# China's Industrial Economy

# 2015 Annual Report[1]

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

[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. We acknowledge the able research assistance of Du Ding, who provided support to the data analysis and presentation, and Tiffany Luo, who provided support for text revision.

**Executive Summary**

In 2015, the industrial economy was in slight contraction and the problem of overcapacity worsened. Our Business Sentiment Index dropped from 50 in Q1 to 45 in Q4. Investments continued to be sluggish. The proportion of firms that made fixed investments dropped from 11% in Q1 to 5% in Q4. Expansionary investment (that is, investment above 3% of assets) was even more rare, involving only 2-3% of firms each quarter throughout 2015. Production and employment were relatively stable, but production of capital goods dropped substantially with a diffusion index of 37. Product prices have been in a deflationary phase since Q2. Due to overcapacity and sluggish investment, financing is still not a bottleneck for industrial growth at this stage.

Despite the difficulties in the economy, the vast majority of firms remain "optimistic" (6%) or "cautiously optimistic" (51%) about their economic outlook over the next three to five years. Among those who are "not optimistic", the main concerns cited include the macro economy (69%), competition and overcapacity (29%), and the political environment (1%). Almost no firms mentioned financing to be a major concern.

Contrary to widespread perception in the west, the legal institutions in China do provide basic protections for business operations. 80% of firms give the legal environment a rating above 7, and the average rating is 7.3. Meanwhile, the Chinese government plays an active role in promoting growth: 16% of firms reported that they have received help and support from the government, including tax reduction, help in obtaining loans, funding for innovation, business connections and project subsidies. However, industrial firms seemed to have obtained less support from the government in 2015 than they did in 2014.

At present, a main challenge to policy is the weakening of market expectations, which reduces the multiplier effect of monetary and fiscal policies, and thus makes these policies less effective. This further supports our earlier recommendation that long-term industrial policy is the key to reviving these industries. The government should put forth policies that aim to directly improve the real economy.

## Introduction

Since 2014 Q2, we have conducted seven quarterly large-sample surveys of about 2,000 industrial firms in China. Our survey design ensures that our sample fully represents industry, region (provinces) and company size. As a result, we are able to construct business indices that are, to the best of our knowledge, the most informative ones available about the Chinese economy. Furthermore, our survey questions allow us to understand the underlying mechanisms, and analyze why the economy is doing well or not.

There were a total of 2,038 firms in our 2015 Q4 survey, of which 1,551 firms were also questioned in our 2015 Q3 survey. The initial survey sample was based on a stratified random sampling by industry, region and size from the National Bureau of Statistics' population of about 488,000 industrial firms that have sales of more than five million RMB. Appendix A details the sampling procedure and compares our sample with the NBS population.

## I. China's Industrial Economy Continues to Contract

The industrial economy was in slight contraction throughout 2015. The Business Sentiment Index dropped from 50 in Q1 to 45 in Q4. Our BSI is the simple average of three diffusion indices, including current operating conditions, expected change in operating conditions and investment timing.[1,2] The index construction resembles that of the US Consumer Sentiment Index, hence its name. It not only contains information on current operating conditions, but also includes measures that are forward-looking and reflects the absolute level of economic activities.[3] The decline of the BSI in Q4 was mainly attributable to a weakening of expected operating conditions.

As shown in Figure 1, there are significant variations among the three sub-indicators that constitute the BSI. On current operating conditions (Figure 2), the percentage of firms that replied "good" declined from 27% in Q1 to 18% in Q4. The diffusion index dropped from 61 to 56. Meanwhile, the diffusion index for the expected change in

[1] 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?"

[2] 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 % of firms answering "good" + 0.5 * % of firms answering "neutral". The diffusion index ranges between 0 and 100. A larger value indicates better operating conditions and 50 is the turning point between expansion and contraction.

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

operating conditions dropped 53 to 48, sending it into a contraction mode for the first time.

Fixed investment remained sluggish throughout the year. When asked to what extent it is now a good time to make fixed investments, only 2-3% of the firms considered the timing to be "good" over the last three quarters of the year, yielding a diffusion index of 32, far below the turning point of 50 (Figure 3). The percentage of firms that actually made fixed investments dropped from 11% in Q1 to 5% in Q4. The proportion of firms that made expansionary investment (that is, an investment rate above 3% of assets) remained within the 2-3% range in 2015. The sluggish pace of investment will not improve in the near future: only 10 firms (0.5%) planned to make investment in the next quarter, while only about a quarter of the firms (27%) planned to make expansionary investment in 2016.

Overall, production and employment were stable. The diffusion index stood at 48 in Q4 (Figure 4). But production of capital goods declined significantly, with a diffusion index of 37. Product prices have been in deflation since Q2. The diffusion index in Q4 was 44, up slightly from 42 in Q3. The decline in demand for capital goods was the most significant, which is clearly related to sluggish investment.

Table 1 shows the performance of different types of firms over the last two quarters. Except for better performance by SOEs, there was no significant difference among firm sizes and product types.

Table 2 further analyzes the business conditions of different industries, where industry classification is based on the 35 two-digit industries of the National Bureau of Statistics. Variations across industries were substantial, with the BSI ranging from 30 to 63. The top three industries included Medicines (with a BSI of 63), Manufacture of Handicrafts & Others (55) and Manufacture of Cultural & Sports Products (54). The bottom five were Coal Mining & Washing (30), Processing of Agricultural & Related Products (35), Processing of Wood Products (36), Smelting & Pressing of Ferrous Metals (36) and Manufacture of Leather-Related Products & Footwear (37). Coal Mining & Washing has been on the worst-performing list four times since 2014 Q2; Smelting & Pressing of Ferrous Metals has been on the list five times since 2014 Q2; Processing of Wood Products and Manufacture of Leather-Related Products & Footwear have each appeared on the list three times since 2014 Q4; Agricultural & Related Products has been on the list since 2015 Q1.

Table 3 displays regional business conditions. Regional variations were much less pronounced than industrial variations, with the BSI ranging from 36 to 53. The bottom six comprised of Guizhou (36), Shanxi (41), Heilongjiang (42), Inner Mongolia (42), Liaoning (42) and Hebei (42). Among these provinces, Guizhou has been on the list since 2014 Q3.[4]

[4] In our regional ranking, we include regions with more than three firms. Ningxia, Xinjiang and

## II. Understanding the Economy: Challenges and Priorities

Weak demand is still by far the biggest challenge for the industrial economy. 78% of the firms surveyed in Q4 cited a lack of orders, a further increase from 70% in the last quarter (Figure 5). Costs come second, with labor and raw material costs listed by 17% and 13% of firms, respectively. Other significant factors include macro and industrial policies (10%) and difficulties in collecting trade receivables (6%). Financing is not a bottleneck, with only 2% replying that financing is a limiting factor. These factors are highly consistent with findings in our previous surveys. Finally, when asked about factors constraining next years' production, 16% considered macro and industrial policies to be an important factor.

### II.1 The Biggest Challenge: Overcapacity Worsened Further

The problem of excess capacity worsened in 2015 as compared to 2014. Since Q2, more than half of the firms (53-56%) have reported that supply exceeded demand for their products in the domestic market (Figure 6A). The diffusion index reflecting oversupply was between 76-77, the highest range since our survey began in 2014 Q2. All the five worst-performing industries are on the list of industries with severe overcapacity.

Firms fare worse in domestic markets than in overseas ones, with diffusion indices roughly 10 points higher in the past quarters. In Q4, the gap between domestic and international markets widened, when the diffusion index for international markets declined from 68 in Q3 to 63.

In Q4, 21% of the firms reported that their excess capacity was above 10% (32% in Q3), while 8% reported that their excess capacity was above 20% (18% in Q3) (Figure 6B). We categorize an industry as having severe excess capacity if more than 10% of the firms reported excess capacity of more than 20%. In Q4, the number of the industries and regions with severe excess capacity account for about one third of the total, down substantially from 21 (out of 35) in Q3 to 11 in Q4 for industries and from 24 (out of 31) to 11 for regions.

It is worth noting that, while the number of firms with severe excess capacity declined, the overall diffusion index remained high. This indicates that many of the firms with severe excess capacity had to be shut down. But it also suggests that demand declined further, harming more firms. It is also possible that some of the firms expanded their production despite the problem of overcapacity in the hope of squeezing competitors.

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Hainan have a BSI of 33, 39 and 42, respectively, but have been excluded from the ranking because they contained no more than three firms in Q3.

As of 2015 Q4, the top three industries with severe overcapacity were Coal Mining & Washing, Processing of Petroleum & Nuclear Fuel, and Mining & Processing of Nonmetal Ores.

Consistent with overcapacity and the resulting tight cash position, 31% of firms reported that they face difficulties in collecting trade receivables from their customers. This problem is more prominent among private-sector firms as well as firms producing capital goods and intermedium goods. State-owned enterprises are disproportionally more likely to delay payment, accounting for 19% of firms that have delayed payment. Therefore, the difficulty in collecting trade receivables is mainly due to a sluggish economy and the resulting lack of pricing power.

Weak demand has not caused inventory problems, thanks to the "order-based" production model adopted by many Chinese firms. As shown earlier, finished-goods inventory stayed largely flat. As many as 45% of firms said they did not have significant levels of inventory because they produce only after taking orders. For those with inventories, nearly 80% (79%) expected the inventory to be digested within three months, with a further 15% saying it would take between three to six months. This leaves only 6% of the whole sample carrying inventory for more than six months.

### II.2 Costs Stabilized

The second challenge facing the industrial economy has been cost rises. This problem, however, was not a main concern in 2015, especially in the last three quarters. Unit costs remained stable in Q4 with a diffusion index of 54 (Figure 7). The labor cost index was 53 (56 in Q3), whereas the cost of raw materials declined, with a diffusion index of 45. Cost rises mainly occurred in firms which increased investment or employment. In other words, costs stabilized in Q4 due to a weakened economy.

Chronic overcapacity implies a lack of pricing power and, thus, thin margins. 27% of firms reported extremely low gross margins (below 10%). 71% of the firms had gross margins below 15%, with just 8% of the firms reporting gross margins above 20% (Figure 8).

### II.3 Financing is Not a Bottleneck

The most surprising result from our survey has been that financing is not a constraining factor for industrial growth. Consistent with the results in the previous quarters, only 2% of the firms cited financing as the constraining factor. Correspondingly, 34% of the firms reported that funds were sufficient, 60.4% replied "neutral", while only 5.4% reported insufficient funding. A vast majority of the firms

(91%) reported insufficient funds for production, not for expansion. Another 7% reported insufficient funds due to operating losses.

As shown in Table 6.1 and Figure 9A, only a small proportion of firms obtained new loans in the past quarters. In Q4, this number was 2%, a further decline from Q3 (6%). Among the firms without new loans, the vast majority (92%) reported that they did not have the need for capital. Moreover, firms found the banks' lending attitude to be generally accommodating, resulting in a diffusion index of 73. The proportion of firms reporting a "difficult" lending attitude, however, increased moderately to 16% in Q4, from 10% 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 98% of the firms reporting this as their primary funding source. About 3% of the firms reported the founder's own capital as the primary source of funds, while 50% reported this as the second most important source of funds. 47% of the firms indicated bank loans as their second most important source of funds. Sources of financing were highly concentrated in Chinese firms: in the case of internal funds, 84% of the firms reported that this largest financing source accounts for more than 50% of their total funds.

New industrial loans in the third quarter were all collateralized. The most common source of collateral was land and plants, used by 90% of the firms. Machine and equipment was another popular source of collateral, used by 19% of the firms.

It was rare for firms to borrow from sources other than banks, In Q4, only 5 firms (0.25%) reported borrowing from other financing institutions. Interest rates are all below 20%.

While our finding that financing is not a bottleneck contrasts with conventional wisdom, it is perfectly consistent with the central bank's "Financial Institutions Lending Statistics" reports. During 2014, new loans to industrial firms declined by, on average, 30% each quarter. The net amount of new industrial loans issued in 2015 was only 5% of loan balances in Q4 2014. Moreover, the central bank's index of loan demand, after reaching its previously lowest level in Q4 2014 (58%), then declined further in each of the last three quarters in 2015 (48% in Q4) (Figure 9B).

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

It should be emphasized that, although our survey includes industrial companies with sales above 5 million RMB, given that 5 million is not a high threshold, we cover the vast majority of companies. Excluding agriculture, real estate and finance, the

industrial sector now accounts for 50% of China's GDP. Thus, the findings from this sample should not be ignored.

## III Going Forward: Institutions and Innovation

### III.1 Economic Outlook

Despite the difficulties in the economy, the vast majority of firms remain "optimistic" (6%) or "cautiously optimistic" (51%) about their economic outlook over the next three to five years (Figure 10A). Among those who are "not optimistic", the main concerns cited include the macro economy (69%), competition and overcapacity (29%), and the political environment (1%) (Figure 10B). Almost no firms mentioned financing as a major concern.

### III.2 Innovation

Technology innovation and industrial upgrading are necessary in dealing with the problems of oversupply and cost rises. Figure 11A reports the state of innovative activities by Chinese industrial firms. The majority of the firms (72%) do not have any R&D spending, 21% spend 0-5% of sales on R&D, and a mere 7% of firms have R&D spending more than 5%.[5]

In our sample, 200 firms, or 10%, have obtained a high-tech status from the local government so that their corporate taxes are significantly lower. To be granted a high-tech status, the firms have to (1) be located in one of the high-tech areas specified by the central government; (2) own a sufficient number of patents. Somewhat surprisingly, although high-tech firms are more likely to make fixed investment, its sentiment index and overcapacity problem are not significantly better when compared with other firms. But firms with R&D input exceeding 5% of their sales, though rare in number, fare significantly better in terms of operating conditions (diffusion index: 54 vs. 45 in the whole sample) and are less likely to have overcapacity problems (diffusion index: 66 vs. 77 in the whole sample) (Figure 11B).

### III.3 Institutions

Contrary to the skeptical opinions of some in the west, the legal institutions in China do provide basic protections for business operations. Figure 12A displays firms' responses to the question "On a scale of 0-10, what is the likelihood that the legal

[5] Not surprisingly, there is a wide variation of innovative activities across industries and regions. For example, medical, computer and special equipment sectors are among the ones with the largest R&D input, whereas inland provinces have the least R&D spending. For the sake of brevity, we do not report the results here; but they are available upon request.

system will uphold your contract and property rights in business disputes (0 being the worst)?". 80% of firms give the legal environment a rating above 7, and the average rating is 7.3 (7.7 in 2014). Compared to last year, the average rating is similar, but the variation is lower. Finally, there is little variation across industries and regions in terms of the quality of the legal environment.

Compared with their western counterparts, Chinese firms rely more on informal procedures and on social networks than on formal legal actions to handle business disputes. 41% say they would use legal advisers to negotiate or settle by themselves outside court, 21% would rely on mutual friends or business partners to mediate, while 5% would go to court. Interestingly, high-tech firms are more likely to use court (8%) (Figure 12C).

The Chinese government plays an active role in promoting growth. 16% of firms reported that they have received help and support from the government. The most common support was tax reduction, which was cited by 13% of firms (22% in 2014). Other forms of support include help in obtaining loans, funding for innovation, business connections, and project subsidies (about 1% each) (Figure 12D). Not surprisingly, high-tech firms are substantially more likely to receive government support (35% vs. 55% in 2014). Industrial firms, however, seemed to have obtained less support from the government in 2015 than in 2014. Part of the reason is likely that the firms, mostly in traditional manufacturing, do not belong to industries that the government intends to promote. But this cannot fully explain why high-tech firms also received less support.

## IV. Conclusion

In 2015, the Chinese industrial economy faced greater difficulties than in 2014. The problem of overcapacity worsened. Our Q4 survey also indicated that firms' expectations about the future have weakened and that the government's support to firms has declined. Despite the difficulties, more than half of the firms remained optimistic or cautiously optimistic about the prospects in the next three to five years. The legal institutions in China also provide basic support for business operations.

At present, a main challenge to policy is the weakening of market expectations, which reduces the multiplier effect of monetary and fiscal policies, and thus makes these policies less effective. This further supports our earlier recommendation that long-term industrial policy is the key to reviving these industries. The government should put forth reform policies that aim to directly improve the real economy. The government should also ensure social and financial stability in the process of reducing excess capacity.

*Policy recommendations*

The current problem in China's industrial economy is due to over-investment and a lack of core competitiveness over many years. To solve the problem of overcapacity and to attain a full recovery will be a long-term process.

1. Long-term industrial policy is the key

For the industry to move out of the bottom, overcapacity has to be fully absorbed, which means that a significant proportion of firms would need to be closed or allowed to go bankrupt. The remaining companies can then have enough profit margins for R&D and industrial upgrading. Therefore, industrial policy should focus on three aspects: to ensure an orderly bankruptcy process, to help the remaining companies to upgrade their products, and to increase income and, thus, to enhance domestic demand.

Factory closings and bankruptcies mean lay-offs and foreclosures. If these are concentrated in any particular region, they might cause social instability. The local government should proactively help laid-off workers be redeployed. Regarding debt problems, our data shows that bank loans may not be a significant problem as industrial firms do not borrow much and, even if they do, loans are generally collateralized. Repaying trade credit is likely to be a bigger problem.

With regards to industrial upgrading, it should be noted that China's technology, in most areas, is far behind that of western countries. This requires careful study in each industry on how China might catch up. The government should then encourage technological innovation and product upgrade which can truly create markets and employment.

Income growth requires high-paid jobs, as well as skilled workers, to fill these jobs. This calls for a deepening of economic reform to move the economy out of low-end manufacturing, for example encouraging the growth of the private sector in industries with higher margins and lowering the entry barrier in certain monopolistic industries. The government should also encourage and support programs that produce and train skilled workers. The "One Belt, One Road" policy can potentially export the country's excess capacity and, thus, is a wise long-term policy.

2. Fiscal policy should aim to increase domestic demand

In the short run, we do not suggest uniform tax cuts, as these cannot solve the core problem of overcapacity. A more effective strategy is to improve social welfare through fiscal spending, which will reduce households' savings for retirement and medical expenses and, thus, increase domestic demand.

Value-added taxes, a main corporate tax burden, mean that firms would need to pay taxes even if they do not earn profits. This may discourage investment. Therefore, the government should consider selectively reducing value-added tax for industries that are technologically advanced or can increase employment. Value-added taxes are levied based on sales volume, which may weaken the local governments' incentive to reduce excess capacity of local firms. In such cases, national policies are needed to rectify local incentives and one possibility is to push towards profit taxes.

The tax burden of Chinese firms is large by international standards. Thus, in the long run, reducing the overall tax burden would encourage private investment and consumption. This, however, can only be achieved through comprehensive and systematic reform, which involves redefining the role of government in the economy and, accordingly, careful planning of fiscal spending.

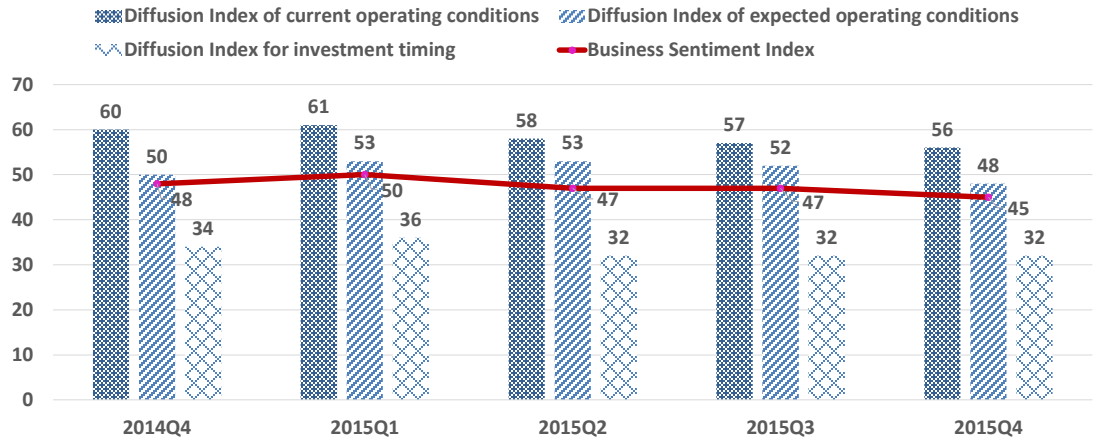
3. Loosening monetary policy should only be a short-term policy

Our Q4 survey further confirms that financing is not a bottleneck and that loosening monetary policy cannot revive the industry. Judging from the current state of the industrial economy, the loosening policies in place since last year have not reversed the decline of the industries. Loosening monetary policy should, at most, be a short-term policy to prevent a hard landing. At present, weakened market expectations are likely to reduce the multiplier effect of monetary policies and thus make them less effective.

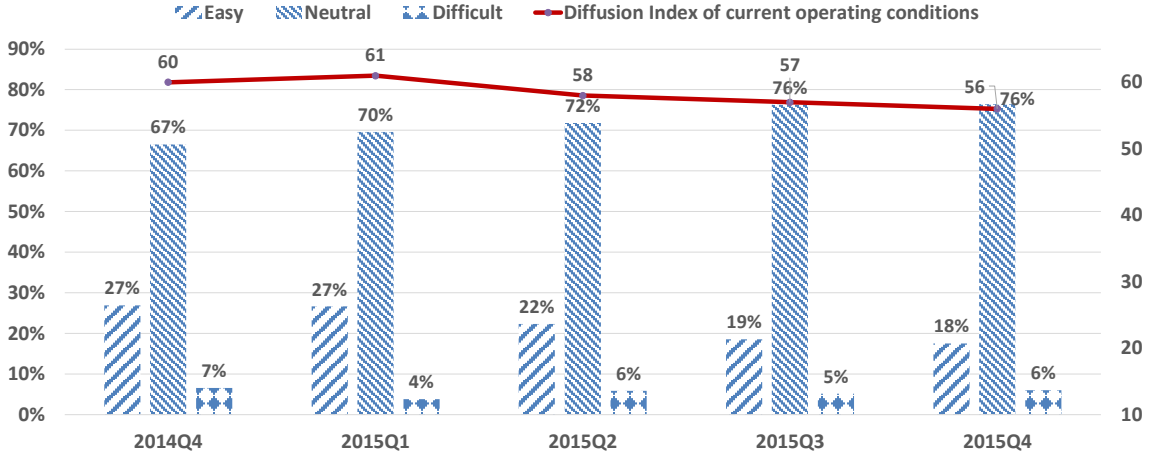
Of course, it is possible that firms that are outside our survey, such as those in the service industry and so-called "micro-firms", may face a financing bottleneck. But this should be further confirmed through similar systematic and large-sample surveys. Even if financing is a bottleneck for these firms, given that they are not the regular borrowers of the state-owned banks, loosening policies alone is not sufficient.

Finally, the fact that financing is not a bottleneck doesn't mean that financial reform is not important. If the existing financial system cannot allocate resources in an efficient manner, financing will become a bottleneck as and when the economy recovers. Opening up the banking industry to the private sector, especially small and medium-sized banks, as well as lowering the entry barrier for foreign banks, can potentially introduce competition and innovation, which would not only fill up the gaps in lending, but also force existing banks to transform themselves.

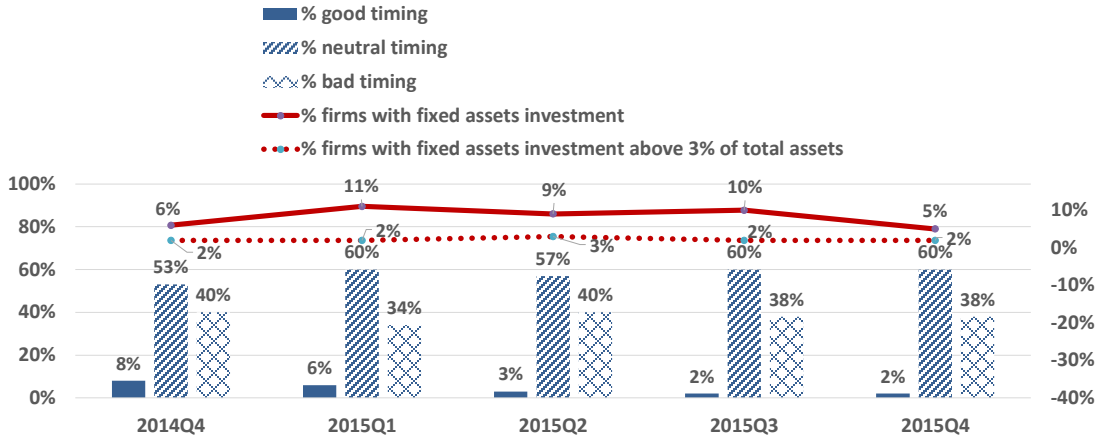
# Figure 1. Business Sentiment Index



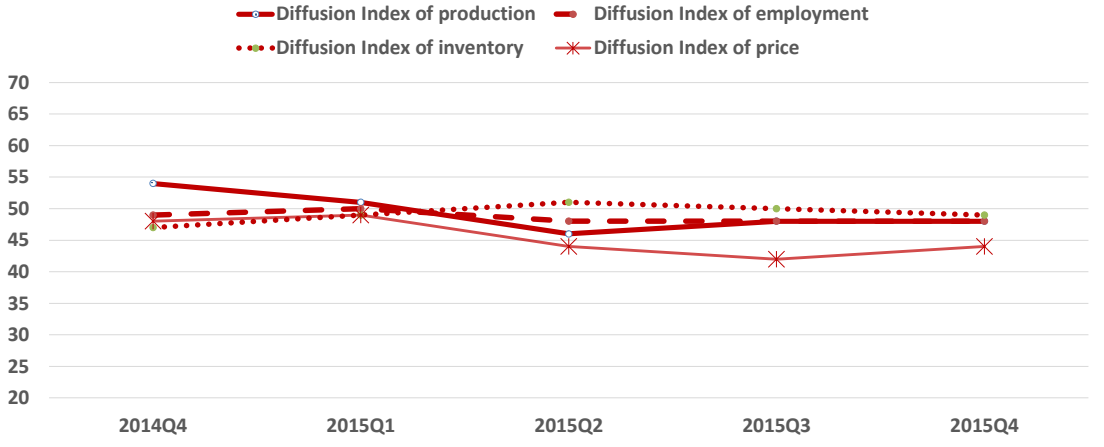

# Figure 2. Current Operating Conditions



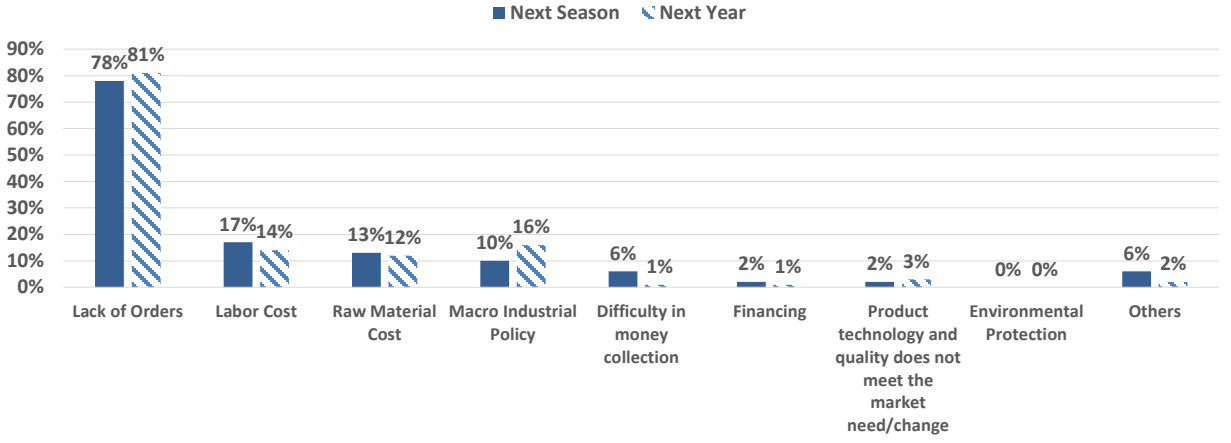
# Figure 3. Investment




# Figure 4. Other Main Economic Indices



# Figure 5. Factors Constraining Production




# Figure 6A. Excess Capacity in Domestic Market

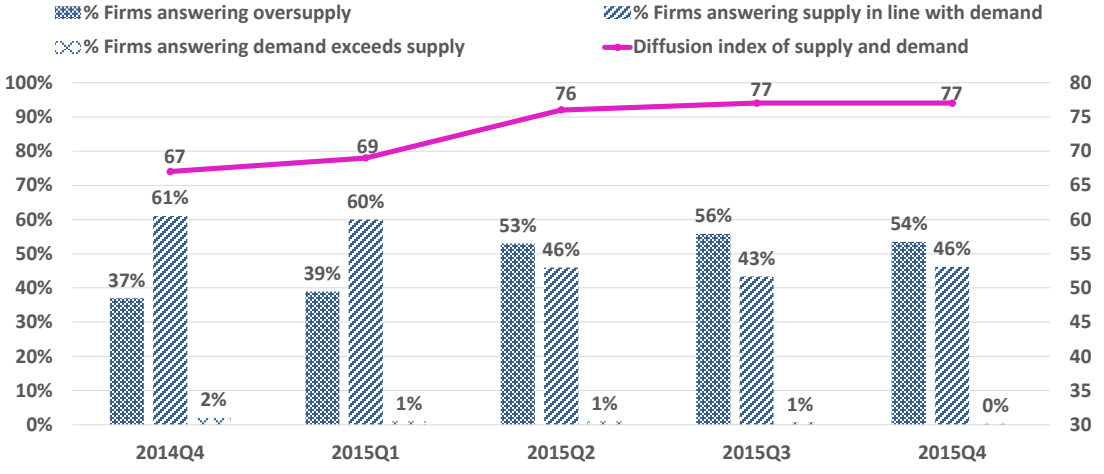


Figure 6B. Firms with Severe Excess Capacity

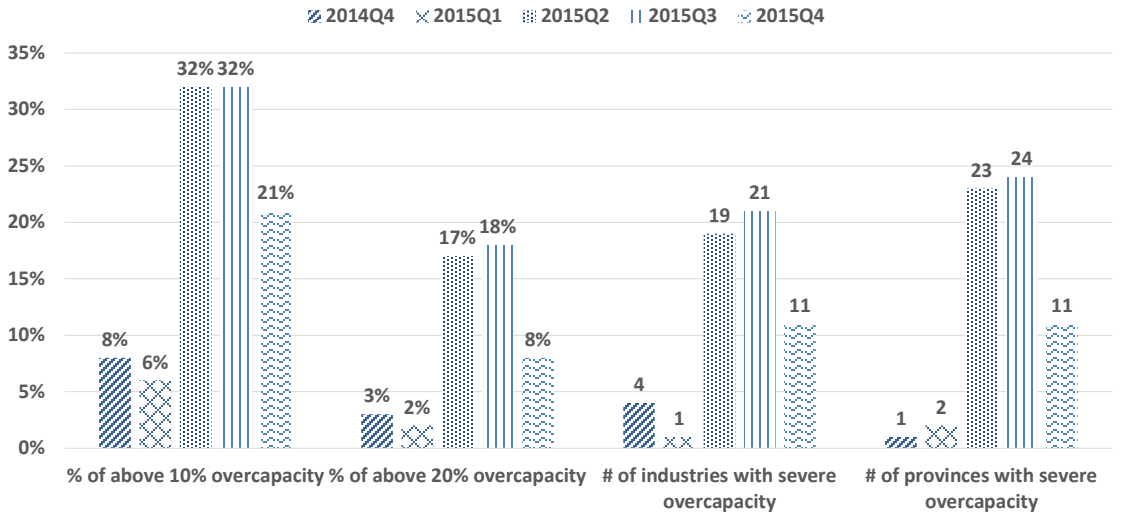
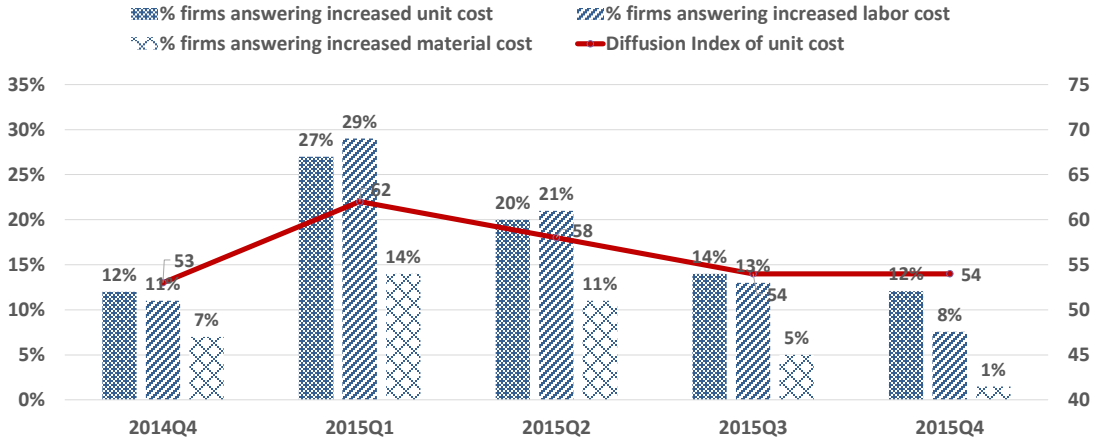
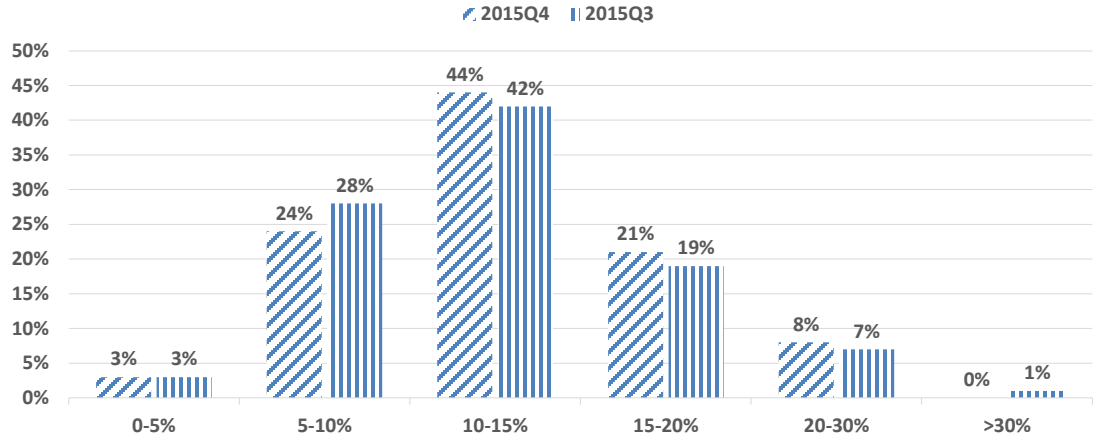



Figure 7. Unit Cost, Labor Cost, and Material Cost

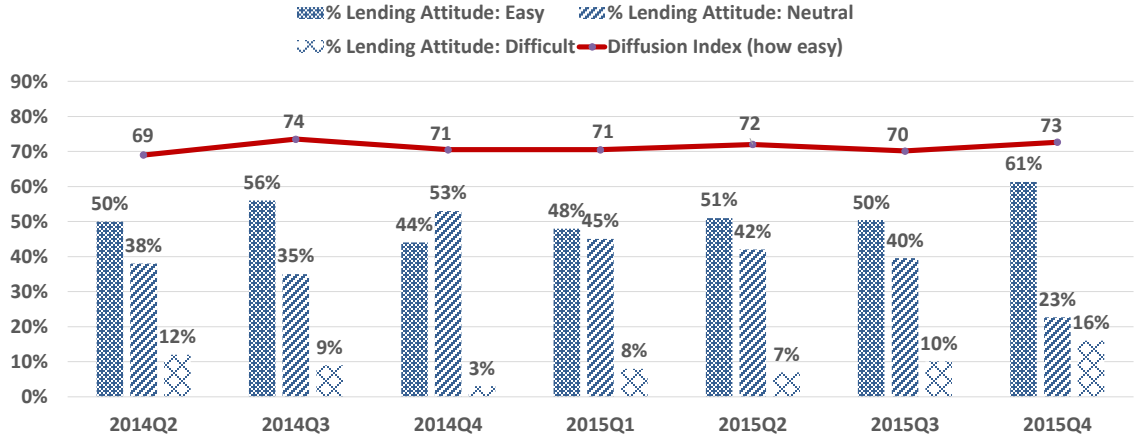


# Figure 8. Gross Margins

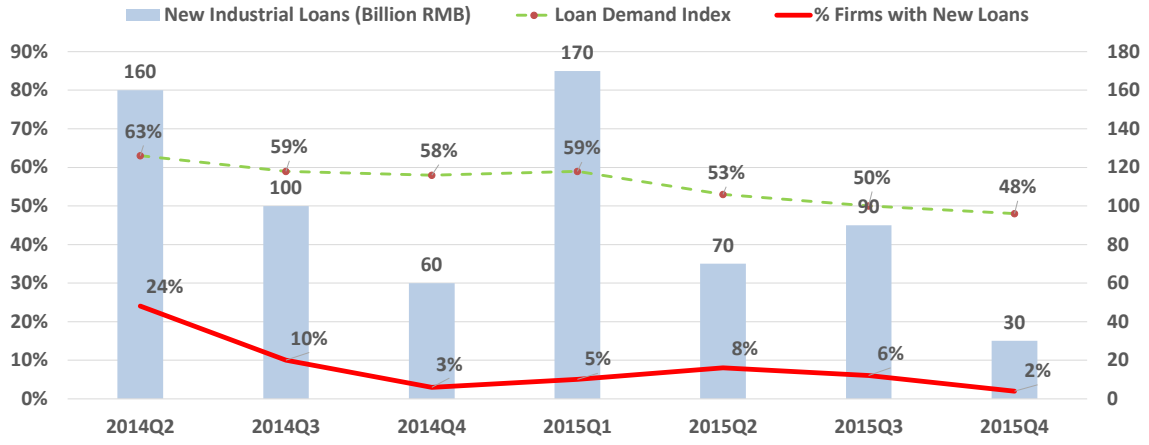



# Figure 9. Financing

## Figure 9A. Lending Attitude



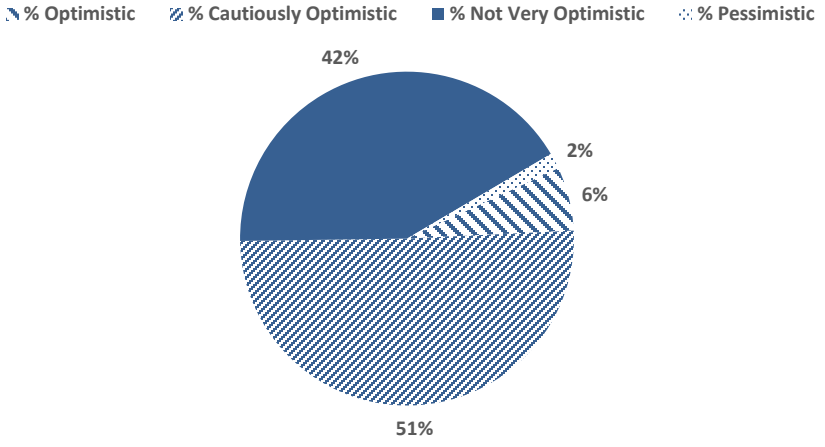
# Figure 9B. Proportion of Firms with New Loans vs. Central Bank Data



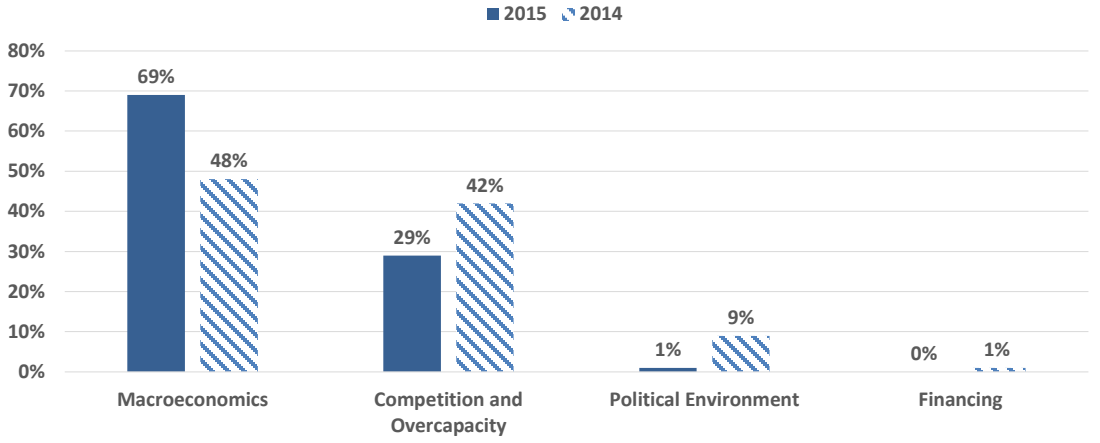

Note: New Industrial Loans and Loan Demand Index are from the quarterly reports by the Central Bank.

# Figure 10. Outlook in 3-5 Years

# Figure 10A. Business Outlook in 3-5 Years



## Figure 10B. Reasons for Pessimism




## Figure 11. Innovation

## Figure 11A. R&D Expenses of Chinese Firms

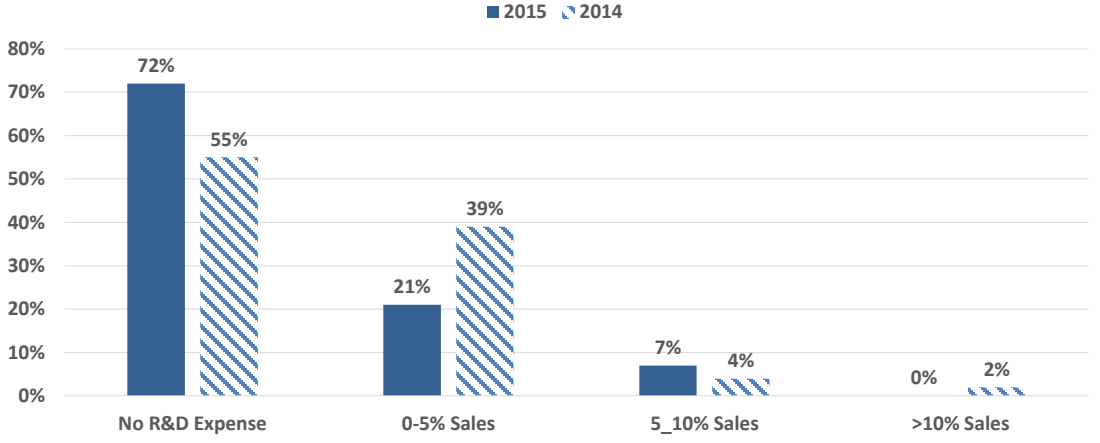


Figure 11B. Performance of Firms with significant R&D Expense

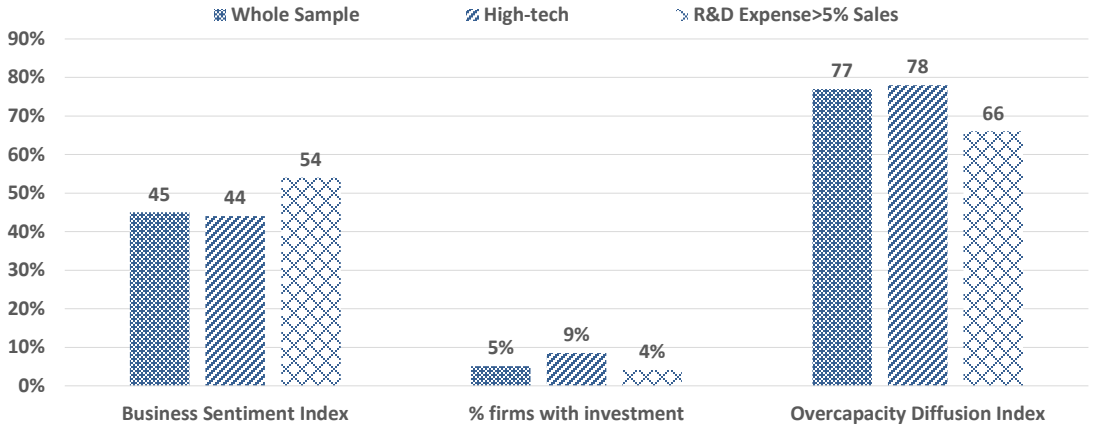



Figure 12. Legal Environment

Figure 12A. Rating of Legal Environment (Whole Sample)

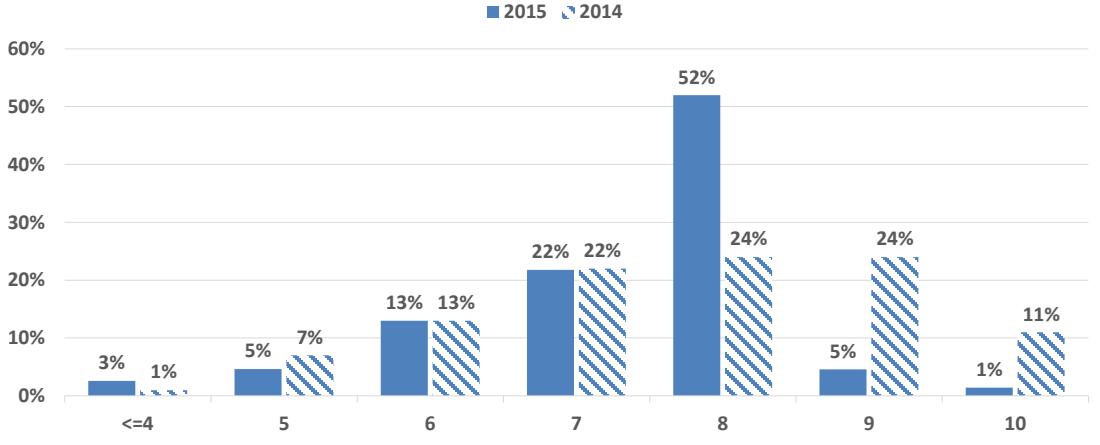


Figure 12B. Rating of Legal Environment (Hi-tech Enterprise)

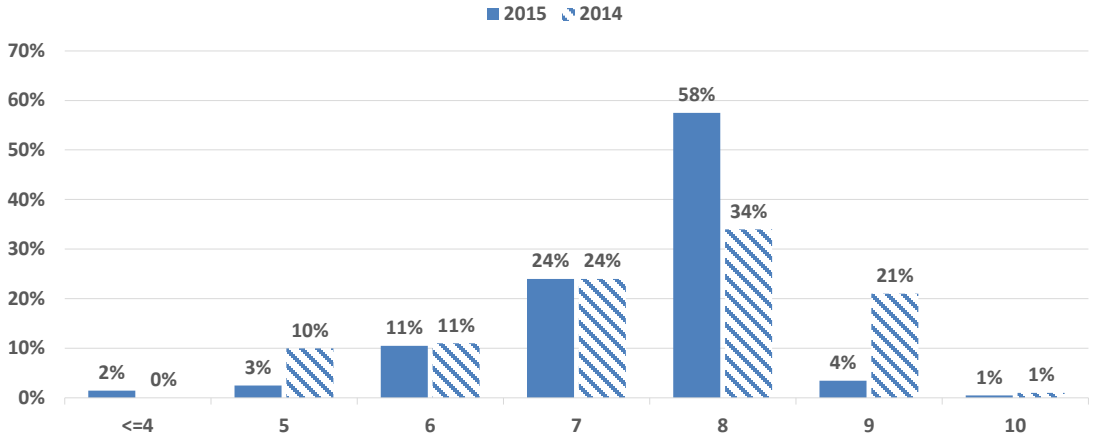
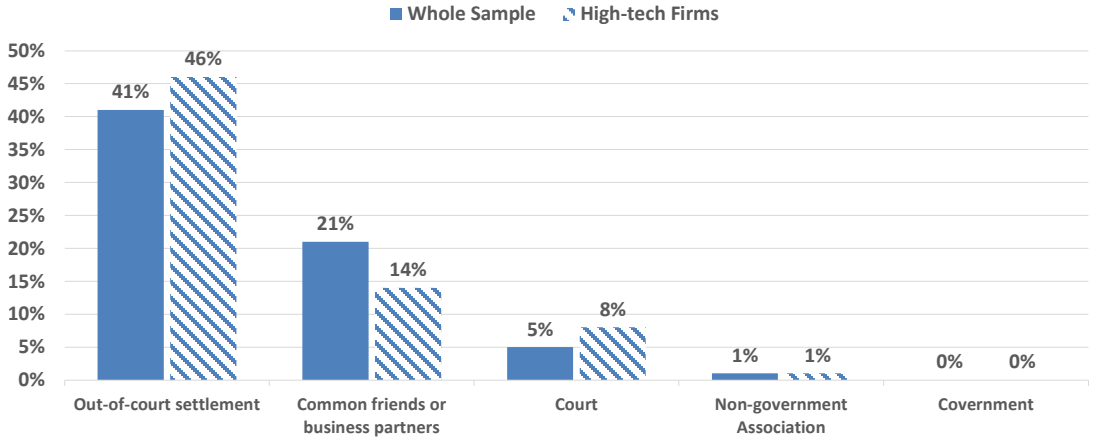



Figure 12C. Ways to Handle Business Disputes



# Figure 12D. Support from the Government

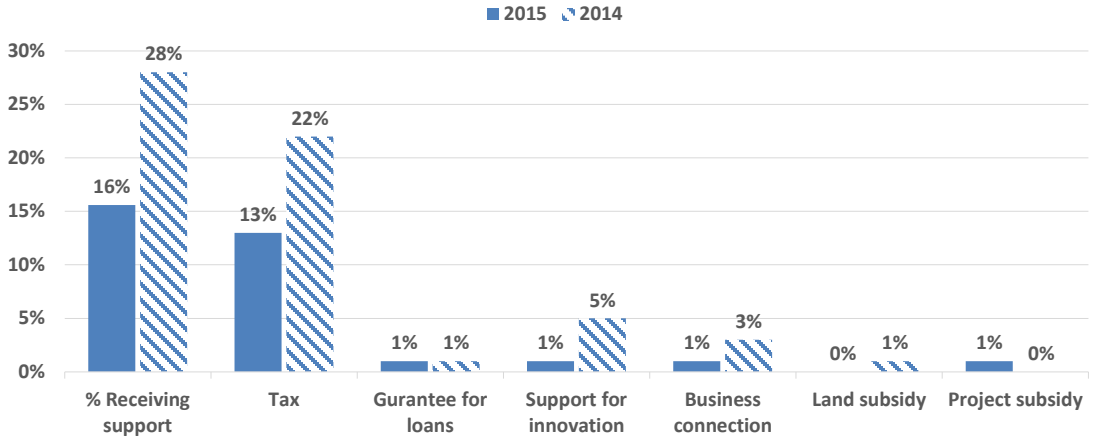


**Table 1. Operating Conditions of Industrial Firms**

**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 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Q4 | Q3 | Q4 | Q3 | Q4 | Q3 | Q4 | Q3 | Q4 | Q3 |
| Nation | 2038 | 2007 | 45 | 47 | 56 | 57 | 48 | 52 | 32 | 32 |
| *By Size* | | | | | | | | | | |
| Large | 747 | 723 | 47 | 47 | 57 | 59 | 49 | 51 | 34 | 33 |
| Medium | 672 | 690 | 45 | 47 | 56 | 56 | 49 | 54 | 32 | 32 |
| Small | 619 | 594 | 44 | 46 | 54 | 55 | 47 | 51 | 31 | 31 |
| *By Ownership* | | | | | | | | | | |
| State-owned | 81 | 83 | 51 | 52 | 68 | 69 | 48 | 50 | 37 | 38 |
| Collectively-owned | 37 | 31 | 43 | 44 | 50 | 53 | 45 | 47 | 35 | 32 |
| Private | 1637 | 1598 | 45 | 46 | 55 | 55 | 48 | 52 | 31 | 31 |
| Foreign-owned | 332 | 336 | 49 | 50 | 60 | 62 | 49 | 54 | 36 | 35 |
| *By Product Type* | | | | | | | | | | |
| Consumer Goods - Durable | 438 | 439 | 45 | 47 | 55 | 55 | 49 | 54 | 32 | 32 |
| Consumer Goods - Nondurable | 626 | 614 | 47 | 48 | 60 | 60 | 50 | 55 | 31 | 30 |
| Capital Goods | 199 | 173 | 44 | 45 | 53 | 55 | 46 | 47 | 34 | 31 |
| Intermediate Goods | 776 | 784 | 45 | 46 | 54 | 55 | 47 | 49 | 33 | 33 |

**Table 1.2**

| | % of Firms with Fixed Investment | | Diffusion Index - Production | | Diffusion Index - Employment | | Diffusion Index - Price | |
|---|---|---|---|---|---|---|---|---|
| | Q4 | Q3 | Q4 | Q3 | Q4 | Q3 | Q4 | Q3 |
| Nation | 5 | 10 | 48 | 48 | 48 | 48 | 44 | 42 |
| *By Size* | | | | | | | | |
| Large | 6 | 12 | 48 | 51 | 47 | 48 | 44 | 42 |
| Medium | 5 | 10 | 48 | 46 | 48 | 48 | 44 | 41 |
| Small | 5 | 8 | 49 | 47 | 48 | 48 | 45 | 42 |
| *By Ownership* | | | | | | | | |
| State-owned | 11 | 12 | 56 | 53 | 49 | 50 | 43 | 44 |
| Collectively-owned | 8 | 13 | 51 | 47 | 46 | 50 | 43 | 47 |
| Private | 5 | 10 | 47 | 48 | 48 | 48 | 44 | 41 |
| Foreign-owned | 8 | 9 | 53 | 50 | 49 | 48 | 47 | 44 |
| *By Product Type* | | | | | | | | |
| Consumer Goods - Durable | 5 | 8 | 50 | 47 | 48 | 47 | 45 | 41 |
| Consumer Goods - Nondurable | 5 | 12 | 55 | 54 | 48 | 50 | 47 | 46 |
| Capital Goods | 7 | 13 | 37 | 41 | 47 | 47 | 40 | 36 |
| Intermediate Goods | 4 | 9 | 45 | 45 | 48 | 48 | 42 | 40 |

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 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Q4 | Q3 | Q4 | Q3 | Q4 | Q3 | Q4 | Q3 | Q4 | Q3 | Q4 | Q3 |
| Nation | 2038 | 2007 | 45 | 47 | 56 | 57 | 48 | 52 | 5 | 10 | 32 | 32 |
| *Mining* | | | | | | | | | | | | |
| Coal Mining and Washing | 5 | 2 | 30 | 8 | 20 | 0 | 25 | 25 | 0 | 0 | 20 | 0 |
| Mining and Processing of Ferrous Metal Ores | 1 | 1 | 50 | 17 | 50 | 0 | 50 | 50 | 0 | 0 | 50 | 0 |
| Mining and Processing of Non-ferrous Metal | 5 | 3 | 47 | 44 | 50 | 50 | 50 | 50 | 20 | 33 | 40 | 33 |
| Mining and Processing of Nonmetal Ores | 14 | 14 | 42 | 36 | 39 | 36 | 50 | 39 | 14 | 0 | 36 | 32 |
| *Production and Supply of Electricity, Heat, Gas and Water* | | | | | | | | | | | | |
| Power Production and Supply | 36 | 34 | 53 | 52 | 67 | 68 | 46 | 41 | 11 | 18 | 47 | 47 |
| Production and Supply of Water | 9 | 9 | 52 | 43 | 89 | 83 | 50 | 39 | 0 | 0 | 17 | 6 |
| *Light Manufacturing* | | | | | | | | | | | | |
| Processing of Agricultural and Related Products | 111 | 114 | 35 | 39 | 52 | 53 | 50 | 61 | 2 | 5 | 2 | 2 |
| Manufacture of Foods | 51 | 52 | 50 | 53 | 59 | 57 | 50 | 63 | 16 | 4 | 41 | 38 |
| Manufacture of Beverage | 43 | 44 | 47 | 50 | 64 | 64 | 57 | 67 | 2 | 9 | 19 | 18 |
| Manufacture of Textiles | 135 | 130 | 40 | 40 | 48 | 49 | 47 | 47 | 3 | 1 | 27 | 23 |
| Manufacture of Textile Wearing and Apparel | 73 | 69 | 50 | 53 | 57 | 58 | 48 | 58 | 16 | 22 | 45 | 43 |
| Manufacture of Leather, Fur, Feather, Related Products and Footwear | 33 | 41 | 37 | 40 | 58 | 59 | 50 | 60 | 6 | 12 | 3 | 2 |
| Processing of Wood Products | 43 | 43 | 36 | 39 | 53 | 53 | 51 | 59 | 5 | 12 | 5 | 5 |
| Manufacture of Furniture | 29 | 31 | 49 | 56 | 62 | 56 | 48 | 68 | 14 | 0 | 36 | 45 |
| Manufacture of Paper and Paper Products | 57 | 57 | 49 | 53 | 58 | 61 | 45 | 54 | 2 | 33 | 43 | 45 |
| Printing, Reproduction of Recording Media | 55 | 53 | 53 | 57 | 62 | 63 | 48 | 60 | 4 | 13 | 48 | 47 |
| Manufacture of Cultural and Sports Products | 19 | 22 | 54 | 51 | 63 | 68 | 50 | 48 | 0 | 0 | 47 | 36 |
| Manufacture of Medicines | 62 | 71 | 63 | 64 | 81 | 78 | 51 | 56 | 8 | 25 | 57 | 58 |
| Manufacture of Handicrafts and Others | 40 | 46 | 55 | 51 | 69 | 60 | 48 | 49 | 0 | 4 | 50 | 45 |
| Recycling and Disposal of Waste | 2 | 2 | 50 | 42 | 50 | 50 | 50 | 50 | 0 | 0 | 50 | 25 |
| *Chemical Industry* | | | | | | | | | | | | |
| Processing of Petroleum and Nuclear Fuel | 7 | 8 | 38 | 42 | 50 | 56 | 64 | 69 | 0 | 0 | 0 | 0 |
| Manufacture of Chemical Products | 128 | 125 | 50 | 48 | 54 | 51 | 50 | 51 | 2 | 12 | 45 | 42 |
| Manufacture of Chemical Fibers | 10 | 9 | 47 | 48 | 50 | 50 | 45 | 56 | 0 | 11 | 45 | 39 |
| Manufacture of Rubber Products | 25 | 27 | 48 | 51 | 64 | 65 | 48 | 57 | 4 | 0 | 32 | 31 |
| Manufacture of Plastics | 82 | 78 | 47 | 47 | 54 | 56 | 51 | 46 | 2 | 3 | 35 | 38 |
| *Equipment Manufacturing* | | | | | | | | | | | | |
| Manufacture of General-purpose Machinery | 190 | 182 | 39 | 43 | 46 | 49 | 46 | 49 | 5 | 3 | 24 | 31 |
| Manufacture of Special-purpose Machinery | 118 | 113 | 48 | 48 | 58 | 61 | 47 | 47 | 3 | 19 | 39 | 36 |
| Manufacture of Transport Equipment | 77 | 74 | 51 | 49 | 55 | 55 | 50 | 49 | 12 | 20 | 47 | 44 |
| Manufacture of Electric Machinery and Apparatus | 151 | 135 | 45 | 45 | 62 | 61 | 47 | 51 | 3 | 18 | 26 | 23 |
| Computers, Communication and Electric Equipment | 79 | 83 | 52 | 54 | 58 | 63 | 51 | 54 | 8 | 10 | 49 | 47 |
| Manufacture of Measuring Instruments | 41 | 33 | 48 | 46 | 56 | 53 | 50 | 48 | 10 | 0 | 38 | 38 |
| *Other Heavy Manufacturing* | | | | | | | | | | | | |
| Manufacture of Non-metallic Mineral Products | 114 | 97 | 40 | 42 | 46 | 54 | 46 | 42 | 2 | 4 | 28 | 30 |
| Smelting and Pressing of Ferrous Metals | 27 | 26 | 36 | 38 | 35 | 40 | 50 | 58 | 7 | 0 | 24 | 15 |
| Smelting and Pressing of Non-ferrous Metals | 17 | 37 | 46 | 47 | 50 | 49 | 47 | 55 | 12 | 0 | 41 | 38 |
| Manufacture of Metal Products | 148 | 142 | 42 | 43 | 58 | 58 | 45 | 48 | 5 | 11 | 23 | 24 |

**Table 2.2 Industry Ranking of Operating Conditions**

| | Number of Firms | | Business Sentiment Index | | Diffusion Index - Operating Conditions | | % of Firms with Fixed Investment | | Diffusion Index - Good Timing for Investment | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Q4 | Q3 | Q4 | Q3 | Q4 | Q3 | Q4 | Q3 | Q4 | Q3 |
| Nation | 2038 | 2007 | 45 | 47 | 56 | 57 | 5 | 10 | 32 | 32 |
| *Top Five* | | | | | | | | | | |
| Manufacture of Medicines | 62 | 71 | 63 | 64 | 81 | 78 | 8 | 25 | 57 | 58 |
| Manufacture of Handicrafts and Others | 40 | 46 | 55 | 51 | 69 | 60 | 0 | 4 | 50 | 45 |
| Manufacture of Cultural and Sports Products | 19 | 22 | 54 | 51 | 63 | 68 | 0 | 0 | 47 | 36 |
| Power Production and Supply | 36 | 34 | 53 | 52 | 67 | 68 | 11 | 18 | 47 | 47 |
| Printing, Reproduction of Recording Media | 55 | 53 | 53 | 57 | 62 | 63 | 4 | 13 | 48 | 47 |
| *Bottom Five* | | | | | | | | | | |
| Coal Mining and Washing | 5 | 2 | 30 | 8 | 20 | 0 | 0 | 0 | 20 | 0 |
| Processing of Agricultural and Related Products | 111 | 114 | 35 | 39 | 52 | 53 | 2 | 5 | 2 | 2 |
| Processing of Wood Products | 43 | 43 | 36 | 39 | 53 | 53 | 5 | 12 | 5 | 5 |
| Smelting and Pressing of Ferrous Metals | 27 | 26 | 36 | 38 | 35 | 40 | 7 | 0 | 24 | 15 |
| Manufacture of Leather, Fur, Feather, Related Products and Footwear | 33 | 41 | 37 | 40 | 58 | 59 | 6 | 12 | 3 | 2 |

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 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Q4 | Q3 | Q4 | Q3 | Q4 | Q3 | Q4 | Q3 | Q4 | Q3 | Q4 | Q3 |
| Nation | 2038 | 2007 | 45 | 47 | 56 | 57 | 48 | 52 | 5 | 10 | 32 | 32 |
| *North China* | | | | | | | | | | | | |
| Beijing | 40 | 38 | 48 | 50 | 58 | 59 | 44 | 53 | 8 | 5 | 41 | 39 |
| Tianjin | 50 | 49 | 44 | 46 | 55 | 56 | 43 | 51 | 4 | 6 | 35 | 32 |
| Hebei | 87 | 82 | 42 | 43 | 55 | 57 | 45 | 48 | 3 | 6 | 25 | 25 |
| *Northeast* | | | | | | | | | | | | |
| Liaoning | 86 | 81 | 42 | 45 | 52 | 56 | 46 | 49 | 3 | 12 | 30 | 31 |
| Jilin | 30 | 24 | 44 | 44 | 55 | 60 | 45 | 44 | 3 | 8 | 32 | 29 |
| Heilongjiang | 27 | 22 | 42 | 50 | 54 | 66 | 48 | 59 | 4 | 5 | 24 | 25 |
| *Northwest* | | | | | | | | | | | | |
| Inner Mongolia | 15 | 15 | 42 | 48 | 47 | 53 | 40 | 53 | 7 | 7 | 40 | 37 |
| Shaanxi | 21 | 23 | 48 | 49 | 57 | 61 | 52 | 52 | 5 | 0 | 33 | 33 |
| Gansu | 6 | 5 | 53 | 57 | 67 | 60 | 58 | 60 | 17 | 40 | 33 | 50 |
| Ningxia | 3 | 3 | 33 | 39 | 50 | 50 | 50 | 50 | 0 | 33 | 0 | 17 |
| Xinjiang | 3 | 3 | 39 | 39 | 50 | 50 | 50 | 50 | 0 | 0 | 17 | 17 |
| *Central North* | | | | | | | | | | | | |
| Shanxi | 23 | 22 | 41 | 43 | 48 | 55 | 48 | 52 | 4 | 9 | 22 | 23 |
| Shandong | 196 | 183 | 44 | 45 | 54 | 56 | 48 | 48 | 5 | 8 | 31 | 31 |
| Henan | 65 | 70 | 44 | 43 | 55 | 53 | 48 | 48 | 8 | 13 | 28 | 29 |
| *Southwest* | | | | | | | | | | | | |
| Chongqing | 31 | 35 | 46 | 46 | 56 | 53 | 50 | 54 | 6 | 3 | 31 | 30 |
| Sichuan | 54 | 59 | 43 | 47 | 56 | 57 | 44 | 52 | 9 | 17 | 28 | 33 |
| Guizhou | 6 | 7 | 36 | 40 | 42 | 43 | 50 | 64 | 0 | 14 | 17 | 14 |
| Yunnan | 16 | 15 | 49 | 50 | 63 | 60 | 53 | 63 | 0 | 7 | 31 | 27 |
| *East China* | | | | | | | | | | | | |
| Shanghai | 89 | 88 | 47 | 49 | 58 | 59 | 47 | 53 | 6 | 9 | 35 | 35 |
| Jiangsu | 303 | 311 | 45 | 46 | 55 | 56 | 49 | 51 | 5 | 9 | 32 | 32 |
| Zhejiang | 299 | 299 | 46 | 46 | 57 | 56 | 49 | 54 | 5 | 11 | 33 | 30 |
| *South China* | | | | | | | | | | | | |
| Fujian | 81 | 83 | 46 | 47 | 56 | 57 | 49 | 52 | 5 | 7 | 34 | 33 |
| Guangdong | 271 | 260 | 47 | 50 | 57 | 60 | 50 | 53 | 4 | 9 | 35 | 35 |
| Guangxi | 33 | 36 | 46 | 49 | 58 | 61 | 50 | 53 | 3 | 22 | 30 | 33 |
| Hainan | 2 | 2 | 42 | 50 | 75 | 75 | 50 | 75 | 0 | 50 | 0 | 0 |
| *Central South* | | | | | | | | | | | | |
| Anhui | 74 | 71 | 45 | 45 | 57 | 54 | 49 | 53 | 5 | 17 | 31 | 29 |
| Jiangxi | 42 | 38 | 48 | 49 | 62 | 58 | 49 | 55 | 12 | 11 | 35 | 34 |
| Hubei | 51 | 50 | 46 | 48 | 51 | 54 | 53 | 56 | 6 | 20 | 34 | 33 |
| Hunan | 34 | 33 | 49 | 48 | 57 | 55 | 53 | 55 | 6 | 18 | 37 | 36 |

**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 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Q4 | Q3 | Q4 | Q3 | Q4 | Q3 | Q4 | Q3 | Q4 | Q3 |
| Nation | 2038 | 2007 | 45 | 47 | 56 | 57 | 5 | 10 | 32 | 32 |
| *Top Five* | | | | | | | | | | |
| Gansu | 6 | 5 | 53 | 57 | 67 | 60 | 17 | 40 | 33 | 50 |
| Hunan | 34 | 33 | 49 | 48 | 57 | 55 | 6 | 18 | 37 | 36 |
| Yunnan | 16 | 15 | 49 | 50 | 63 | 60 | 0 | 7 | 31 | 27 |
| Shaanxi | 21 | 23 | 48 | 49 | 57 | 61 | 5 | 0 | 33 | 33 |
| Beijing | 40 | 38 | 48 | 50 | 58 | 59 | 8 | 5 | 41 | 39 |
| Jiangxi | 42 | 38 | 48 | 49 | 62 | 58 | 12 | 11 | 35 | 34 |
| *Bottom Five* | | | | | | | | | | |
| Guizhou | 6 | 7 | 36 | 40 | 42 | 43 | 0 | 14 | 17 | 14 |
| Shanxi | 23 | 22 | 41 | 43 | 48 | 55 | 4 | 9 | 22 | 23 |
| Heilongjiang | 27 | 22 | 42 | 50 | 54 | 66 | 4 | 5 | 24 | 25 |
| Inner Mongolia | 15 | 15 | 42 | 48 | 47 | 53 | 7 | 7 | 40 | 37 |
| Liaoning | 86 | 81 | 42 | 45 | 52 | 56 | 3 | 12 | 30 | 31 |
| Hebei | 87 | 82 | 42 | 43 | 55 | 57 | 3 | 6 | 25 | 25 |

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 | |
|---|---|---|---|---|---|---|---|---|
| | Q4 | Q3 | Q4 | Q3 | Q4 | Q3 | Q4 | Q3 |
| Nation | 2038 | 2007 | 77 | 77 | 63 | 68 | 49 | 50 |
| *By Size* | | | | | | | | |
| Large | 747 | 723 | 75 | 76 | 63 | 67 | 49 | 50 |
| Medium | 672 | 690 | 77 | 79 | 63 | 68 | 49 | 50 |
| Small | 619 | 594 | 77 | 78 | 66 | 69 | 49 | 51 |
| *By Ownership* | | | | | | | | |
| State-owned | 81 | 83 | 64 | 65 | 55 | 55 | 51 | 53 |
| Collectively-owned | 37 | 31 | 71 | 77 | 71 | 80 | 53 | 50 |
| Private | 1637 | 1598 | 78 | 79 | 64 | 69 | 49 | 51 |
| Foreign -owned | 332 | 336 | 69 | 71 | 62 | 65 | 46 | 48 |
| *By Product Type* | | | | | | | | |
| Consumer Goods - Durable | 438 | 439 | 78 | 78 | 63 | 67 | 50 | 51 |
| Consumer Goods - Nondurable | 626 | 614 | 72 | 72 | 62 | 66 | 47 | 50 |
| Capital Goods | 199 | 173 | 73 | 78 | 61 | 68 | 48 | 50 |
| Intermediate Goods | 776 | 784 | 80 | 81 | 65 | 70 | 51 | 50 |

**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 |
|---|---|---|---|
| Coal Mining and Washing | 5 | 60 | 60 |
| Processing of Petroleum and Nuclear Fuel | 7 | 57 | 100 |
| Mining and Processing of Nonmetal Ores | 14 | 29 | 36 |
| Smelting and Pressing of Ferrous Metals | 27 | 22 | 41 |
| Processing of Wood Products | 43 | 21 | 51 |
| Manufacture of Metal Products | 148 | 20 | 38 |
| Manufacture of Non-metallic Mineral Products | 114 | 18 | 32 |
| Processing of Agricultural and Related Products | 111 | 17 | 56 |
| Manufacture of Electric Machinery and Apparatus | 151 | 16 | 30 |
| Manufacture of Leather, Fur, Feather, Related Products and Footwear | 33 | 12 | 52 |
| Manufacture of Chemical Fibers | 10 | 10 | 30 |

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 |
|---|---|---|---|
| Guizhou | 6 | 33 | 33 |
| Jilin | 30 | 20 | 33 |
| Beijing | 40 | 15 | 28 |
| Heilongjiang | 27 | 15 | 26 |
| Shanxi | 23 | 13 | 30 |
| Chongqing | 31 | 13 | 19 |
| Yunnan | 16 | 13 | 50 |
| Henan | 65 | 12 | 31 |
| Shandong | 196 | 12 | 25 |
| Tianjin | 50 | 12 | 32 |
| Liaoning | 86 | 10 | 30 |

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 | | Diffusion Indices: Labor Cost Index | | Diffusion Indices: Raw Material Cost Index | | Diffusion Indices: Price Index | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Q4 | Q3 | Q4 | Q3 | Q4 | Q3 | Q4 | Q3 | Q4 | Q3 |
| Nation | 2038 | 2007 | 54 | 54 | 53 | 56 | 45 | 44 | 44 | 42 |
| *By Size* | | | | | | | | | | |
| Large | 747 | 723 | 53 | 54 | 53 | 56 | 45 | 43 | 44 | 42 |
| Medium | 672 | 690 | 54 | 54 | 53 | 56 | 44 | 44 | 44 | 41 |
| Small | 619 | 594 | 54 | 54 | 53 | 57 | 45 | 44 | 45 | 42 |
| *By Ownership* | | | | | | | | | | |
| State-owned | 81 | 83 | 50 | 46 | 53 | 53 | 47 | 44 | 45 | 44 |
| Collectively-owned | 37 | 31 | 54 | 55 | 53 | 53 | 42 | 52 | 43 | 47 |
| Private | 1637 | 1598 | 54 | 54 | 53 | 57 | 44 | 43 | 44 | 41 |
| Foreign -owned | 332 | 336 | 53 | 55 | 53 | 56 | 48 | 45 | 47 | 44 |
| *By Product Type* | | | | | | | | | | |
| Consumer Goods - Durable | 438 | 439 | 52 | 55 | 54 | 58 | 47 | 44 | 45 | 41 |
| Consumer Goods - Nondurable | 626 | 614 | 52 | 55 | 51 | 55 | 46 | 47 | 47 | 46 |
| Capital Goods | 199 | 173 | 62 | 54 | 59 | 56 | 41 | 36 | 40 | 36 |
| Intermediate Goods | 776 | 784 | 53 | 53 | 53 | 56 | 43 | 42 | 42 | 40 |

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

| | Number of Firms | Diffusion Indices | | | |
|---|---|---|---|---|---|
| | | Unit Cost Index | Labor Cost Index | Raw Material Cost Index | Price Index |
| Nation | 2038 | 54 | 53 | 45 | 44 |
| Manufacture of Textiles | 135 | 83 | 58 | 40 | 40 |
| Manufacture of General-purpose Machinery | 190 | 67 | 68 | 33 | 34 |
| Manufacture of Furniture | 29 | 62 | 60 | 50 | 48 |
| Coal Mining and Washing | 5 | 60 | 60 | 38 | 25 |
| Manufacture of Leather, Fur, Feather, Related Products and | 33 | 56 | 50 | 56 | 52 |
| Manufacture of Textile Wearing and Apparel | 73 | 55 | 53 | 50 | 50 |
| Manufacture of Foods | 51 | 55 | 53 | 51 | 51 |
| Manufacture of Rubber Products | 25 | 54 | 58 | 42 | 42 |
| Manufacture of Transport Equipment | 77 | 54 | 51 | 50 | 49 |

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

| | Number of Firms | Diffusion Indices | | | |
|---|---|---|---|---|---|
| | | Unit Cost Index | Labor Cost Index | Raw Material Cost Index | Price Index |
| Nation | 2038 | 54 | 53 | 45 | 44 |
| Inner Mongoli | 15 | 63 | 60 | 39 | 40 |
| Hubei | 51 | 58 | 54 | 50 | 50 |
| Shanxi | 23 | 57 | 57 | 43 | 43 |
| Zhejiang | 299 | 57 | 53 | 45 | 43 |
| Shanghai | 89 | 57 | 56 | 46 | 44 |
| Jiangsu | 303 | 56 | 55 | 44 | 43 |
| Guangdong | 271 | 56 | 53 | 46 | 47 |
| Hebei | 87 | 54 | 55 | 43 | 42 |

Notes:

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

**Table 6. Financing Environment**

**Table 6.1 Overall**

| | % Firms with Loans | | % Firms with New Loans | | Collateralization Rate % | | Diffusion Index - Lending Attitude | | Diffusion Index - Interest Rate | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Q4 | Q3 | Q4 | Q3 | Q4 | Q3 | Q4 | Q3 | Q4 | Q3 |
| Nation | 2038 | 2007 | 24 | 24 | 2 | 6 | 73 | 70 | 42 | 45 |
| *With or Without Investment* | | | | | | | | | | |
| Firms with Investment | 105 | 203 | 33 | 33 | 5 | 14 | 44 | 69 | 36 | 47 |
| Firms without Investment | 1933 | 1804 | 24 | 22 | 2 | 5 | 76 | 71 | 42 | 44 |
| *By Size* | | | | | | | | | | |
| Large | 747 | 723 | 28 | 26 | 4 | 7 | 79 | 69 | 39 | 43 |
| Medium | 672 | 690 | 25 | 24 | 2 | 6 | 67 | 76 | 46 | 48 |
| Small | 619 | 594 | 19 | 19 | 1 | 5 | 64 | 65 | 41 | 43 |
| *By Ownership* | | | | | | | | | | |
| State-owned | 81 | 83 | 25 | 24 | 0 | 4 | 69 | 90 | 46 | 45 |
| Collectively-owned | 37 | 31 | 22 | 23 | 3 | 6 | 50 | 50 | 50 | 25 |
| Private | 1637 | 1598 | 26 | 25 | 3 | 7 | 72 | 70 | 41 | 45 |
| Foreign -owned | 332 | 336 | 17 | 15 | 2 | 5 | 75 | 72 | 43 | 47 |
| *By Product Type* | | | | | | | | | | |
| Consumer Goods - Durable | 438 | 439 | 23 | 23 | 2 | 6 | 77 | 71 | 46 | 48 |
| Consumer Goods - Nondurable | 626 | 614 | 26 | 22 | 3 | 5 | 71 | 70 | 34 | 41 |
| Capital Goods | 199 | 173 | 22 | 27 | 2 | 7 | 64 | 71 | 30 | 25 |
| Intermediate Goods | 776 | 784 | 24 | 25 | 2 | 7 | 74 | 69 | 48 | 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 | 2001 | # | 98 |
| Founder | 66 | # | 3 |
| Bank | 11 | # | 0 |
| Stock market | 3 | # | 0 |
| Non-official finance institution | 3 | # | 0 |
| Relatives and friends | 1 | # | 0 |
| Others | 3 | # | 0 |

*The second most important source of financing*

| Sources | Number of Firms | | % of Firms |
|---|---|---|---|
| Founder | 511 | # | 1 |
| Bank | 474 | # | 26 |
| Internal Funds | 19 | # | 21 |
| Relatives and friends | 6 | # | 0 |
| Stock market | 1 | # | 0 |
| Non-official finance institution | 1 | # | 0 |
| Others | 4 | | 0 |

## Appendix A1. Industry and Regional Ranking of Excess Capacity

### Appendix 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 | |
|---|---|---|---|---|---|---|
| | Q4 | Q3 | Q4 | Q3 | Q4 | Q3 |
| Coal Mining and Washing | 5 | 2 | 60 | 100 | 60 | 100 |
| Processing of Petroleum and Nuclear Fuel | 7 | 8 | 57 | 38 | 100 | 75 |
| Mining and Processing of Nonmetal Ores | 14 | 14 | 29 | 43 | 36 | 71 |
| Smelting and Pressing of Ferrous Metals | 27 | 26 | 22 | 27 | 41 | 46 |
| Processing of Wood Products | 43 | 43 | 21 | 2 | 51 | 30 |
| Manufacture of Metal Products | 148 | 142 | 20 | 35 | 38 | 43 |
| Manufacture of Non-metallic Mineral Products | 114 | 97 | 18 | 14 | 32 | 30 |
| Processing of Agricultural and Related Products | 111 | 114 | 17 | 17 | 56 | 32 |
| Manufacture of Electric Machinery and Apparatus | 151 | 135 | 16 | 43 | 30 | 52 |
| Manufacture of Leather, Fur, Feather, Related Products and Footwear | 33 | 41 | 12 | 0 | 52 | 7 |
| Manufacture of Chemical Fibers | 10 | 9 | 10 | 33 | 30 | 44 |
| Printing, Reproduction of Recording Media | 55 | 53 | 9 | 23 | 15 | 25 |
| Manufacture of Plastics | 82 | 78 | 7 | 4 | 52 | 6 |
| Manufacture of Foods | 51 | 52 | 6 | 8 | 27 | 13 |
| Manufacture of Transport Equipment | 77 | 74 | 4 | 26 | 13 | 31 |
| Manufacture of Furniture | 29 | 31 | 3 | 16 | 17 | 23 |
| Manufacture of Textile Wearing and Apparel | 73 | 69 | 3 | 13 | 19 | 25 |
| Computers, Communication and Electric Equipment | 79 | 83 | 3 | 11 | 23 | 52 |
| Manufacture of Measuring Instruments | 41 | 33 | 2 | 9 | 7 | 12 |
| Manufacture of Chemical Products | 128 | 125 | 2 | 28 | 15 | 40 |
| Manufacture of Beverage | 43 | 44 | 2 | 11 | 16 | 18 |
| Manufacture of General-purpose Machinery | 190 | 182 | 2 | 16 | 3 | 62 |
| Manufacture of Special-purpose Machinery | 118 | 113 | 2 | 28 | 4 | 36 |
| Manufacture of Medicines | 62 | 71 | 2 | 13 | 8 | 17 |
| Manufacture of Textiles | 135 | 130 | 1 | 2 | 1 | 7 |
| Smelting and Pressing of Non-ferrous Metals | 17 | 37 | 0 | 11 | 29 | 24 |
| Manufacture of Handicrafts and Others | 40 | 46 | 0 | 9 | 15 | 28 |
| Manufacture of Paper and Paper Products | 57 | 57 | 0 | 14 | 2 | 14 |
| Manufacture of Rubber Products | 25 | 27 | 0 | 15 | 0 | 37 |
| Manufacture of Cultural and Sports Products | 19 | 22 | 0 | 0 | 0 | 23 |
| Power Production and Supply | 36 | 34 | 0 | 9 | 0 | 12 |
| Mining and Processing of Non-ferrous Metal | 5 | 3 | 0 | 33 | 0 | 33 |
| Production and Supply of Water | 9 | 9 | 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 three firms.

## Appendix 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 | |
|---|---|---|---|---|---|---|
| | Q4 | Q3 | Q4 | Q3 | Q4 | Q3 |
| Guizhou | 22 | 19 | 41 | 32 | 55 | 42 |
| Jilin | 23 | 22 | 35 | 23 | 48 | 32 |
| Beijing | 70 | 70 | 29 | 24 | 49 | 39 |
| Heilongjiang | 38 | 35 | 29 | 17 | 37 | 26 |
| Shanxi | 36 | 37 | 28 | 19 | 42 | 30 |
| Chongqing | 22 | 22 | 27 | 18 | 32 | 32 |
| Yunnan | 71 | 62 | 24 | 16 | 38 | 26 |
| Henan | 59 | 55 | 22 | 22 | 36 | 33 |
| Shandong | 81 | 84 | 21 | 24 | 42 | 45 |
| Tianjin | 33 | 35 | 21 | 20 | 30 | 37 |
| Liaoning | 15 | 16 | 20 | 31 | 47 | 50 |
| Jiangxi | 49 | 47 | 20 | 17 | 20 | 23 |
| Sichuan | 183 | 186 | 19 | 22 | 34 | 35 |
| Hebei | 38 | 33 | 18 | 21 | 39 | 42 |
| Shanghai | 50 | 51 | 18 | 18 | 22 | 33 |
| Inner Mongolia | 82 | 82 | 17 | 21 | 29 | 33 |
| Jiangsu | 299 | 293 | 17 | 15 | 32 | 33 |
| Fujian | 35 | 34 | 17 | 15 | 31 | 32 |
| Hunan | 88 | 91 | 16 | 13 | 34 | 30 |
| Hubei | 311 | 311 | 15 | 17 | 34 | 33 |
| Anhui | 7 | 8 | 14 | 13 | 29 | 50 |
| Shaanxi | 260 | 258 | 14 | 11 | 26 | 25 |
| Guangdong | 15 | 14 | 13 | 14 | 13 | 21 |
| Zhejiang | 83 | 96 | 11 | 8 | 19 | 21 |
| Guangxi | 24 | 23 | 8 | 4 | 17 | 17 |
| Gansu | 5 | 7 | 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 three firms.

## Appendix A2. Industry and Regional Diffusion Index for Cost and Price

### Appendix A2.1 Industry Diffusion Index for Cost and Price

| | Number of Firms | | Diffusion Indices: Unit Cost Index | | Labor Cost Index | | Raw Material Cost Index | | Price Index | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Q4 | Q3 | Q4 | Q3 | Q4 | Q3 | Q4 | Q3 | Q4 | Q3 |
| Nation | 2038 | 2007 | 54 | 54 | 53 | 56 | 45 | 44 | 44 | 42 |
| *Mining* | | | | | | | | | | |
| Coal Mining and Washing | 5 | 2 | 60 | 50 | 60 | 50 | 38 | 50 | 25 | 0 |
| Mining and Processing of Ferrous Metal Ores | 1 | 1 | 100 | 50 | 100 | 50 | 50 | 50 | 50 | 50 |
| Mining and Processing of Non-ferrous Metal | 5 | 3 | 50 | 33 | 50 | 33 | 50 | 33 | 50 | 67 |
| Mining and Processing of Nonmetal Ores | 14 | 14 | 50 | 50 | 57 | 54 | 43 | 50 | 43 | 43 |
| *Production and Supply of Electricity, Heat, Gas and Water* | | | | | | | | | | |
| Power Production and Supply | 36 | 34 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 49 |
| Production and Supply of Water | 9 | 9 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| *Light Manufacturing* | | | | | | | | | | |
| Processing of Agricultural and Related Products | 111 | 114 | 42 | 50 | 49 | 51 | 43 | 50 | 48 | 49 |
| Manufacture of Foods | 51 | 52 | 55 | 60 | 53 | 56 | 51 | 57 | 51 | 52 |
| Manufacture of Beverage | 43 | 44 | 43 | 50 | 49 | 50 | 44 | 50 | 50 | 50 |
| Manufacture of Textiles | 135 | 130 | 83 | 75 | 58 | 78 | 40 | 29 | 40 | 24 |
| Manufacture of Textile Wearing and Apparel | 73 | 69 | 55 | 64 | 53 | 61 | 50 | 50 | 50 | 44 |
| Manufacture of Leather, Fur, Feather, Related Products and Footwear | 33 | 41 | 56 | 49 | 50 | 50 | 56 | 49 | 52 | 44 |
| Processing of Wood Products | 43 | 43 | 45 | 51 | 50 | 52 | 47 | 49 | 40 | 47 |
| Manufacture of Furniture | 29 | 31 | 62 | 61 | 60 | 58 | 50 | 56 | 48 | 48 |
| Manufacture of Paper and Paper Products | 57 | 57 | 48 | 54 | 49 | 50 | 48 | 54 | 46 | 48 |
| Printing, Reproduction of Recording Media | 55 | 53 | 48 | 51 | 48 | 50 | 50 | 50 | 49 | 48 |
| Manufacture of Cultural and Sports Products | 19 | 22 | 53 | 59 | 55 | 61 | 47 | 50 | 45 | 50 |
| Manufacture of Medicines | 62 | 71 | 50 | 51 | 50 | 50 | 51 | 50 | 51 | 51 |
| Manufacture of Handicrafts and Others | 40 | 46 | 51 | 50 | 51 | 51 | 50 | 50 | 49 | 49 |
| Recycling and Disposal of Waste | 2 | 2 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| *Chemical Industry* | | | | | | | | | | |
| Processing of Petroleum and Nuclear Fuel | 7 | 8 | 0 | 0 | 36 | 50 | 0 | 0 | 7 | 25 |
| Manufacture of Chemical Products | 128 | 125 | 53 | 56 | 51 | 52 | 46 | 49 | 44 | 48 |
| Manufacture of Chemical Fibers | 10 | 9 | 50 | 50 | 50 | 56 | 40 | 44 | 35 | 39 |
| Manufacture of Rubber Products | 25 | 27 | 54 | 63 | 58 | 63 | 42 | 54 | 42 | 46 |
| Manufacture of Plastics | 82 | 78 | 41 | 59 | 51 | 71 | 38 | 23 | 38 | 21 |
| *Equipment Manufacturing* | | | | | | | | | | |
| Manufacture of General-purpose Machinery | 190 | 182 | 67 | 48 | 68 | 62 | 33 | 18 | 34 | 16 |
| Manufacture of Special-purpose Machinery | 118 | 113 | 50 | 46 | 50 | 52 | 49 | 45 | 46 | 45 |
| Manufacture of Transport Equipment | 77 | 74 | 54 | 57 | 51 | 53 | 50 | 51 | 49 | 47 |
| Manufacture of Electric Machinery and Apparatus | 151 | 135 | 50 | 50 | 50 | 50 | 48 | 49 | 49 | 49 |
| Computers, Communication and Electric Equipment | 79 | 83 | 51 | 57 | 52 | 55 | 48 | 49 | 47 | 47 |
| Manufacture of Measuring Instruments | 41 | 33 | 52 | 59 | 52 | 61 | 52 | 55 | 50 | 48 |
| *Other Heavy Manufacturing* | | | | | | | | | | |
| Manufacture of Non-metallic Mineral Products | 114 | 97 | 50 | 55 | 50 | 58 | 50 | 48 | 46 | 44 |
| Smelting and Pressing of Ferrous Metals | 27 | 26 | 52 | 44 | 61 | 52 | 37 | 30 | 31 | 29 |
| Smelting and Pressing of Non-ferrous Metals | 17 | 37 | 50 | 50 | 62 | 66 | 34 | 33 | 32 | 32 |
| Manufacture of Metal Products | 148 | 142 | 50 | 50 | 50 | 50 | 36 | 47 | 35 | 48 |

Notes:

1. The table includes industries with more than three firms.

## Appendix A2.2 Regional Diffusion Index for Cost and Price

| | Number of Firms | | Diffusion Indices: Unit Cost Index | | Labor Cost Index | | Raw Material Cost Index | | Price Index | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Q4 | Q3 | Q4 | Q3 | Q4 | Q3 | Q4 | Q3 | Q4 | Q3 |
| Nation | 2038 | 2007 | 54 | 54 | 53 | 56 | 45 | 44 | 44 | 42 |
| *North China* | | | | | | | | | | |
| Beijing | 40 | 38 | 50 | 57 | 50 | 54 | 44 | 53 | 43 | 53 |
| Tianjin | 50 | 49 | 47 | 56 | 51 | 55 | 40 | 46 | 41 | 45 |
| Hebei | 87 | 82 | 54 | 54 | 55 | 57 | 43 | 41 | 42 | 37 |
| *Northeast* | | | | | | | | | | |
| Liaoning | 86 | 81 | 51 | 48 | 53 | 53 | 39 | 41 | 42 | 39 |
| Jilin | 30 | 24 | 45 | 58 | 52 | 56 | 43 | 50 | 43 | 50 |
| Heilongjiang | 27 | 22 | 50 | 48 | 52 | 52 | 43 | 43 | 43 | 41 |
| *Northwest* | | | | | | | | | | |
| Inner Mongolia | 15 | 15 | 63 | 57 | 60 | 57 | 39 | 50 | 40 | 43 |
| Shaanxi | 21 | 23 | 48 | 50 | 48 | 57 | 45 | 46 | 43 | 48 |
| Gansu | 6 | 5 | 33 | 40 | 50 | 50 | 25 | 40 | 33 | 30 |
| Ningxia | 3 | 3 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Xinjiang | 3 | 3 | 33 | 50 | 33 | 50 | 50 | 50 | 33 | 33 |
| *Central North* | | | | | | | | | | |
| Shanxi | 23 | 22 | 57 | 55 | 57 | 55 | 43 | 41 | 43 | 41 |
| Shandong | 196 | 183 | 53 | 52 | 54 | 55 | 45 | 42 | 44 | 42 |
| Henan | 65 | 70 | 50 | 49 | 51 | 53 | 44 | 39 | 45 | 39 |
| *Southwest* | | | | | | | | | | |
| Chongqing | 31 | 35 | 48 | 53 | 50 | 56 | 45 | 44 | 47 | 43 |
| Sichuan | 54 | 59 | 50 | 50 | 51 | 52 | 45 | 45 | 44 | 45 |
| Guizhou | 6 | 7 | 50 | 43 | 50 | 50 | 50 | 42 | 50 | 42 |
| Yunnan | 16 | 15 | 50 | 50 | 50 | 47 | 50 | 50 | 50 | 50 |
| *East China* | | | | | | | | | | |
| Shanghai | 89 | 88 | 57 | 55 | 56 | 57 | 46 | 47 | 44 | 44 |
| Jiangsu | 303 | 311 | 56 | 55 | 55 | 58 | 44 | 39 | 43 | 38 |
| Zhejiang | 299 | 299 | 57 | 56 | 53 | 58 | 45 | 41 | 43 | 37 |
| *South China* | | | | | | | | | | |
| Fujian | 81 | 83 | 53 | 56 | 54 | 57 | 47 | 49 | 46 | 45 |
| Guangdong | 271 | 260 | 56 | 57 | 53 | 57 | 46 | 47 | 47 | 44 |
| Guangxi | 33 | 36 | 52 | 54 | 52 | 57 | 47 | 50 | 45 | 49 |
| Hainan | 2 | 2 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| *Central South* | | | | | | | | | | |
| Anhui | 74 | 71 | 52 | 51 | 52 | 54 | 43 | 47 | 43 | 46 |
| Jiangxi | 42 | 38 | 48 | 51 | 50 | 57 | 44 | 40 | 44 | 36 |
| Hubei | 51 | 50 | 58 | 57 | 54 | 57 | 50 | 45 | 50 | 44 |
| Hunan | 34 | 33 | 51 | 52 | 50 | 52 | 49 | 45 | 43 | 39 |

Notes:

1. The table includes provinces with more than three firms.