index - Operating Conditions		% of Firms with Fixed Investment		
			Q3	Q2	Q3	Q2	
			Nation 2013				
<i>Top Five</i>							
Manufacture of Measuring Instruments	16	78	56	100	0	0	
Manufacture of Furniture	45	72	78	61	7	28	
Production and Supply of Water	21	63	88	93	10	9	
Power Production and Supply	32	61	80	97	16	11	
Leather and Fur-Related Products	28	60	66	63	4	11	
<i>Bottom Five</i>							
Coal Mining and Washing	10	15	10	15	30	30	
Manufacture of Textiles	105	34	47	51	6	12	
Smelting and Pressing of Ferrous Metals	28	36	39	52	7	19	
Manufacture of Plastics	88	36	54	53	15	13	
Manufacture of Apparel and Footwear	67	36	44	51	4	0	

Notes:

1. Ranking includes industries with more than five firms.

Table 2.2.1 Diffusion Index of Top Five and Bottom Five Industries: by Product Type

	Consumer Goods - Durable				Consumer Goods - Nondurable			
	Number of Firms	Business Sentiment Index	Diffusion Index - Operating Conditions	% of Firms with Fixed Investment	Number of Firms	Business Sentiment Index	Diffusion Index - Operating Conditions	% of Firms with Fixed Investment
<i>Top Five</i>								
Manufacture of Measuring Instruments	15	80	53	0	1	50	100	0
Manufacture of Furniture	44	73	78	7	0	n.a.	n.a.	n.a.
Production and Supply of Water	0	n.a.	n.a.	n.a.	18	62	86	11
Power Production and Supply	0	n.a.	n.a.	n.a.	26	61	81	12
Leather and Fur-Related Products	16	76	69	6	10	38	65	0
<i>Bottom Five</i>								
Coal Mining and Washing	0	n.a.	n.a.	n.a.	0	n.a.	n.a.	n.a.
Manufacture of Textiles	61	32	46	5	10	32	45	20
Metals	1	17	0	0	0	n.a.	n.a.	n.a.
Manufacture of Plastics	16	35	56	19	23	34	52	13
Manufacture of Apparel and Footwear	58	37	44	5	7	33	50	0
	Capital Goods				Intermediate Goods			
	Number of Firms	Business Sentiment Index	Diffusion Index - Operating Conditions	% of Firms with Fixed Investment	Number of Firms	Business Sentiment Index	Diffusion Index - Operating Conditions	% of Firms with Fixed Investment
<i>Top Five</i>								
Manufacture of Measuring Instruments	0	n.a.	n.a.	n.a.	0	n.a.	n.a.	n.a.
Manufacture of Furniture	0	n.a.	n.a.	n.a.	1	33	50	0
Production and Supply of Water	0	n.a.	n.a.	n.a.	3	72	100	0
Power Production and Supply	1	33	50	0	5	67	80	40
Leather and Fur-Related Products	0	n.a.	n.a.	n.a.	2	33	50	0
<i>Bottom Five</i>								
Coal Mining and Washing	0	n.a.	n.a.	n.a.	10	15	10	30
Manufacture of Textiles	0	n.a.	n.a.	n.a.	34	37	50	3
Metals	0	n.a.	n.a.	n.a.	27	36	41	7
Manufacture of Plastics	1	33	50	0	48	37	54	15
Manufacture of Apparel and Footwear	0	n.a.	n.a.	n.a.	2	25	25	0

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

		Number of Firms	Business Sentiment Index	Diffusion Index - Operating Conditions		% of Firms with Fixed Investment	
				Q3	Q2	Q3	Q2
	Nation	2013	46	58	55	12	16
<i>North China</i>	Beijing	38	52	66	73	11	14
	Hebei	85	45	58	48	13	20
	Tianjin	43	46	59	53	14	21
<i>Northeast</i>	Heilongjiang	19	55	76	78	26	0
	Jilin	17	48	71	53	18	18
	Liaoning	76	43	55	55	11	11
<i>Northwest</i>	Gansu	10	47	60	69	0	38
	Inner Mongolia	14	43	57	55	0	20
	Ningxia	3	44	50	25	0	0
	Shaanxi	18	47	58	54	22	15
	Xinjiang	3	28	33	70	0	0
<i>Central North</i>	Henan	69	43	52	54	14	19
	Shandong	182	44	57	52	12	18
	Shanxi	21	40	50	38	19	15
<i>Southwest</i>	Guizhou	6	42	42	67	17	33
	Sichuan	54	44	58	54	15	11
	Yunnan	20	46	53	58	30	11
	Chongqing	26	48	62	52	0	21
<i>East China</i>	Jiangsu	325	45	57	54	10	13
	Shanghai	91	48	58	51	8	12
	Zhejiang	304	46	59	55	14	17
<i>South China</i>	Fujian	91	48	62	55	10	12
	Guangdong	292	46	58	59	11	15
	Guangxi	31	41	56	54	6	26
	Hainan	2	42	75	25	50	0
<i>Central South</i>	Anhui	47	48	59	58	19	15
	Hubei	51	49	60	62	12	24
	Hunan	40	47	60	57	10	18
	Jiangxi	35	45	60	62	0	20

Table 3.2 Regional Ranking of Operating Conditions

	Number of Firms	Business Sentiment Index	Diffusion Index - Operating Conditions		% of Firms with Fixed Investment	
			Q3	Q2	Q3	Q2
Nation	2013	46	58	55	12	16
<i>Top Five</i>						
Heilongjiang	19	55	76	78	26	0
Beijing	38	52	66	73	11	14
Hubei	51	49	60	62	12	24
Fujian	91	48	62	55	10	12
Anhui	47	48	59	58	19	15
<i>Bottom Five</i>						
Shanxi	21	40	50	38	19	15
Guangxi	31	41	56	54	6	26
Guizhou	6	42	42	67	17	33
Inner Mongolia	14	43	57	55	0	20
Liaoning	76	43	55	55	11	11

Notes:

1. Ranking includes regions with more than 5 firms.

Table 3.2.1 Diffusion Index of Top Five and Bottom Five Regions: by Broad Industry-1

	Mining				Production and Supply of Electricity, Heat, Gas and Water				Light Manufacturing			
	Number of Firms	Business Sentiment Index	Diffusion Index - Operating Conditions	% of Firms with Fixed Investment	Number of Firms	Business Sentiment Index	Diffusion Index - Operating Conditions	% of Firms with Fixed Investment	Number of Firms	Business Sentiment Index	Diffusion Index - Operating Conditions	% of Firms with Fixed Investment
<i>Top Five</i>												
Heilongjiang	0	n.a.	n.a.	n.a.	2	58	75	50	8	60	88	25
Beijing	0	n.a.	n.a.	n.a.	0	n.a.	n.a.	n.a.	15	58	83	20
Hubei	0	n.a.	n.a.	n.a.	4	75	100	25	16	46	56	13
Fujian	1	67	100	100	3	67	100	0	41	47	63	10
Anhui	1	0	0	0	1	33	50	0	19	48	53	11
<i>Bottom Five</i>												
Shanxi	2	17	0	100	1	33	50	0	6	42	58	0
Guangxi	0	n.a.	n.a.	n.a.	1	67	100	0	13	46	65	8
Guizhou	0	n.a.	n.a.	n.a.	1	17	0	0	3	33	17	33
Inner Mongolia	1	50	50	0	2	67	100	0	5	33	50	0
Liaoning	0	n.a.	n.a.	n.a.	2	67	75	50	20	42	63	5

Table 3.2.1 Diffusion Index of Top Five and Bottom Five Regions: by Broad Industry-2

	Chemical Industry				Equipment Manufacturing				Other Heavy Manufacturing			
	Number of Firms	Business Sentiment Index	Diffusion Index - Operating Conditions	% of Firms with Fixed Investment	Number of Firms	Business Sentiment Index	Diffusion Index - Operating Conditions	% of Firms with Fixed Investment	Number of Firms	Business Sentiment Index	Diffusion Index - Operating Conditions	% of Firms with Fixed Investment
<i>Top Five</i>												
Heilongjiang	2	42	50	0	3	44	50	33	4	58	88	25
Beijing	3	50	50	0	15	50	57	0	5	43	50	20
Hubei	8	48	69	13	17	49	53	12	6	42	50	0
Fujian	8	42	63	13	25	49	56	0	13	46	58	23
Anhui	9	43	56	11	11	47	68	18	6	67	75	67
<i>Bottom Five</i>												
Shanxi	2	50	75	50	5	40	50	20	5	43	50	0
Guangxi	5	33	50	0	7	43	50	14	5	30	40	0
Guizhou	1	83	100	0	0	n.a.	n.a.	n.a.	1	50	100	0
Inner Mongolia	2	58	75	0	2	33	50	0	2	33	25	0
Liaoning	15	44	63	7	22	43	52	18	17	39	38	6

Table 4. Factors Constraining Next-Quarter Production

	Total Number	% of Firms
Factors		
Lack of orders	1260	63
Labor Cost	385	19
Costs of raw material	346	17
Financing	67	3
Scarcity of Non-skilled workers	52	3
Scarcity of Skilled workers	45	2
Machines and Equipment	32	2
Others	356	18
None	122	6

Table 5. Market Supply and Demand**Table 5.1 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
<i>Nation</i>	2013	73	71	63	63	47	48
<i>By Size</i>							
Large	747	72	71	62	63	46	47
Medium	668	73	71	63	63	47	49
Small	598	75	72	63	62	48	48
<i>By Ownership</i>							
State-owned	130	63	64	61	63	47	49
Collectively-owned	68	76	66	66	65	49	52
Private	1815	74	72	63	63	47	48
<i>By Product Type</i>							
Consumer Goods - Durable	530	72	69	60	59	54	55
Consumer Goods - Nondurable	521	67	65	61	58	47	48
Capital Goods	183	80	69	65	64	46	53
Intermediate Goods	779	76	75	65	67	44	43

Table 5.2 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
Manufacture of Chemical Fibers	7	29	43
Manufacture of Beverage	29	24	28
Production and Supply of Water	21	24	67
Manufacture of Rubber Products	41	15	34
Mining and Processing of Non-ferrous Metal	8	13	13
Leather and Fur-Related Products	28	11	14

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 five firms.

Table 5.3 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
Shaanxi	18	17	22
Inner Mongolia	14	14	21
Henan	69	13	19
Yunnan	20	10	10

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 five firms.

Table 6. Cost and Price
Table 6.1 Overall

		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
Nation		2013	64	75	68	85	59	69	51	50
<i>By Size</i>										
	Large	747	66	75	69	85	60	68	51	51
	Medium	668	63	74	67	84	58	69	51	49
	Small	598	63	74	68	86	59	70	51	50
<i>By Ownership</i>										
	State-owned	130	62	76	69	79	55	68	52	50
	Collectively-owned	68	62	70	68	81	56	61	52	47
	Private	1815	64	75	68	85	59	69	51	50
<i>By Product Type</i>										
	Consumer Goods - Durable	530	63	68	65	83	58	69	52	49
	Consumer Goods - Nondurable	521	67	76	70	83	65	77	53	54
	Capital Goods	183	60	81	64	88	53	69	50	52
	Intermediate Goods	779	64	77	69	86	57	65	49	48

Table 6.2 Industries with Unit Cost Increases Above the National Average

	Number of Firms	Diffusion Indices			
		Unit Cost Index	Labor Cost Index	Raw Material Cost Index	Price Index
Nation	2013	64	68	59	51
Manufacture of Medicines	76	87	87	88	63
Printing, Reproduction of Recording Media	53	79	79	65	58
Manufacture of Chemical Fibers	7	79	86	36	36
Manufacture of Paper and Paper Products	60	74	78	65	46
Manufacture of Rubber Products	41	72	80	56	45
Manufacture of Electric Machinery and Apparatus	112	72	79	62	52
Manufacture of Chemical Products	132	71	77	68	52
Manufacture of Apparel and Footwear	67	70	68	69	60
Manufacture of Transport Equipment	76	70	74	55	49
Mining and Processing of Non-ferrous Metal	8	69	69	50	38
Processing of Wood Products	16	69	66	66	47
Manufacture of Handicrafts and Others	41	67	67	60	57
Processing of Agricultural and Related Products	98	66	68	65	55
Manufacture of Non-metallic Mineral Products	126	65	63	65	54
Manufacture of Textiles	105	65	67	59	53

Notes:

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

Table 6.3 Regions with Unit Cost Increases Above the National Average

	Number of Firms	Diffusion Indices			
		Unit Cost Index	Labor Cost Index	Raw Material Cost Index	Price Index
Nation	2013	64	68	59	51
Shaanxi	18	75	83	56	50
Guizhou	6	75	83	80	50
Anhui	47	68	69	61	50
Jilin	17	68	82	63	56
Yunnan	20	68	70	63	50
Guangdong	292	66	67	63	54
Hebei	85	66	74	57	48
Hubei	51	66	71	59	52
Shandong	182	66	69	61	52

Notes:

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

Table 7. Financing Environment

Table 7.1 Overall

	% Firms with New Loans		Collateralization Rate %		Diffusion Index - Lending Attitude		Diffusion Index - Interest Rate		
	Q3	Q2	Q3	Q2	Q3	Q2	Q3	Q2	
Nation	10	24	69	70	73	69	54	58	
Firms with Investment	24	40	71	71	74	73	54	60	
Firms without Investment	8	21	69	70	73	68	54	58	
<i>By Size</i>									
Large	12	26	69	70	67	72	54	60	
Medium	9	25	70	70	80	68	54	56	
Small	8	20	69	70	77	66	52	60	
<i>By Ownership</i>									
State-owned	14	22	71	73	75	75	53	55	
Collectively-owned	7	17	70	68	70	73	50	64	
Private	10	24	69	70	73	69	54	59	
<i>By Product Type</i>									
Consumer Goods - Durable	9	35	68	70	69	69	54	56	
Consumer Goods - Nondurable	9	19	69	70	72	66	52	60	
Capital Goods	9	34	71	69	79	64	50	57	
Intermediate Goods	11	16	69	70	76	73	55	62	

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 7.2 Sources of Financing

The most important sources of financing

Sources	Number of Firms	% of Firms
Internal Funds	1829	91
Banks	99	5
Founder	75	4
Others	7	0

The second most important sources of financing

Sources	Number of Firms	% of Firms
Banks	407	20
Founder	331	16
Internal Funds	69	3
Others	4	0

Appendix 1. Industry and Regional Ranking of Excess Capacity

Appendix 1.1 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
Manufacture of Chemical Fibers	7	29	14	43	29
Manufacture of Beverage	29	24	25	28	25
Production and Supply of Water	21	24	39	67	91
Manufacture of Rubber Products	41	15	10	34	29
Mining and Processing of Non-ferrous Metal	8	13	0	13	0
Leather and Fur-Related Products	28	11	21	14	37
Manufacture of Plastics	88	9	7	18	24
Manufacture of Special-purpose Machinery	133	8	10	13	26
Manufacture of General-purpose Machinery	208	8	7	14	15
Manufacture of Non-metallic Mineral Products	126	7	16	11	20
Manufacture of Furniture	45	7	11	7	11
Manufacture of Cultural and Sports Products	31	6	15	16	25
Processing of Agricultural and Related Products	98	6	6	9	10
Manufacture of Metal Products	136	6	10	11	21
Smelting and Pressing of Non-ferrous Metals	37	5	0	8	8
Computers, Communication and Electric Equipment	78	4	6	4	9
Manufacture of Textiles	105	4	12	9	16
Manufacture of Electric Machinery and Apparatus	112	3	4	10	11
Manufacture of Transport Equipment	76	3	6	7	7
Manufacture of Chemical Products	132	2	4	9	10
Manufacture of Apparel and Footwear	67	1	2	4	8
Mining and Processing of Nonmetal Ores	6	0	0	17	40
Coal Mining and Washing	10	0	0	10	0
Processing of Petroleum and Nuclear Fuel	14	0	0	7	0
Manufacture of Medicines	76	0	0	3	0
Manufacture of Handicrafts and Others	41	0	9	2	14
Manufacture of Paper and Paper Products	60	0	3	2	6
Processing of Wood Products	16	0	4	0	4
Power Production and Supply	32	0	5	0	5
Smelting and Pressing of Ferrous Metals	28	0	0	0	4
Manufacture of Measuring Instruments	16	0	n.a.	0	n.a.
Manufacture of Foods	48	0	6	0	8
Printing, Reproduction of Recording Media	53	0	0	0	0

Notes:

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

Appendix 1.2 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
Shaanxi	18	17	15	22	15
Inner Mongolia	14	14	30	21	30
Henan	69	13	15	19	25
Yunnan	20	10	22	10	33
Guangxi	31	10	13	13	22
Shanxi	21	10	15	24	15
Shandong	182	8	13	15	21
Hebei	85	8	11	18	23
Guangdong	292	6	7	11	15
Hubei	51	6	12	10	17
Jiangxi	35	6	16	11	20
Sichuan	54	6	7	9	15
Hunan	40	5	9	10	18
Shanghai	91	4	3	7	9
Anhui	47	4	3	9	13
Liaoning	76	4	6	9	10
Chongqing	26	4	7	8	17
Jiangsu	325	4	7	10	17
Zhejiang	304	3	5	7	13
Fujian	91	2	4	9	10
Guizhou	6	0	0	17	0
Tianjin	43	0	0	2	3
Gansu	10	0	0	0	0
Beijing	38	0	0	0	0
Jilin	17	0	6	0	6
Heilongjiang	19	0	0	0	0

Notes:

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

Appendix 2. Industry and Regional Diffusion Index for Cost and Price

Appendix 2.1 Industry Diffusion Index for Cost and Price

	Number of Firms	Diffusion Indices								
		Unit Cost Index		Labor Cost Index		Raw Material Cost		Price Index		
		Q3	Q2	Q3	Q2	Q3	Q2	Q3	Q2	
Nation	2013	64	75	68	85	59	69	51	50	
<i>Mining</i>										
Coal Mining and Washing	10	55	70	55	70	50	70	35	30	
Mining and Processing of Ferrous Metal Ores	3	17	75	33	100	33	50	17	25	
Mining and Processing of Non-ferrous Metal	8	69	70	69	70	50	70	38	60	
Mining and Processing of Nonmetal Ores	6	50	90	50	80	42	75	50	30	
<i>Production and Supply of Electricity, Heat, Gas and Water</i>										
Power Production and Supply	32	59	84	66	87	53	75	52	53	
Production and Supply of Gas	3	67	75	67	75	n.a.	n.a.	50	50	
Production and Supply of Water	21	57	50	57	50	57	n.a.	55	50	
<i>Light Manufacturing</i>										
Processing of Agricultural and Related Products	98	66	77	68	76	65	77	55	59	
Manufacture of Foods	48	64	94	59	94	67	76	55	54	
Manufacture of Beverage	29	55	70	60	82	50	68	50	50	
Manufacture of Textiles	105	65	70	67	86	59	76	53	44	
Manufacture of Apparel and Footwear	67	70	62	68	86	69	84	60	49	
Leather and Fur-Related Products	28	63	66	63	79	59	68	54	47	
Processing of Wood Products	16	69	93	66	95	66	89	47	59	
Manufacture of Furniture	45	59	83	72	86	63	86	57	58	
Manufacture of Paper and Paper Products	60	74	64	78	70	65	64	46	40	
Printing, Reproduction of Recording Media	53	79	99	79	99	65	88	58	55	
Manufacture of Cultural and Sports Products	31	61	73	63	83	55	60	56	55	
Manufacture of Medicines	76	87	89	87	93	88	88	63	54	
Manufacture of Handicrafts and Others	41	67	71	67	80	60	70	57	41	
<i>Chemical Industry</i>										
Processing of Petroleum and Nuclear Fuel	14	61	77	64	77	54	73	50	68	
Manufacture of Chemical Products	132	71	79	77	91	68	75	52	52	
Manufacture of Chemical Fibers	7	79	100	86	100	36	71	36	43	
Manufacture of Rubber Products	41	72	83	80	95	56	66	45	51	
Manufacture of Plastics	88	59	68	72	90	60	78	51	45	
<i>Equipment Manufacturing</i>										
Manufacture of General-purpose Machinery	208	55	76	62	86	47	55	45	48	
Manufacture of Special-purpose Machinery	133	61	76	67	86	55	66	52	52	
Manufacture of Transport Equipment	76	70	71	74	78	55	62	49	51	
Manufacture of Electric Machinery and Apparatus	112	72	75	79	88	62	74	52	50	
Computers, Communication and Electric Equipment	78	60	64	65	89	56	68	50	51	
Manufacture of Measuring Instruments	16	53	75	56	100	50	25	50	75	
<i>Other Heavy Manufacturing</i>										
Manufacture of Non-metallic Mineral Products	126	65	75	63	82	65	73	54	50	
Smelting and Pressing of Ferrous Metals	28	50	69	59	67	30	40	27	42	
Smelting and Pressing of Non-ferrous Metals	37	50	63	51	75	49	57	47	48	
Manufacture of Metal Products	136	56	76	57	85	47	57	46	48	

Appendix 2.2 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
	Nation	2013	64	75	68	85	59	69	51	50
North China										
	Beijing	38	63	70	64	83	63	70	54	53
	Hebei	85	66	73	74	82	57	64	48	45
	Tianjin	43	60	71	63	76	58	71	52	54
Northeast										
	Heilongjiang	19	63	72	66	83	61	72	50	44
	Jilin	17	68	76	82	82	63	75	56	56
	Liaoning	76	62	75	66	84	54	69	47	45
Northwest										
	Gansu	10	60	75	65	88	78	69	45	44
	Inner Mongolia	14	57	75	64	75	62	72	43	45
	Ningxia	3	67	50	83	75	67	50	67	25
	Shaanxi	18	75	77	83	88	56	71	50	50
	Xinjiang	3	50	80	50	80	33	60	17	60
Central North										
	Henan	69	64	76	68	86	58	68	54	49
	Shandong	182	66	76	69	83	61	65	52	53
	Shanxi	21	60	69	67	81	55	65	45	38
Southwest										
	Guizhou	6	75	67	83	67	80	67	50	67
	Sichuan	54	61	72	63	80	53	68	51	54
	Yunnan	20	68	75	70	86	63	72	50	47
	Chongqing	26	63	79	71	86	56	65	46	41
East China										
	Jiangsu	325	65	73	70	88	57	67	51	50
	Shanghai	91	63	75	65	91	62	71	54	46
	Zhejiang	304	61	75	67	87	56	69	49	49
South China										
	Fujian	91	65	74	64	83	62	71	53	53
	Guangdong	292	66	74	67	84	63	71	54	52
	Guangxi	31	65	76	69	83	57	63	52	46
	Hainan	2	100	75	100	100	75	75	75	100
Central South										
	Anhui	47	68	76	69	83	61	76	50	49
	Hubei	51	66	80	71	86	59	70	52	50
	Hunan	40	61	84	64	84	55	79	46	43
	Jiangxi	35	60	70	66	78	49	72	50	50

Appendix A. Sampling Procedure

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 six years ago. There are two specific concerns. First, if many firms no longer exist and if those that disappear are concentrated in certain industry, region, or size categories, our final response sample may not be representative of the population. In our first survey, we find that only 91 firms, or 0.9% of the initial sample, went out of business or no longer exist. The second concern is that firm characteristics, such as industry, might have changed significantly. We deal with this concern by explicitly asking firms about their main products and product types.

2008 Economic Census database is made of provincial databases each containing 2 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.

2. The 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

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

2. Legal person units are either single industry legal units or multi industry legal units. "[Link](#)"

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).

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.

In our Q3 survey, we started from the 2,005 firms in our Q2 response sample, and obtain responses from 1,381 firms. These firms match the population in terms of industry, region, and sizes reasonably well. Nevertheless, we draw an additional survey sample of 3377 firms 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 632 responses from this new sample, resulting in a total of 2015 firms in our final response sample.

3. Other Notes

As we are sampling 2.1% of the population, some small strata may not be sampled. Tobacco and other mining are two industries not sampled and Tibet is not sampled as a region.

4. Sample Representativeness

Tables A1-A3 show that the distribution of the population and the Q3 response sample, as well as the 1381 firms that were also in the Q2 sample, in terms of industry, region, and sizes. Our response sample represents the population well.

Table A. Comparisons between Survey Sample and the Population**Table A1. Industry Distribution**

Industry	Population		1381 Firms From Q2 Survey		Final Response Sample	
	Number of Firms	Percent	Number of Firms	Percent	Number of Firms	Percent
Coal Mining and Washing	12,267	2.5	8	0.6	10	0.5
Extraction of Petroleum and Natural Gas	323	0.1	0	0.0	0	0.0
Mining and Processing of Ferrous Metal Ores	5,391	1.1	2	0.1	3	0.1
Mining and Processing of Non-ferrous Metal	2,885	0.6	5	0.4	8	0.4
Mining and Processing of Nonmetal Ores	4,900	1.0	1	0.1	6	0.3
Mining of other Ores	46	0.0	0	0.0	0	0.0
Processing of Agricultural and Related Products	25,503	5.2	58	4.2	98	4.9
Manufacture of Foods	8,724	1.8	24	1.7	48	2.4
Manufacture of Beverage	5,824	1.2	16	1.2	29	1.4
Manufacture of Tobacco	163	0.0	0	0.0	0	0.0
Manufacture of Textiles	38,945	8.0	80	5.8	105	5.2
Manufacture of Apparel and Footwear	21,272	4.4	56	4.1	67	3.3
Leather and Fur-Related Products	9,932	2.0	16	1.2	28	1.4
Processing of Wood Products	11,471	2.4	14	1.0	16	0.8
Manufacture of Furniture	6,114	1.3	13	0.9	45	2.2
Manufacture of Paper and Paper Products	11,390	2.3	26	1.9	60	3.0
Printing, Reproduction of Recording Media	7,681	1.6	29	2.1	53	2.6
Manufacture of Cultural and Sports Products	5,310	1.1	16	1.2	31	1.5
Processing of Petroleum and Nuclear Fuel	2,669	0.5	13	0.9	14	0.7
Manufacture of Chemical Products	30,571	6.3	97	7.0	132	6.6
Manufacture of Medicines	6,802	1.4	31	2.2	76	3.8
Manufacture of Chemical Fibers	2,374	0.5	5	0.4	7	0.3
Manufacture of Rubber Products	5,277	1.1	37	2.7	41	2.0
Manufacture of Plastics	22,987	4.7	57	4.1	88	4.4
Manufacture of Non-metallic Mineral Products	34,714	7.1	79	5.7	126	6.3
Smelting and Pressing of Ferrous Metals	8,894	1.8	24	1.7	28	1.4
Smelting and Pressing of Non-ferrous Metals	9,176	1.9	36	2.6	37	1.8
Manufacture of Metal Products	29,042	6.0	104	7.5	136	6.8
Manufacture of General-purpose Machinery	42,882	8.8	177	12.8	208	10.3
Manufacture of Special-purpose Machinery	21,838	4.5	106	7.7	133	6.6
Manufacture of Transport Equipment	20,880	4.3	63	4.6	76	3.8
Manufacture of Electric Machinery and Apparatus	28,977	5.9	69	5.0	112	5.6
Computers, Communication and Electric Equipment	16,339	3.3	67	4.9	78	3.9
Manufacture of Measuring Instruments	6,475	1.3	1	0.1	16	0.8

Manufacture of Handicrafts and Others	8,588	1.8	26	1.9	41	2.0
Recycling and Disposal of Waste	1,363	0.3	0	0.0	1	0.0
Power Production and Supply	6,719	1.4	8	0.6	32	1.6
Production and Supply of Gas	1,024	0.2	1	0.1	3	0.1
Production and Supply of Water	2,327	0.5	16	1.2	21	1.0
Total	488,059	100.0	1,381	100.0	2,013	100.0

Table A2. Regional Distribution

Province	Population		1381 Firms From Q2 Survey		Final Response Sample	
	Number of Firms	Percent	Number of Firms	Percent	Number of Firms	Percent
Beijing	7,913	1.6	22	1.6	38	1.9
Tianjin	7,902	1.6	25	1.8	43	2.1
Hebei	17,732	3.6	54	3.9	85	4.2
Shanxi	7,129	1.5	10	0.7	21	1.0
Inner Mongolia	5,269	1.1	8	0.6	14	0.7
Liaoning	22,336	4.6	48	3.5	76	3.8
Jilin	5,328	1.1	10	0.7	17	0.8
Heilongjiang	4,921	1.0	9	0.7	19	0.9
Shanghai	20,256	4.2	44	3.2	91	4.5
Jiangsu	80,696	16.5	252	18.2	325	16.1
Zhejiang	69,938	14.3	224	16.2	304	15.1
Anhui	13,600	2.8	26	1.9	47	2.3
Fujian	19,531	4.0	55	4.0	91	4.5
Jiangxi	10,150	2.1	17	1.2	35	1.7
Shandong	43,347	8.9	134	9.7	182	9.0
Henan	19,395	4.0	48	3.5	69	3.4
Hubei	13,056	2.7	32	2.3	51	2.5
Hunan	12,381	2.5	17	1.2	40	2.0
Guangdong	59,052	12.1	244	17.7	292	14.5
Guangxi	5,699	1.2	16	1.2	31	1.5
Hainan	657	0.1	2	0.1	2	0.1
Chongqing	7,596	1.6	15	1.1	26	1.3
Sichuan	14,796	3.0	31	2.2	54	2.7
Guizhou	3,498	0.7	2	0.1	6	0.3
Yunnan	5,291	1.1	14	1.0	20	1.0
Tibet	112	0.0	0	0.0	0	0.0
Shaanxi	4,398	0.9	11	0.8	18	0.9
Gansu	2,113	0.4	8	0.6	10	0.5
Qinghai	519	0.1	0	0.0	0	0.0
Ningxia	1,288	0.3	2	0.1	3	0.1
Xinjiang	2,126	0.4	1	0.1	3	0.1
Total	488,025	100.0	1,381	100.0	2,013	100.0

Table A3. A Comparison of Company Characteristics

	Population		1381 Firms From Q2 Survey		Final Response Sample	
	Mean	Median	Mean	Median	Mean	Median
Assets	90,050	12,920	114,256	16,633	108,137	16,563
Sales	104,739	20,073	160,659	23,827	138,546	23,617
Employment	182	70	197	80	195	80
Sales Per Capita	687	310	599	301	568	298