

PMI Quarterly on China Manufacturing

China Federation of Logistics & Purchasing

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PMI indicates growth acceleration in the manufacturing sector and the economy

- Output expands at a faster pace.
- Both new orders and new export orders indices go up.
- Backlogs of orders index edges up in March.
- Stocks of finished goods index stays high.
- Purchasing activities quicken.
- Upstream cost pressure eases.
- Ex-factory prices index falls to a six-month low.
- Imports index stays in the expansionary zone.
- Employment in manufacturing sector stabilizes.
- Suppliers' delivery accelerates.
- Chinese manufacturers remain optimistic.

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1. PMI indicates growth acceleration in the manufacturing sector and the economy

China's manufacturing PMI rose from 51.3 in January to 51.6 in February, and further reached 51.8 in March, the highest level since May 2012. The index readings in the past three months indicate that the growth in manufacturing and economic activities in China has accelerated recently. (See exhibit 1)

It is noteworthy to recognize the discrepancy by size of enterprises. The PMI of 'large enterprises' went up all the way from 53.2 in December last year to 53.3 in February and in March, indicating that 'large enterprises' have expanded at a relatively fast pace recently. Meanwhile, the PMI of 'medium enterprises' fell from 50.8 in January to 50.5 in February, and further to 50.4 in March, indicating that the expansion of 'medium enterprises' has moderated. The PMI of 'small enterprises' stayed at 46.4 in January and February, and then rose to a ten-month high of 48.6 in March, showing that 'small enterprises' have contracted at a slower pace lately. (See exhibit 2)

The PMI data in recent months suggest that the economy has improved. The output index has risen for two consecutive months, indicating an acceleration in output growth. Meanwhile, the new orders index has also continued to go up in recent months, showing that new orders have expanded at a quicker pace.¹ Besides, the new export orders index has been above the critical 50-mark for five consecutive months, indicating a continuous expansion of new export orders. Foreign demand has shown signs of improvement. Also noteworthy is that the input prices index has been on a downward trend since January this year, showing that prices of production inputs have advanced at a slower pace. Manufacturers thus have been under less intense pressure to further increase prices of their products. Against this backdrop, the ex-factory prices index, which has been published since January 2017, fell to a six-month low of 53.2 in March, indicating a smaller rise in ex-factory prices of finished goods.

Looking ahead, the Chinese government will strive to maintain stable economic growth ahead of the 19th National Party Congress which will be held in autumn this year. According to the Government Work Report published in early March, the government will continue with its prudent and neutral monetary policy and will maintain stable liquidity conditions; the fiscal policy is expected to be more proactive and effective. It is noteworthy that the ratio of fiscal deficit to nominal GDP is set at 3% for this year, meaning that the fiscal deficit is budgeted to be 2.38 trillion yuan this year, higher than the actual fiscal deficit last year by 200 billion yuan. Besides, according to the media report, more Public Private Partnership (PPP) projects will be

¹ The 'new orders index' covers both domestic and export orders. That is to say, the manufacturers are not asked to differentiate between domestic and export orders when filling in questionnaires.

carried out this year, which will greatly support the growth in infrastructure investment in China. Meanwhile, the government will continue to tackle the overcapacity problem, reduce housing inventories, bring down the financial leverage and costs of enterprises, shore up weak areas, as well as deepen reforms in fiscal and taxation system, financial system, state-owned enterprises, state capital and social system.

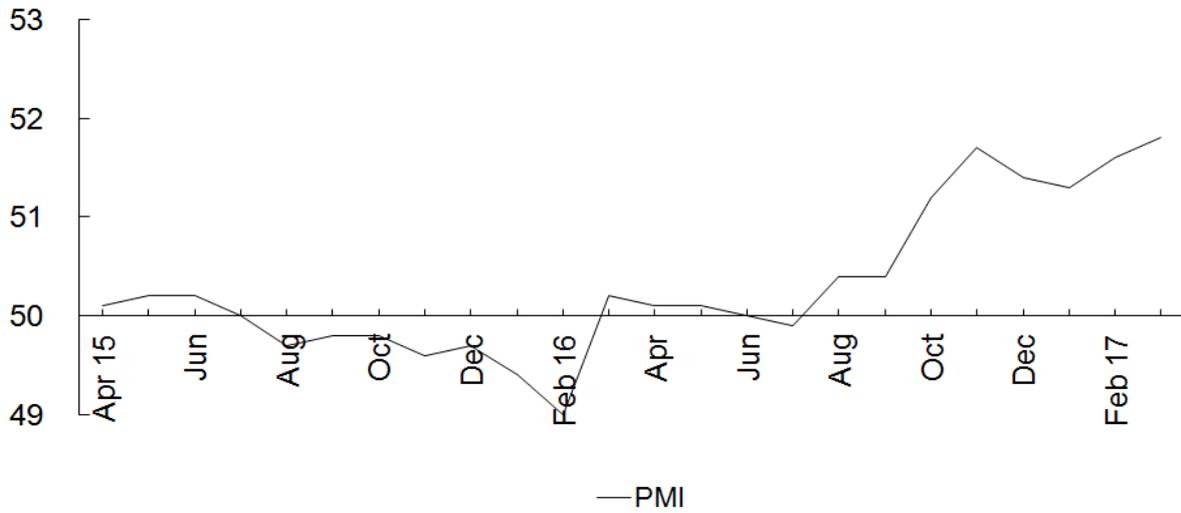
As demand has been improving, we predict that China's economy will show relatively fast growth in near future. Going forward, we expect the headline PMI to hover around 52 in 2Q17. We also forecast the real GDP growth to be around 6.8% yoy in 2Q17. Challenges facing Chinese manufacturers, however, include the greater uncertainty in the US trade policies under Trump administration, intense competition in the international market, stronger government's efforts to cut excess capacities in various sectors and enforce environmental regulations, increasing costs of labour and materials, and the weak demand for luxury products. Overall, we expect that the industrial production (VAIO) growth will be around 7% yoy in 2Q17.

Exhibit 3 shows that the pick-up in the headline PMI in March was largely attributed to the rise in the output index (which weighs 25% in the computation of the headline PMI), the new orders index (weighs 30%) and the employment index (weighs 20%). In March, 6 of the 13 sub-indices (i.e. output, new orders, new export orders, backlogs of orders, purchases of inputs and employment) were higher than their respective levels in the previous month, while 7 sub-indices were lower than their respective levels in the previous month. (See exhibit 4)

Among the 13 sub-indices, 8 stayed in the expansionary zone over the past three months (i.e. output, new orders, new export orders, purchases of inputs, imports, input prices, ex-factory prices and business expectations). Meanwhile, the indices of backlogs of orders, stocks of finished goods and stocks of major inputs stayed below 50 throughout the past three months.

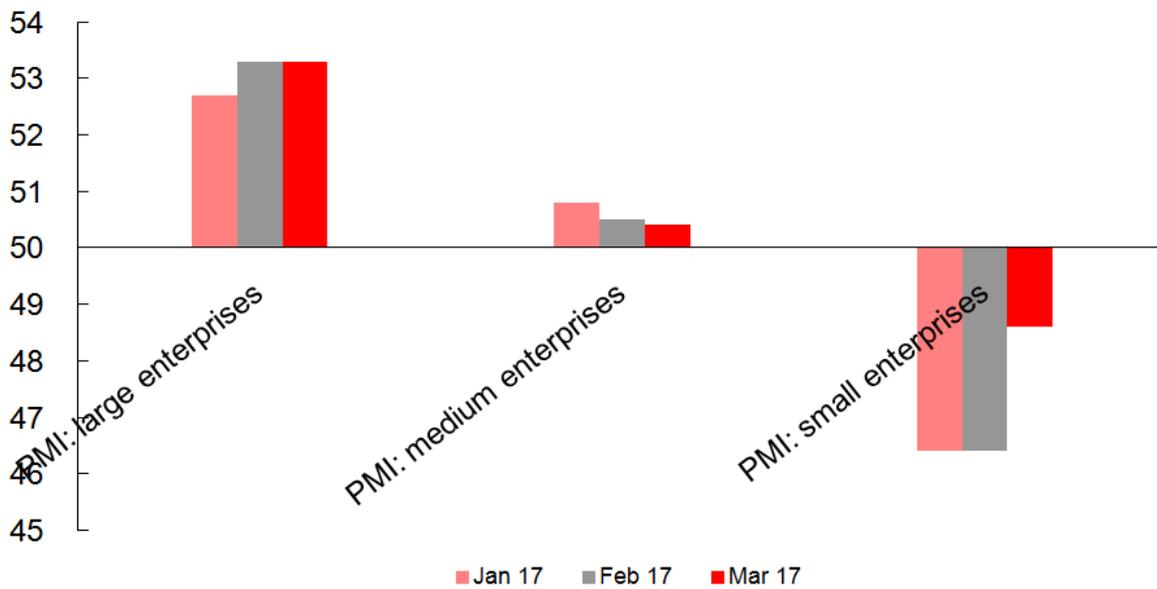
China's manufacturing PMI has so far done a satisfactory job in predicting economic growth. Exhibit 5 plots the quarterly real GDP yoy growth rates versus the monthly PMIs since its inception. It could be seen that the PMI demonstrates a fairly good track record of forecasting the growth trend of the economy at least over the next few months. Based on this chart we project that the real GDP growth will be around 6.8% yoy in 2Q17.

Exhibit 1: Headline PMI, April 2015 to March 2017



Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

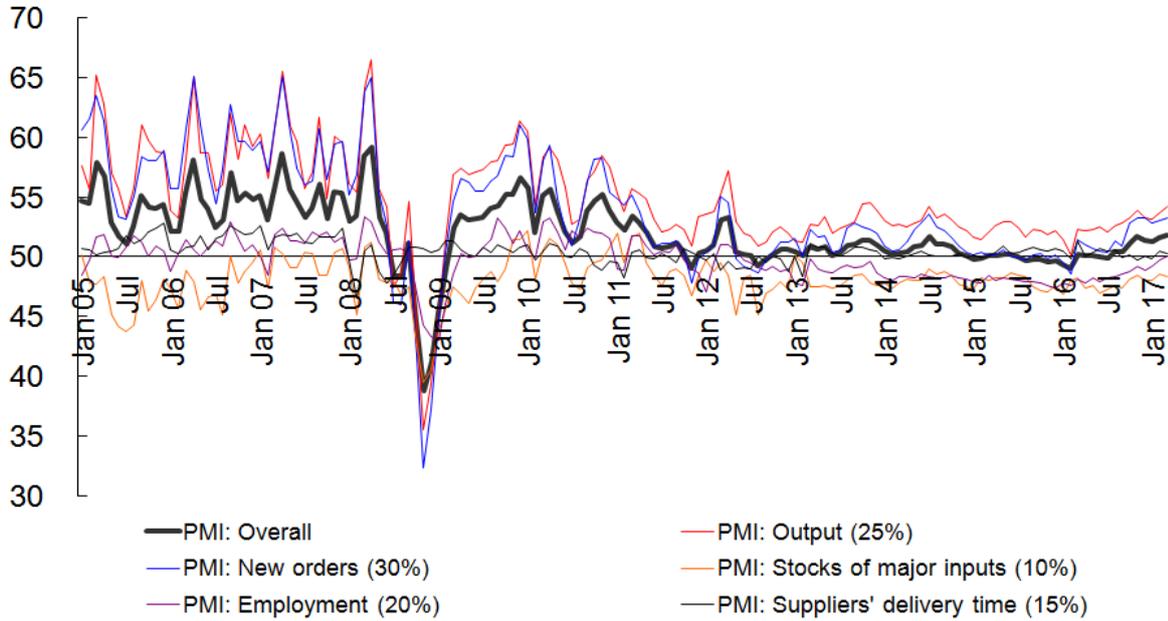
Exhibit 2: PMIs of large enterprises, medium enterprises and small enterprises, January to March 2017



Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

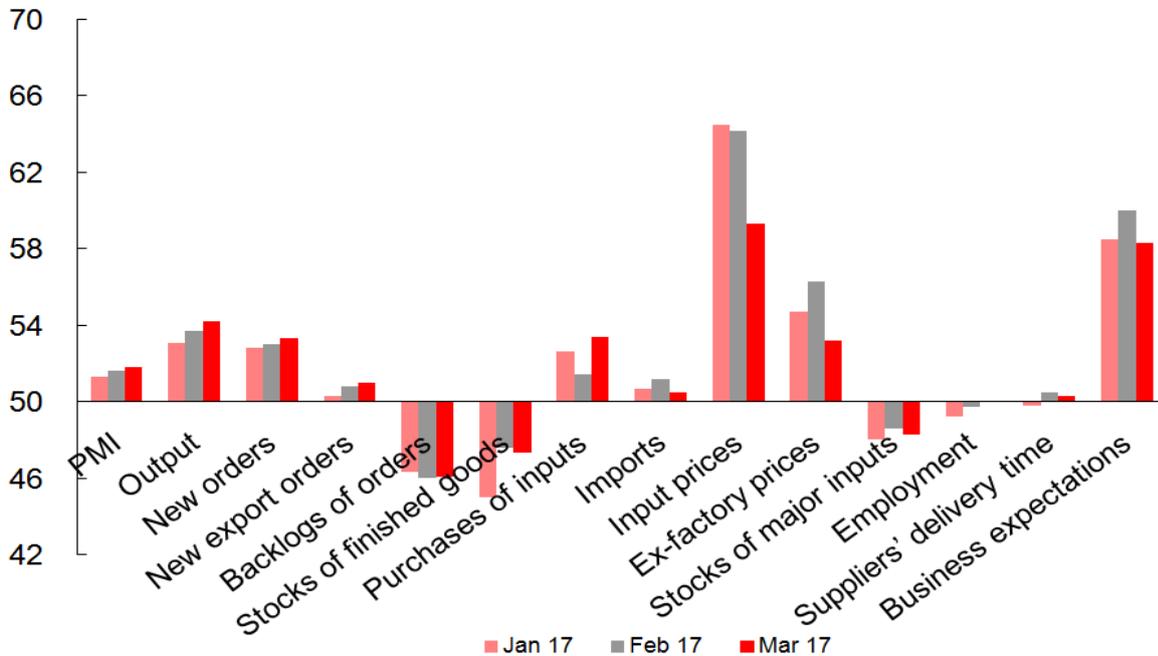
Exhibit 3: Headline PMI and sub-indices, January 2005 to March 2017

PMI = Output x 25% + New Orders x 30% + Stocks of Major Inputs x 10% + Employment x 20% + (100 - Suppliers' Delivery Time) x 15%



Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

Exhibit 4: Headline PMI and all sub-indices, January to March 2017



Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

Exhibit 5: Headline PMI and real GDP growth, January 2005 to March 2017

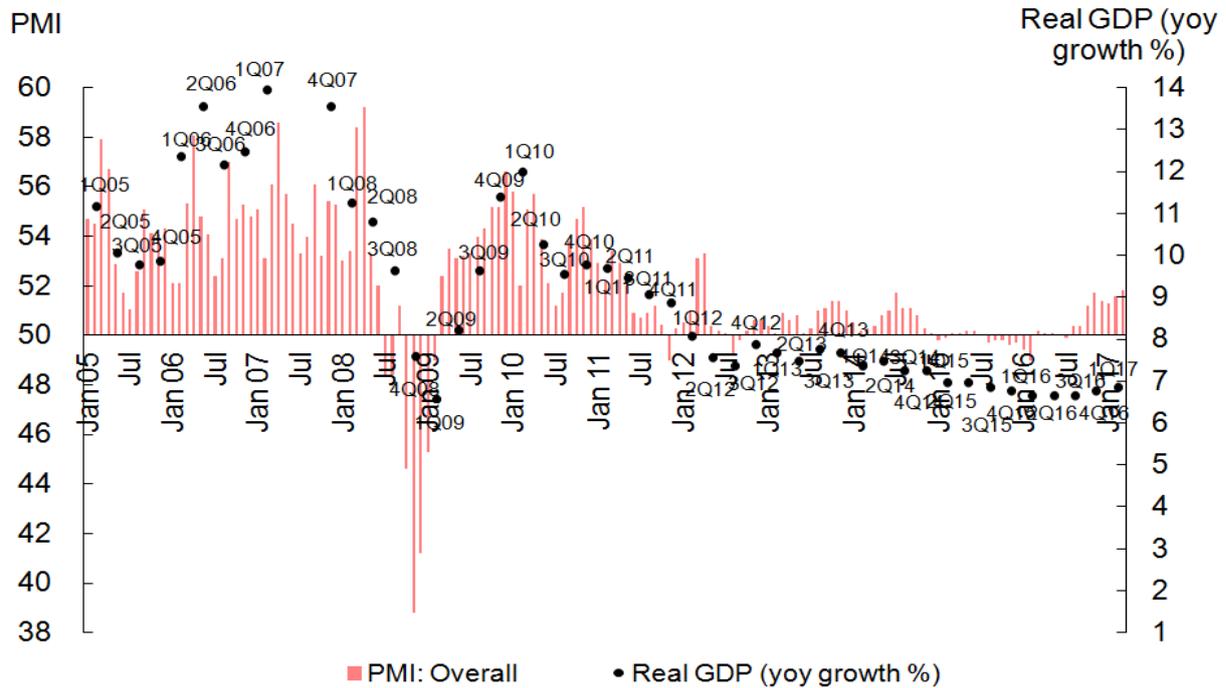
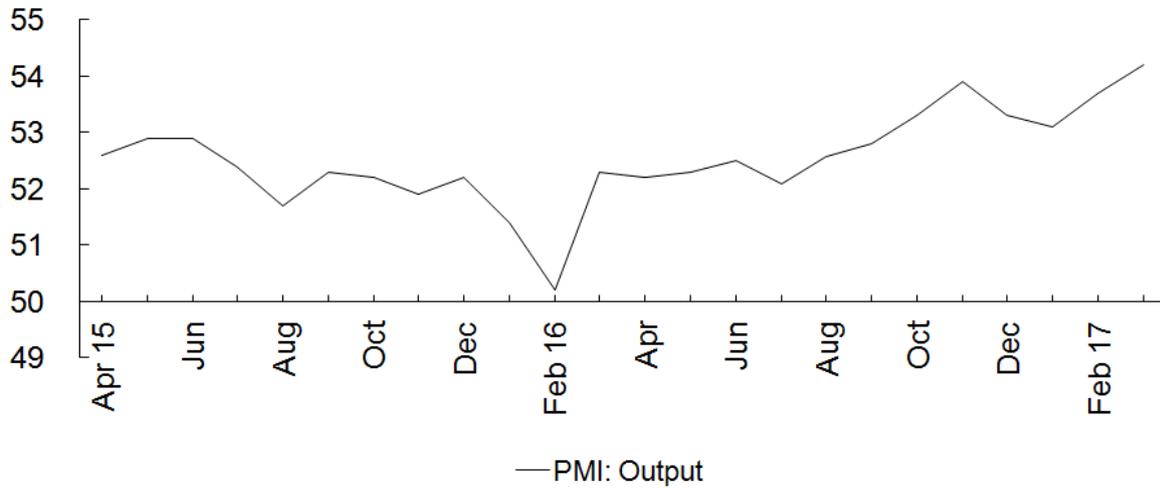
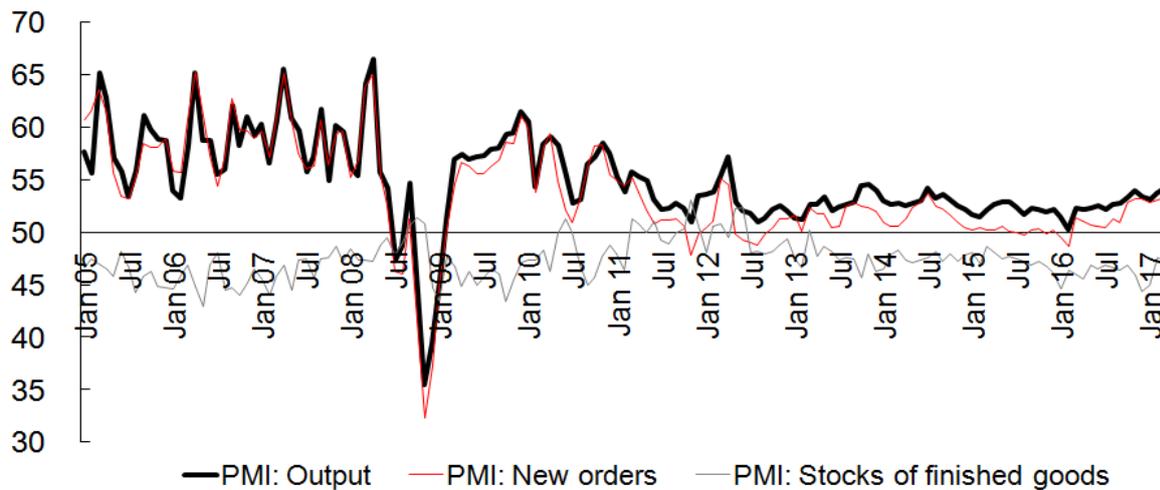


Exhibit 6: Output index, April 2015 to March 2017



Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

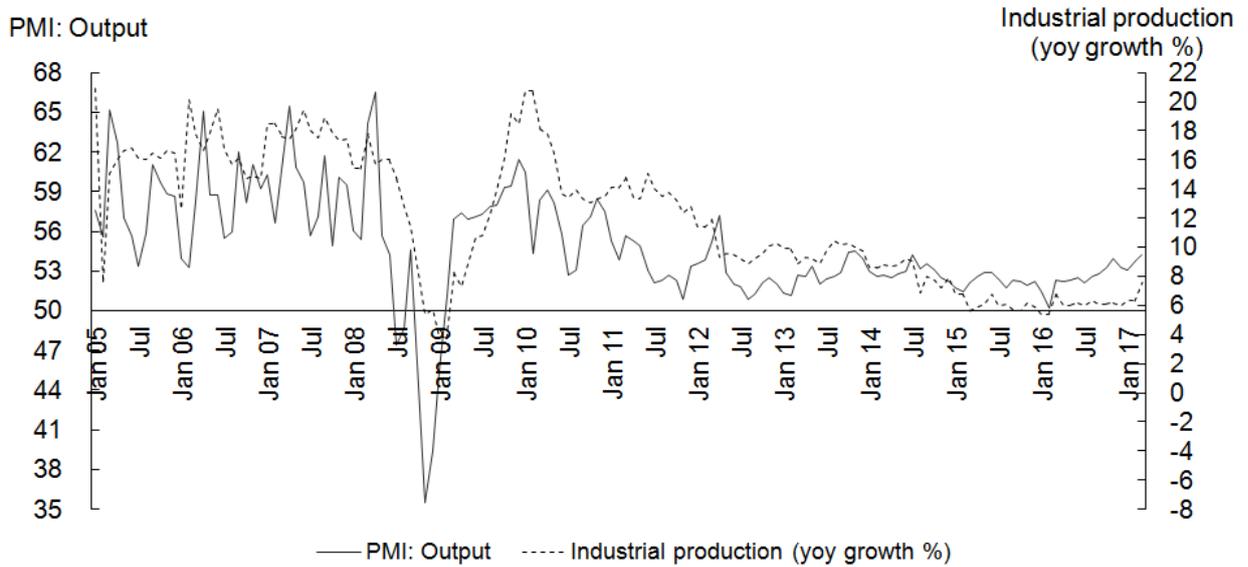
Exhibit 7: Output, new orders and stocks of finished goods, January 2005 to March 2017



Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

Exhibit 8 demonstrates the correlation (with some lags) between the output index and the year-on-year growth of value-added of industrial output (VAIO). Looking ahead, we expect that the VAIO growth will be around 7% yoy in 2Q17. In the coming months, industrial activities will be supported by an improvement in demand. Challenges facing Chinese manufacturers, however, include the greater uncertainty in the US trade policies under Trump administration, intense competition in the international market, stronger government’s efforts to cut excess capacities in various sectors and enforce environmental regulations, increasing costs of labour and materials and the weak demand for luxury products.

Exhibit 8: Output index and industrial production growth, January 2005 to March 2017



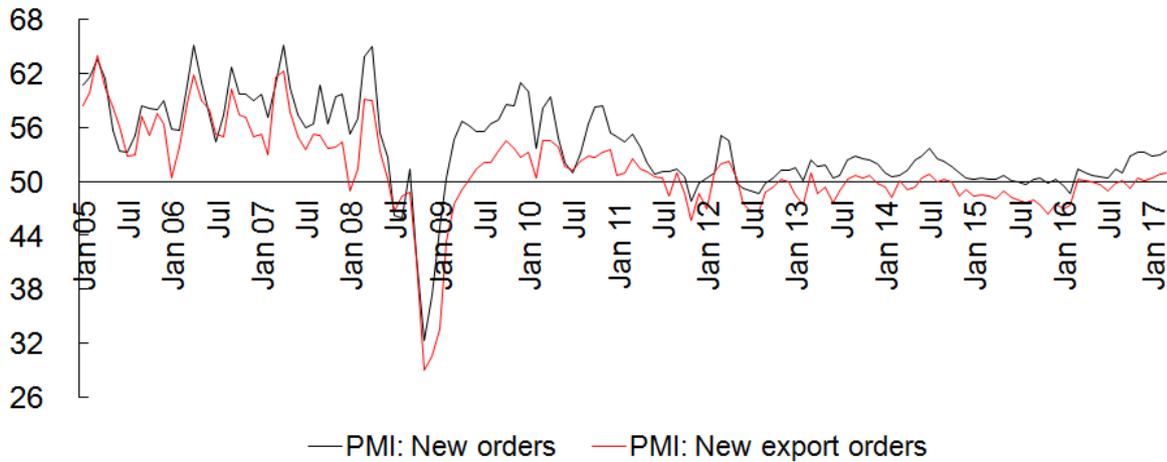
Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

3. Both new orders and new export orders indices go up

The new orders index went up from 52.8 in January to 53.0 in February. Afterwards, in March, the index advanced to 53.3, the highest level since August 2014, indicating that the growth of the total new orders has continued to accelerate recently.

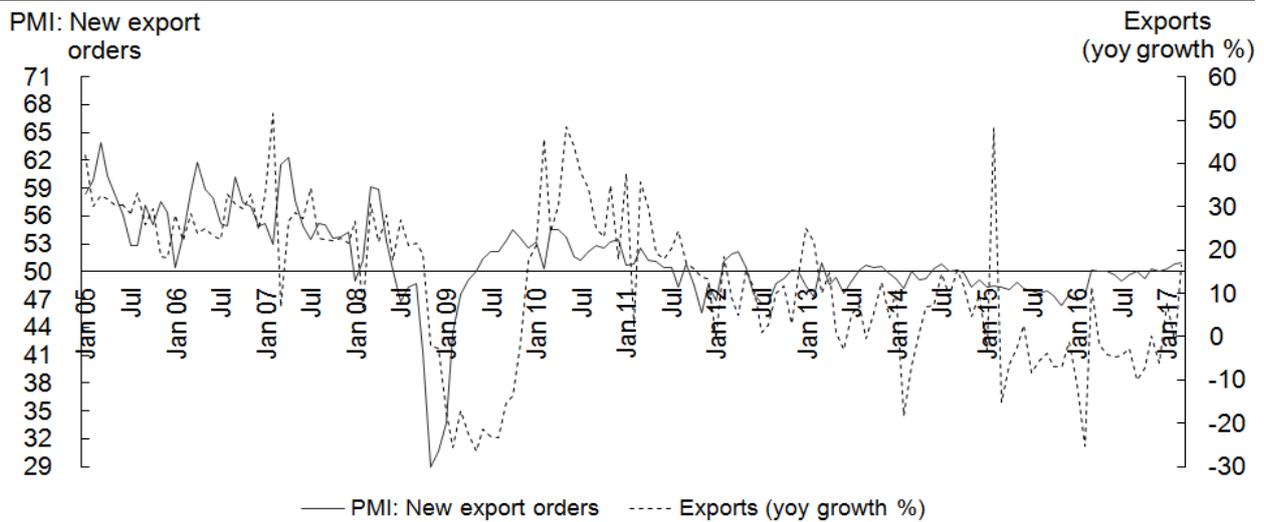
Foreign demand has also shown signs of improvement recently. The new export orders index rose from 50.3 in January to 50.8 in February, and then went up to 51.0 in March. The index has stayed in the expansionary zone for five consecutive months, showing a continuous expansion of new export orders. (See exhibit 9)

Exhibit 9: New orders index and new export orders index, January 2005 to March 2017



Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

Exhibit 10: New export orders index and export growth, January 2005 to March 2017



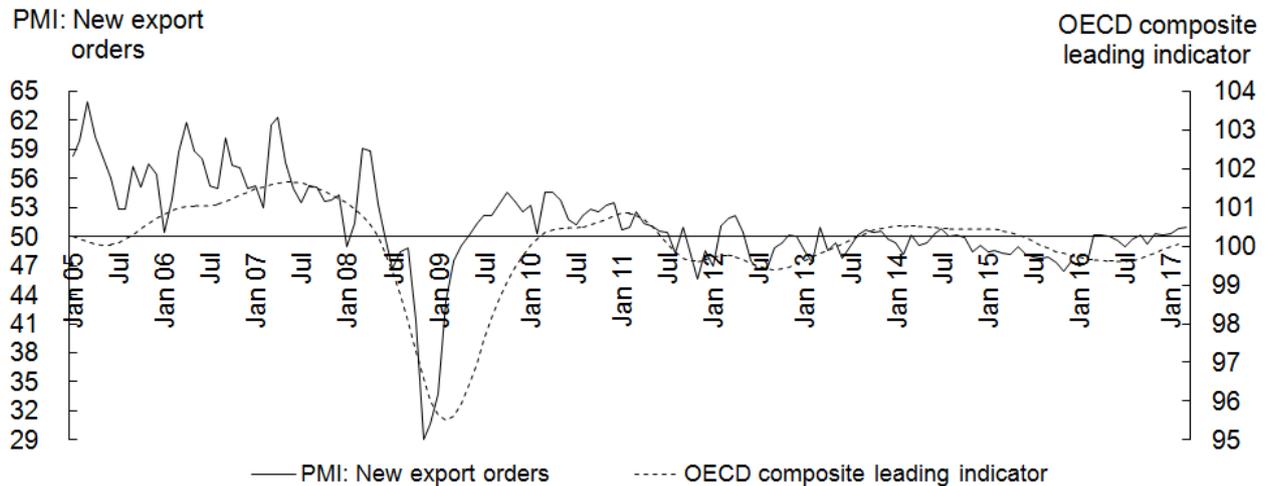
Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics, China Customs

Exhibit 10 plots the new export orders index against the year-on-year growth rates of China’s exports. The correlation between the two indices is fairly high. As the new export orders index has been in the expansionary zone for five consecutive months, our confidence for China’s export prospects has improved. Moreover, from exhibit 11 we can see that the new export orders index has been strongly correlated to the external economies, especially the developed economies. The OECD composite leading indicator² has been on an upward trend since July last year, suggesting a continuous improvement in the global economy. All in all, we forecast that

2 The OECD composite leading indicator, compiled by the Organization for Economic Cooperation and Development, is designed to provide early signals of turning points (peaks and troughs) between expansions and slowdowns of economic activity, and covers Australia, Austria, Belgium, Canada, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Japan, Korea, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Slovak Republic, Spain, Sweden, Switzerland, Turkey, United Kingdom and United States.

China’s exports will show high single-digit year-on-year growth in 2Q17.

Exhibit 11: New export orders index and OECD composite leading indicator, January 2005 to March 2017



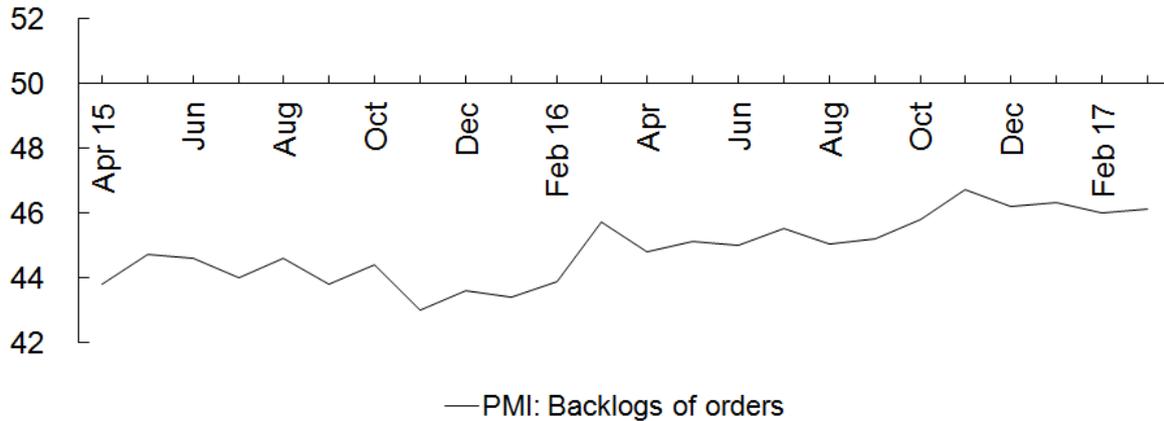
Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics, Organization for Economic Cooperation and Development

4. Backlogs of orders index edges up in March

The backlogs of orders index fell from 46.3 in January to 46.0 in February, and then edged up to 46.1 in March. The index has been in the contractionary zone since April 2012, indicating that backlogs of orders have continued to drop. (See exhibit 12)

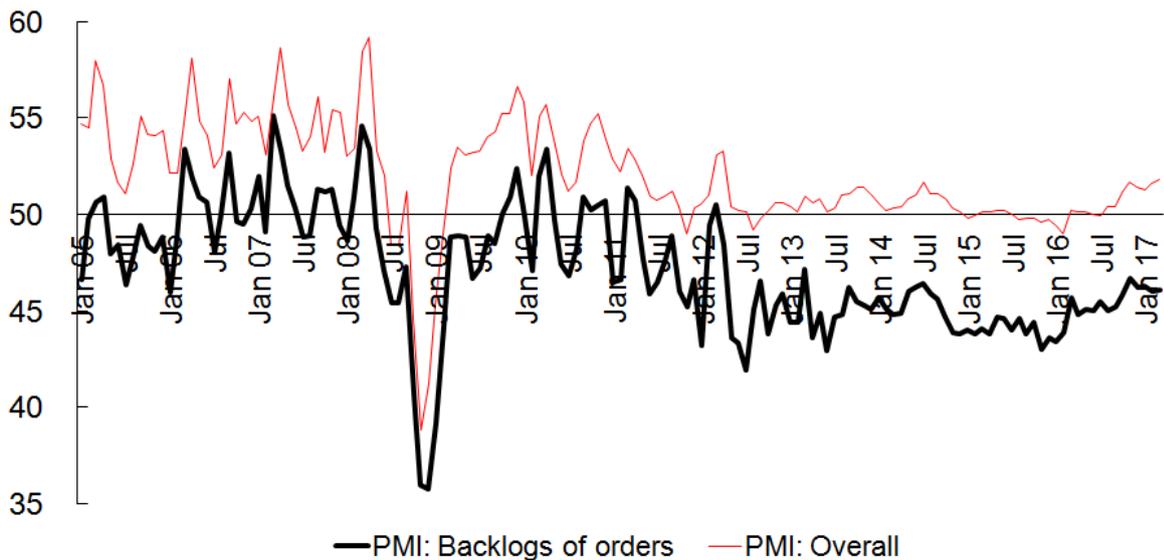
Looking ahead, we expect the index to go up in the near term, as indicated by the apparently very high correlation between the sub-index and the headline PMI, and the recent rise in the headline PMI. (See exhibit 13)

Exhibit 12: Backlogs of orders index, April 2015 to March 2017



Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

Exhibit 13: Backlogs of orders index and headline PMI, January 2005 to March 2017



Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

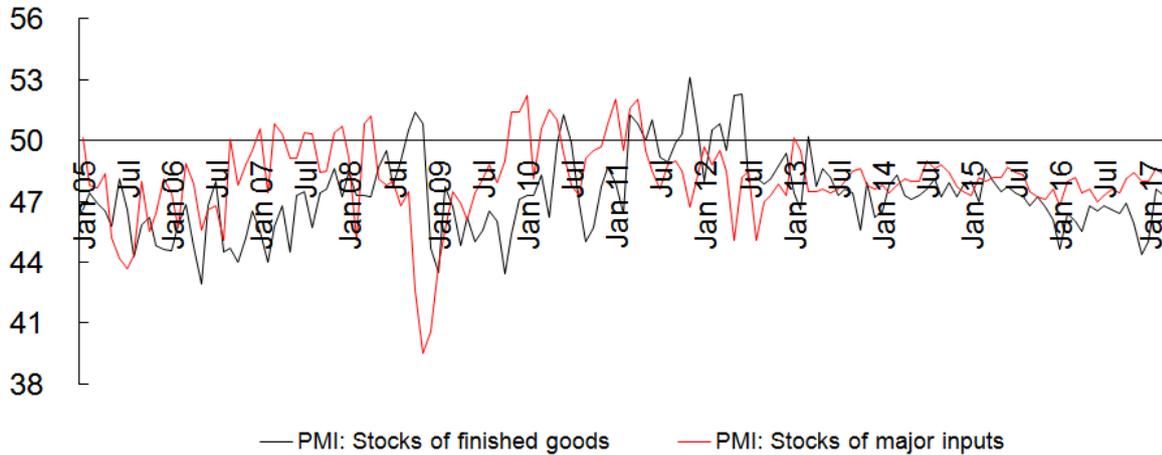
5. Stocks of finished goods index stays high

The stocks of finished goods index went up from 45.0 in January to its recent peak of 47.6 in February, and then stayed high at 47.3 in March. The high index readings in the past two months suggest that stocks of finished goods held by manufacturers have dropped at a slower pace recently.

Meanwhile, the stocks of major inputs index fluctuated within the range of 48.0 to 48.6

throughout January to March. (Exhibit 14) The index remained below the critical 50-mark in the past three months, indicating a continuous fall in the stocks of major inputs.

Exhibit 14: Stocks of finished goods index and stocks of major inputs index, January 2005 to March 2017



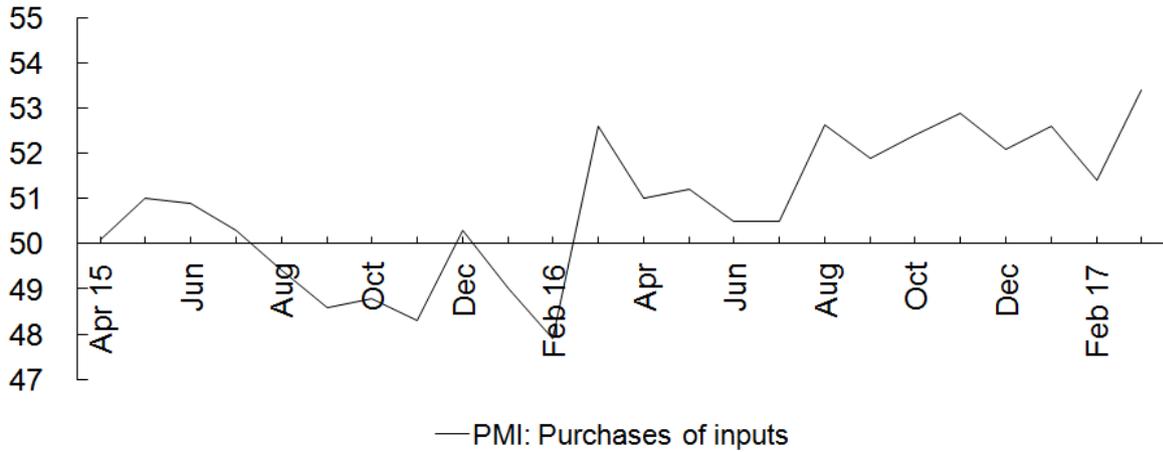
Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

6. Purchasing activities quicken

The purchases of inputs index dropped from 52.6 in January to 51.4 in February. However, the index rebounded strongly to 53.4 in March, the highest since December 2013, indicating that the growth in purchasing activities has accelerated recently. This could be due to a faster growth in new orders and a continuous increase in upstream prices. (Exhibit 15)

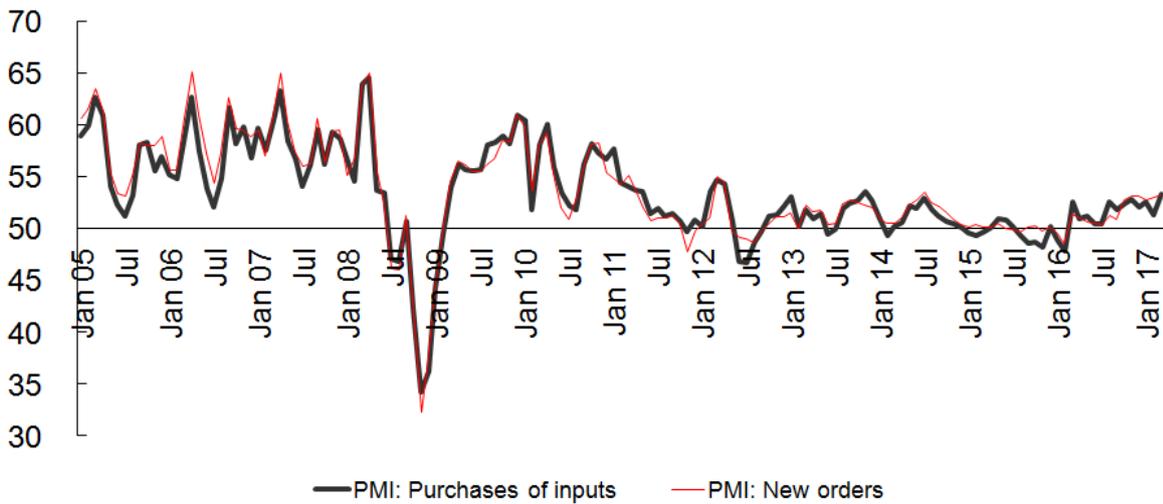
A number of factors affect the purchasing activities of manufacturers, among which the amount of new orders received by manufacturers has been the most important factor. Exhibit 16 plots the purchases of inputs index against the new orders index. The correlation between the two sub-indices is very strong. This is intuitively easy to explain – as manufacturers usually need to purchase extra inputs to cope with new orders. We expect to see continuous increase in purchases if the increase in new orders persists. The purchasing activities also reflect business confidence. Exhibit 17 shows the association between the purchases of inputs index and the business expectations index. Credit conditions could be another factor. Finally, exhibit 18 shows that input prices, as well as the expected trend of input prices, are also important considerations when making purchasing decisions.

Exhibit 15: Purchases of inputs index, April 2015 to March 2017



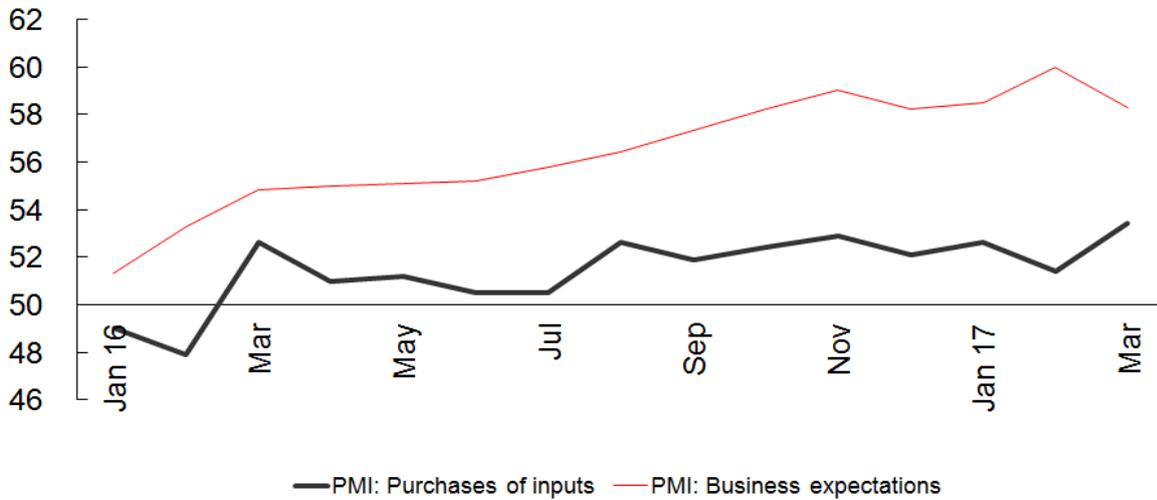
Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

Exhibit 16: Purchases of inputs and new orders, January 2005 to March 2017



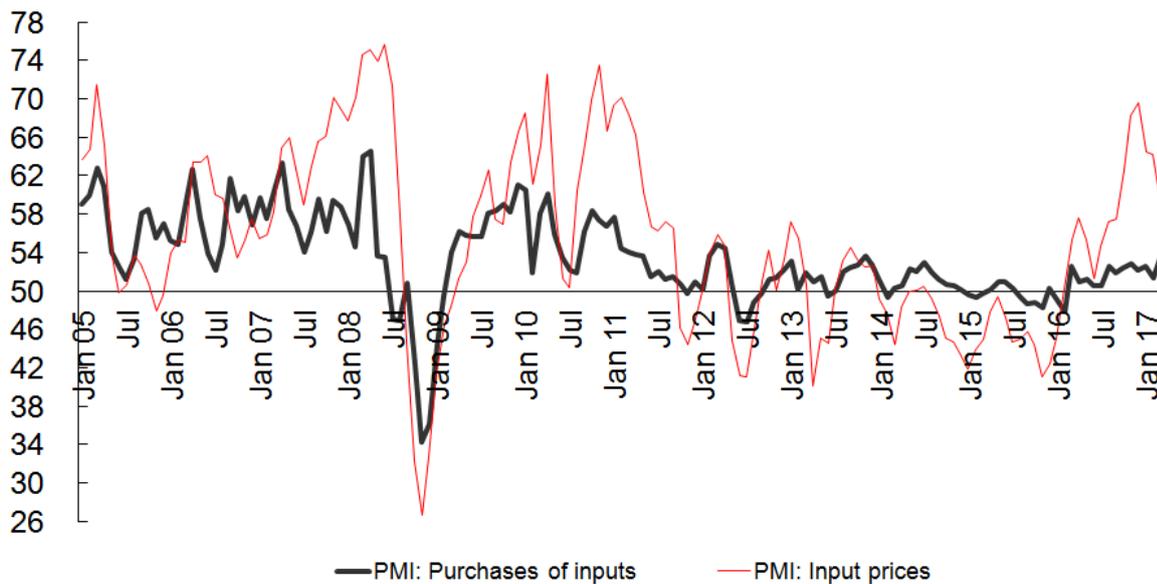
Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

Exhibit 17: Purchases of inputs and business expectations, January 2016 to March 2017



Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

Exhibit 18: Purchases of inputs and prices of major inputs, January 2005 to March 2017

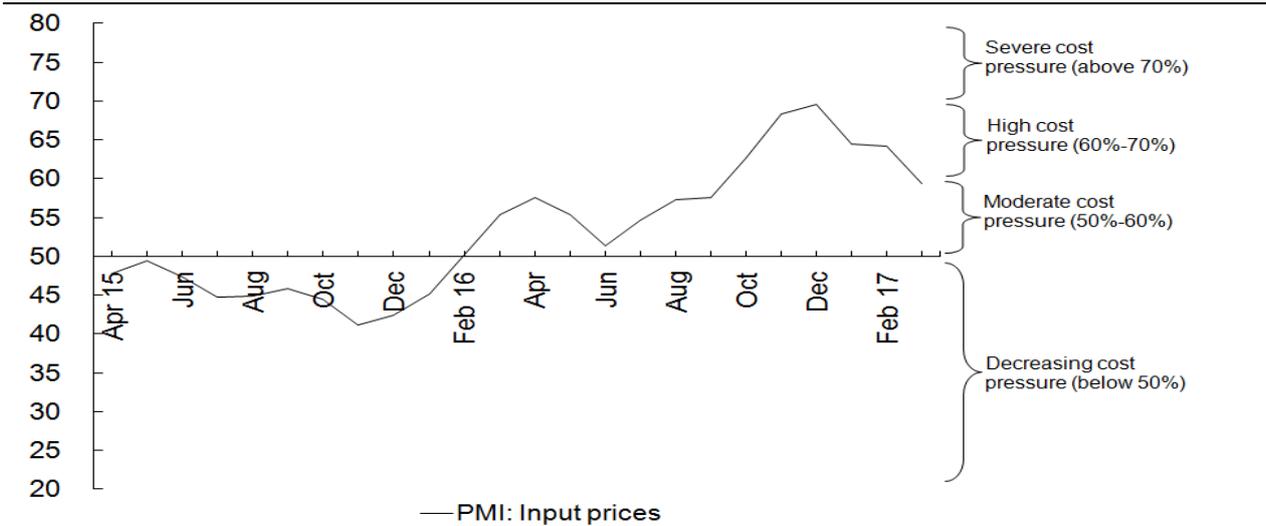


Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

7. Upstream cost pressure eases

After going down from 64.5 in January to 64.2 in February, the input prices index dropped at a faster pace by 4.9 pts. to 59.3 in March. The downward trend shows that the prices of production inputs have risen at a slower pace in recent months. Manufacturers thus have been under less intense pressure to further increase prices of their products. (Exhibit 19)

Exhibit 19: Input prices index, April 2015 to March 2017

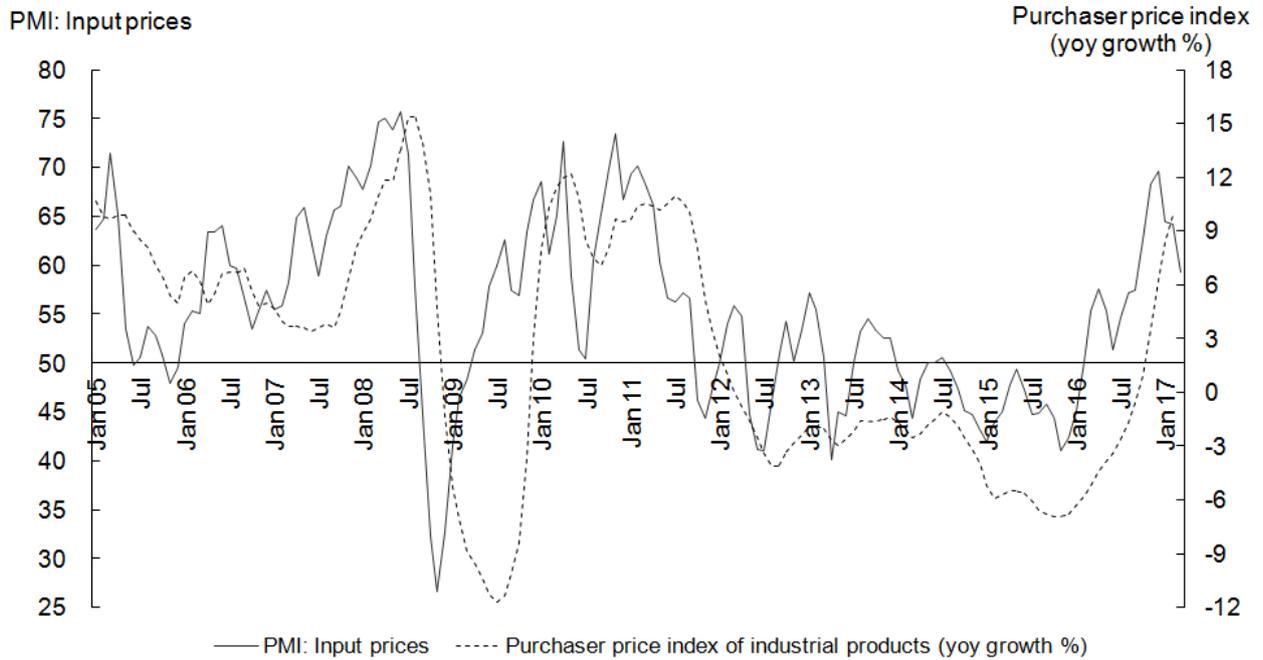


Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

Exhibit 20 shows that the input prices index is useful as a leading indicator of upstream prices. To show the association between the input prices index and ‘midstream’ prices, we plot the input prices index against the year-on-year growth of the producer price index (PPI)³ in exhibit 21. Going forward, we expect that the year-on-year growth rates for the producer price index (PPI) and purchaser price index will stay high in near future. We also forecast the CPI growth to go up in 2Q17. Finally, to see the extent to which input costs of Chinese manufacturers are affected by global commodity prices, exhibit 22 puts together the input prices index and the Thomson Reuters/ CoreCommodity CRB index.⁴

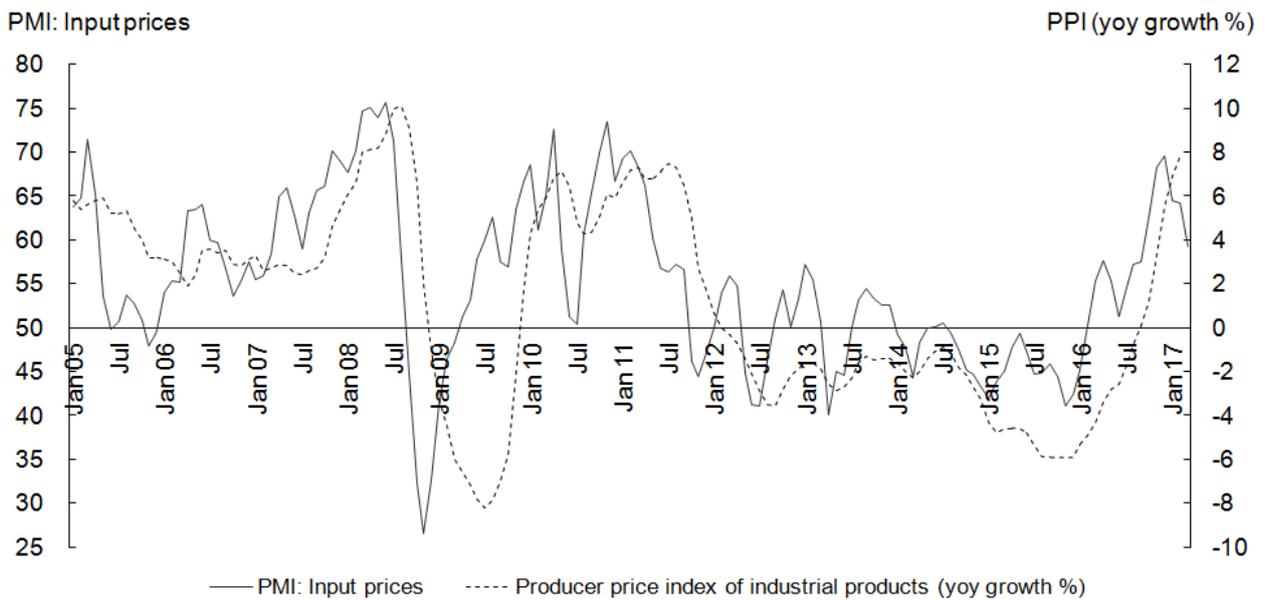
3 The producer price index of industrial goods (PPI), compiled by China National Bureau of Statistics, measures the prices of industrial products when they are sold for the first time after production.
 4 The Thomson Reuters/ CoreCommodity CRB Index, which comprises 19 commodities such as crude oil, aluminum, corn, cotton, gold, natural gas, soybeans, etc, has served as one of the most recognized measures of global commodities markets.

Exhibit 20: Input prices index and purchaser price index of industrial products, January 2005 to March 2017



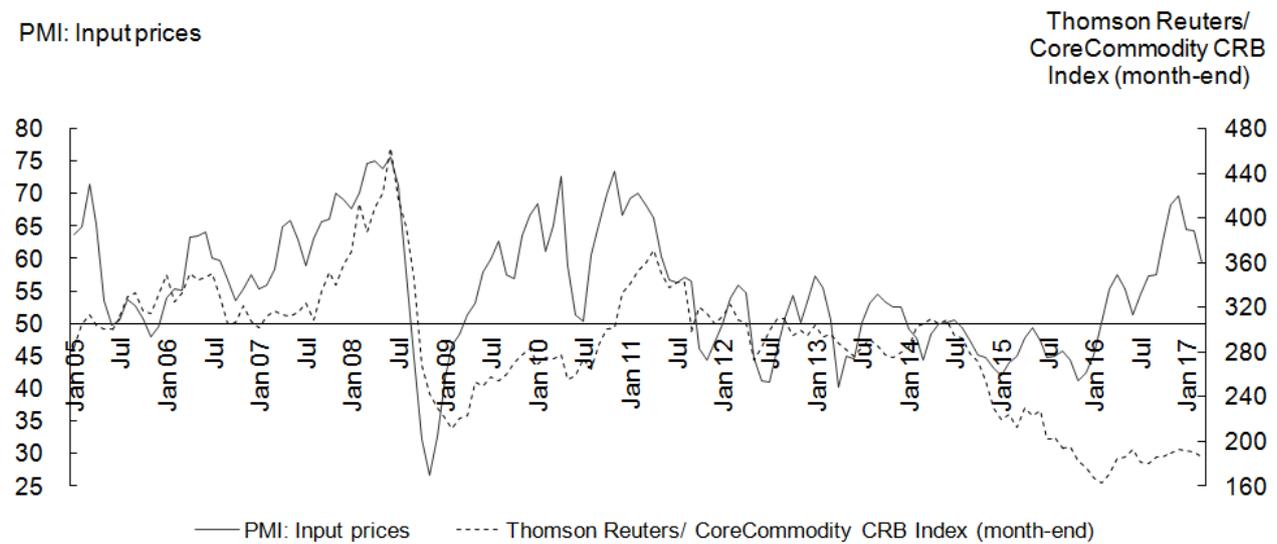
Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

Exhibit 21: Input prices index and producer price index, January 2005 to March 2017



Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

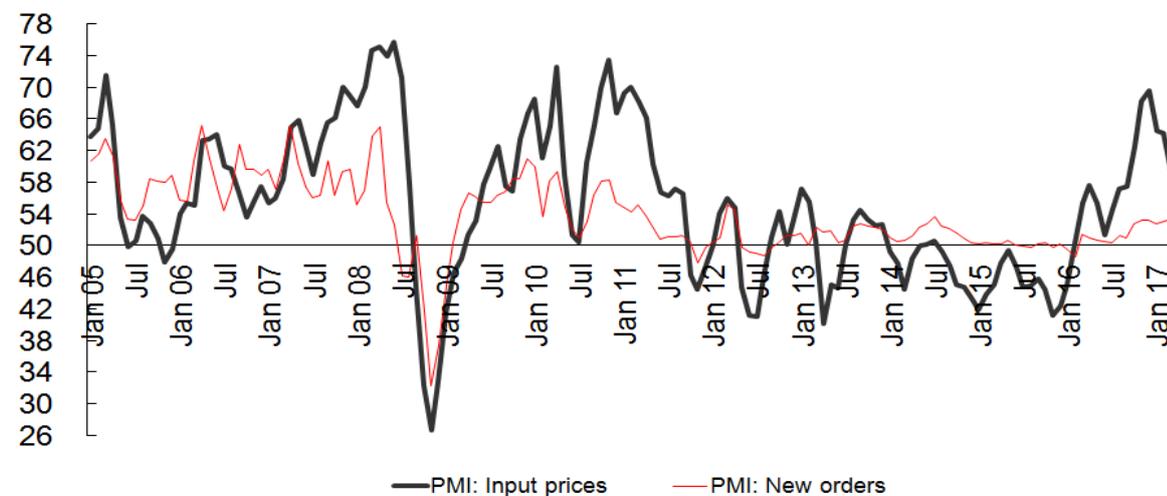
Exhibit 22: Input prices index and Thomson Reuters/ CoreCommodity CRB Index, January 2005 to March 2017



Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics, Thomson Reuters

Exhibit 23 tries to give a convenient way of assessing and analyzing the profitability of Chinese manufacturers – since new orders represent source of new revenue and input prices represent production cost. If the former rises faster than the latter, profitability tends to improve, and vice versa. In recent months, input prices have risen faster than new orders. This may imply squeezed manufacturers’ profit margins in the near future.

Exhibit 23: Input prices and new orders, January 2005 to March 2017

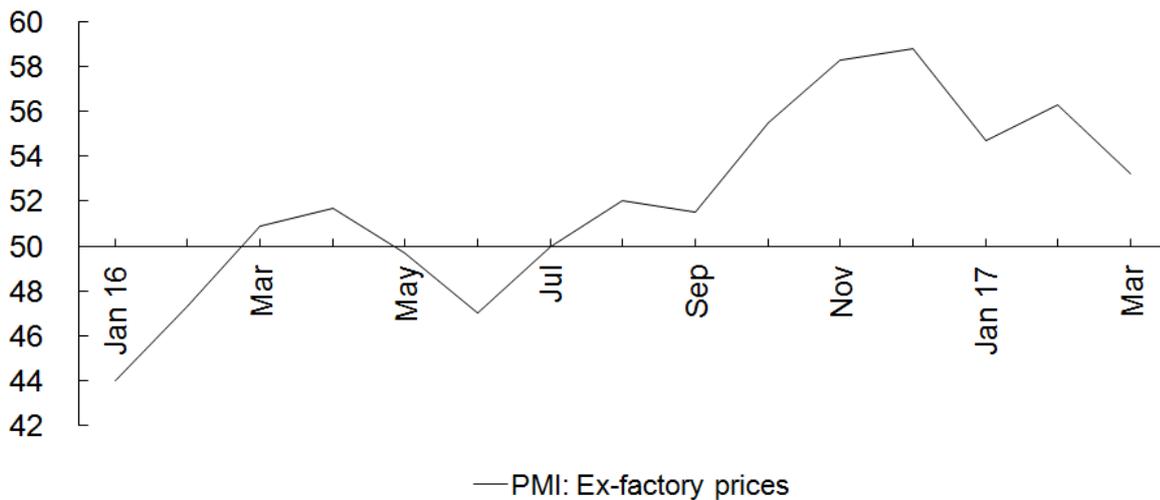


Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

8. Ex-factory prices index falls to a six-month low

The ex-factory prices index rose from 54.7 in January to 56.3 in February, and then went down to a six-month low of 53.2 in March.⁵ The latest reading suggests that the ex-factory prices of finished goods have risen at a slower pace recently. This could be due to a smaller hike in prices of production inputs in past few months. (Exhibit 24)

Exhibit 24: Ex-factory prices index, January 2016 to March 2017



Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

9. Imports index stays in the expansionary zone

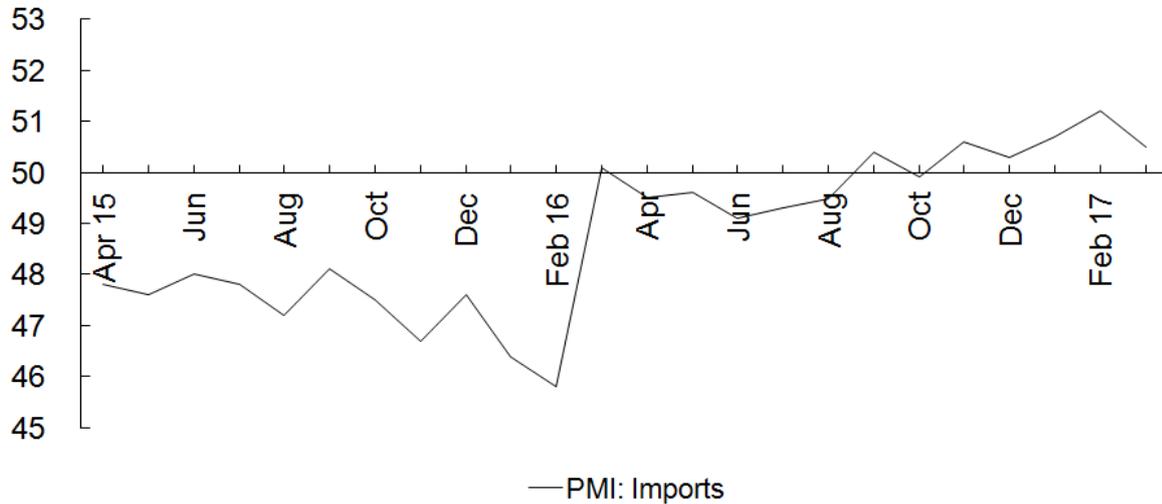
The imports index advanced from 50.7 in January to 51.2 in February. Afterwards, it went down to 50.5 in March, but was still in the expansionary zone. The index readings in the past three months show that the imports of raw materials and parts used in manufacturing have continued to increase. (Exhibit 25)

Exhibit 26 shows that the imports index is highly correlated (with some lags) to the year-on-year growth rate in imports. We expect imports to maintain positive year-on-year growth in 2Q17. Exhibit 27 illustrates the strong association between the imports index and the purchases of inputs index – as Chinese manufacturers purchase a large amount of production inputs and parts from overseas. Besides, China is a major importer of oil, iron ore and other raw materials. To see how heavily China’s imports of inputs are affected by world commodity prices, we plot the imports index against the Thomson Reuters/ CoreCommodity CRB index. It is found that the

⁵ The ex-factory prices index has been published since January 2017.

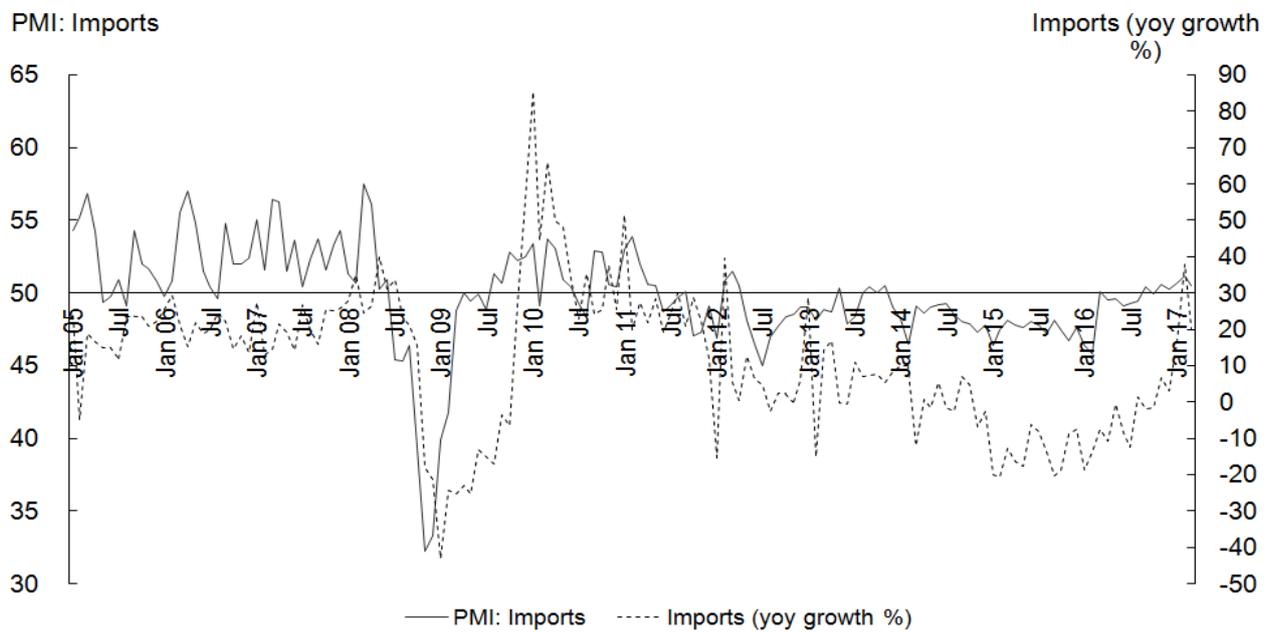
imports index has been positively related to global commodity prices. (Exhibit 28)

Exhibit 25: Imports index, April 2015 to March 2017



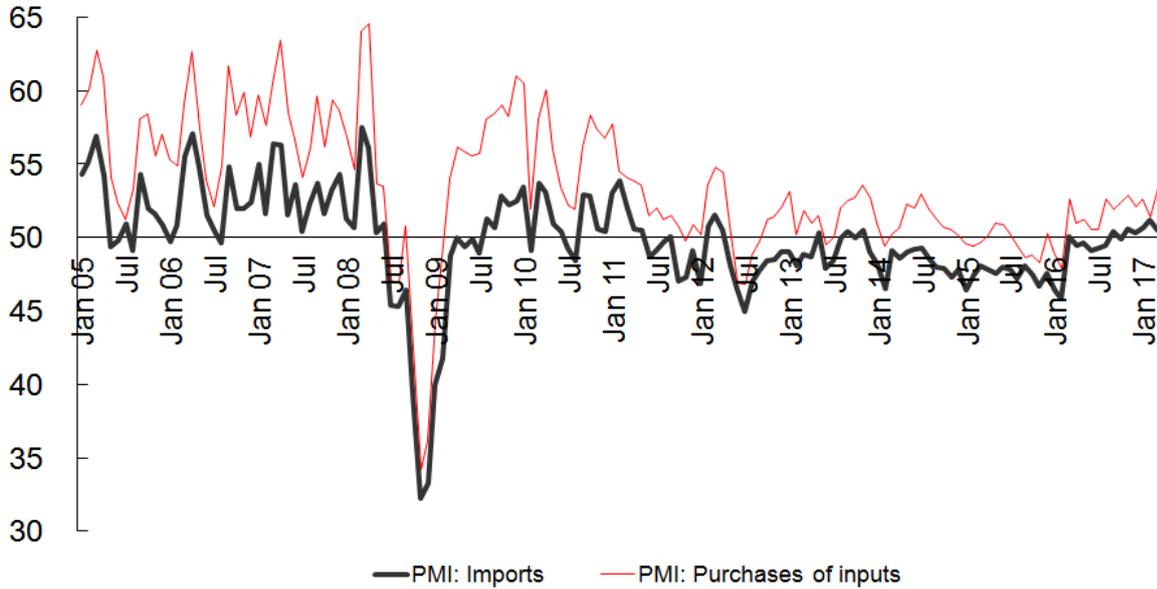
Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

Exhibit 26: Imports index and import growth, January 2005 to March 2017



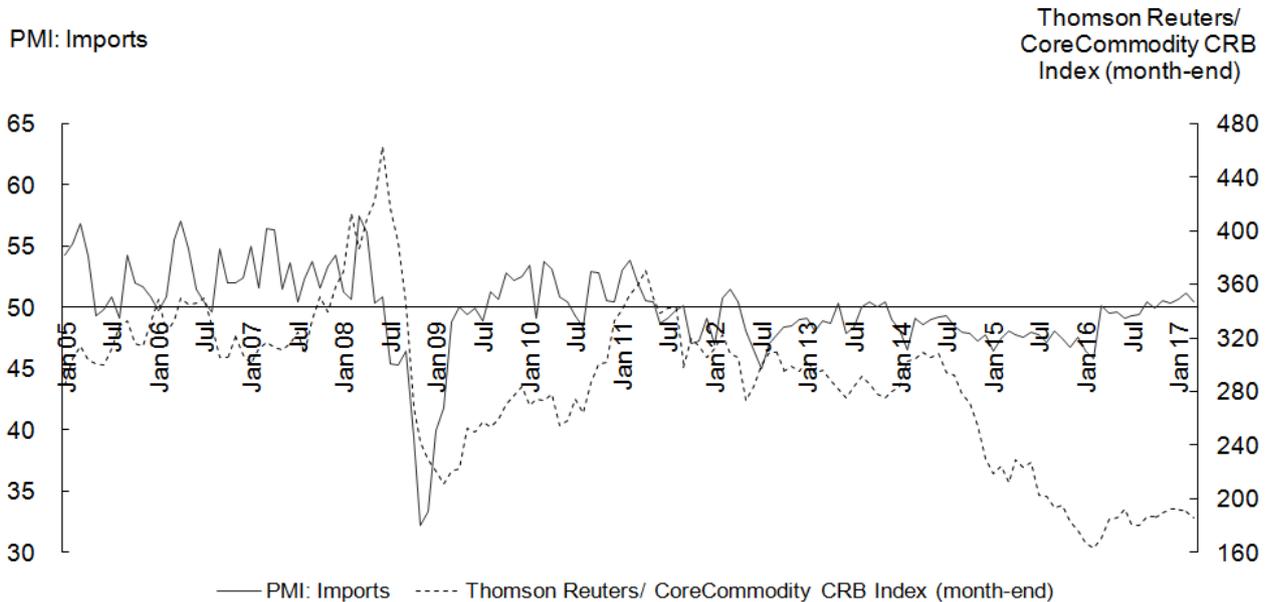
Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics, China Customs

Exhibit 27: Imports and purchases of inputs, January 2005 to March 2017



Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

Exhibit 28: Imports index and Thomson Reuters/ CoreCommodity CRB Index, January 2005 to March 2017

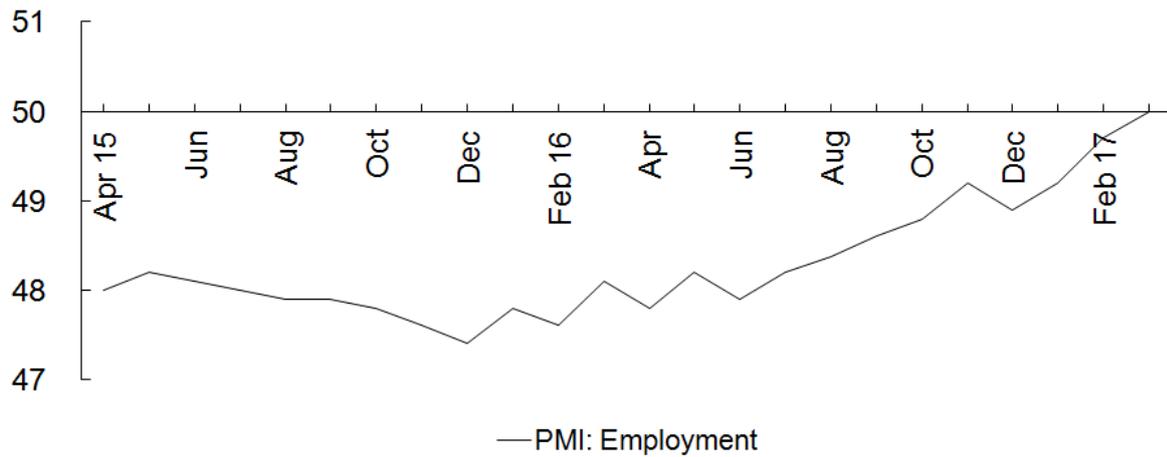


Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics, Thomson Reuters

10. Employment in manufacturing sector stabilizes

The employment index rose from 49.2 in January to 49.7 in February, and further to the neutral level of 50.0 in March, the highest since June 2012. The March reading indicates a stabilization in employment in the manufacturing sector; the labour market has improved. (Exhibit 29)

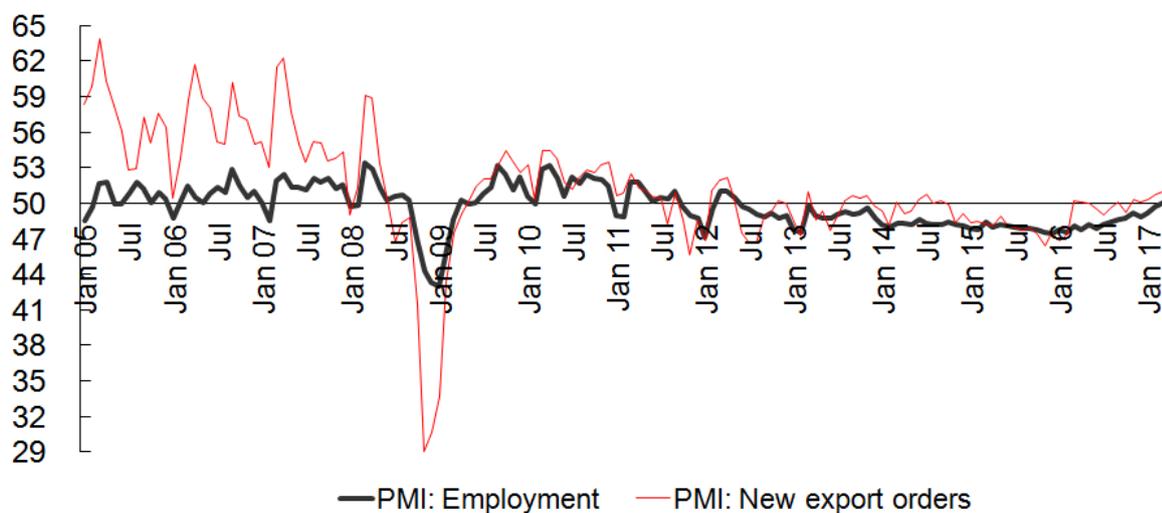
Exhibit 29: Employment index, April 2015 to March 2017



Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

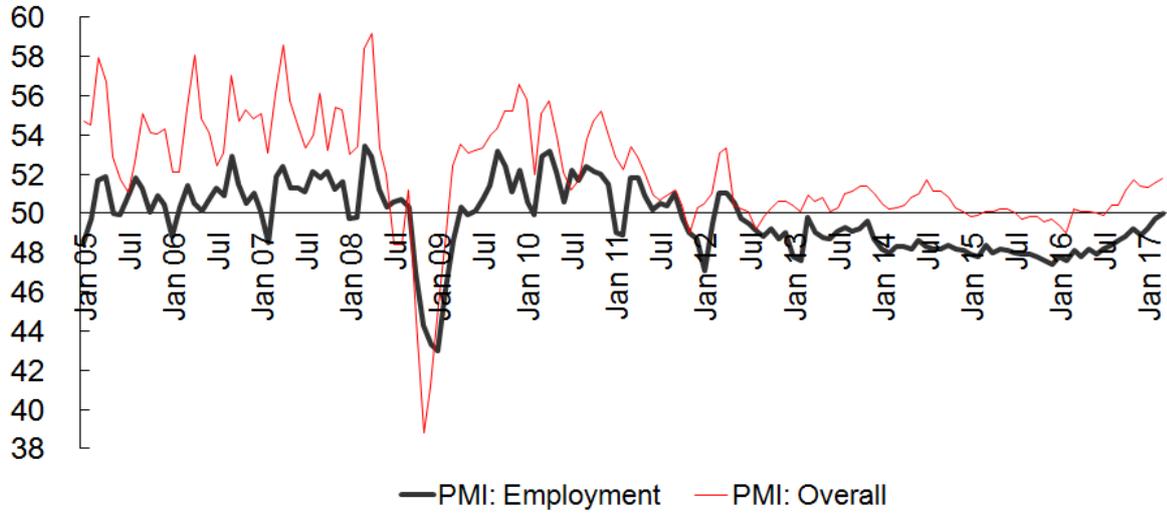
Exhibit 30 proves that the employment in China’s manufacturing sector has relied heavily on the export sector. Exhibit 31 and 32 give our readers some ideas about the extent to which the employment situation improves or deteriorates with the manufacturing sector and the overall economy.

Exhibit 30: Employment and new export orders, January 2005 to March 2017



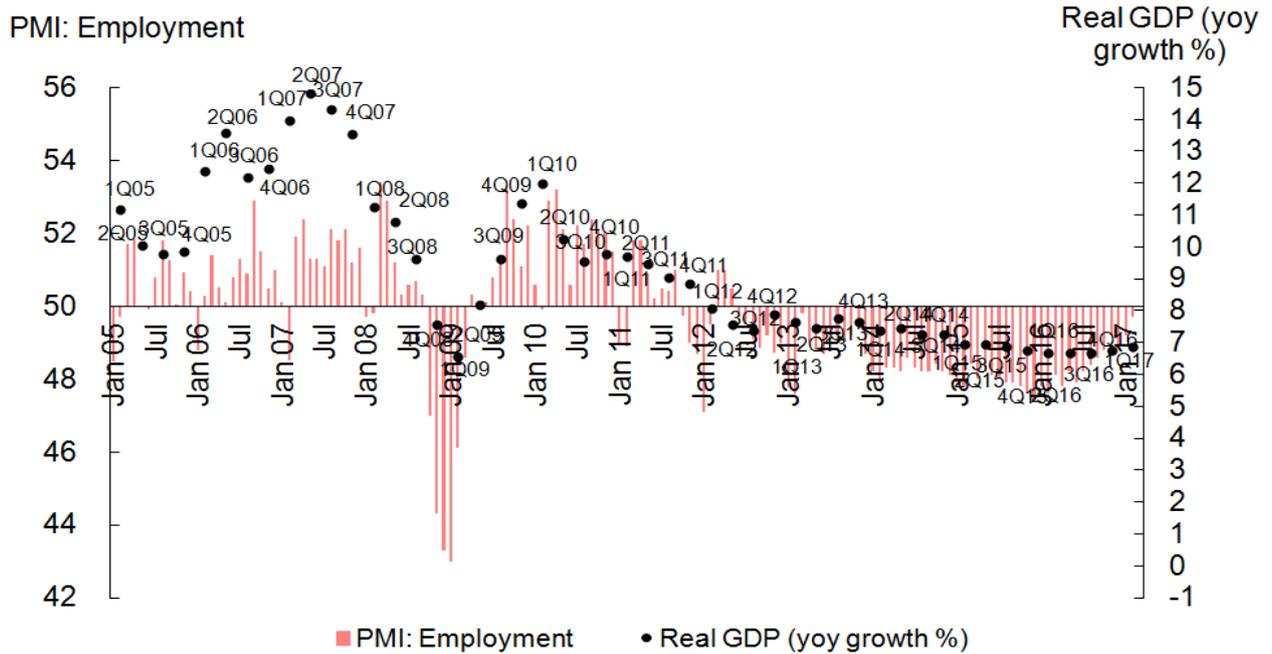
Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

Exhibit 31: Employment index and headline PMI, January 2005 to March 2017



Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

Exhibit 32: Employment index and real GDP growth, January 2005 to March 2017

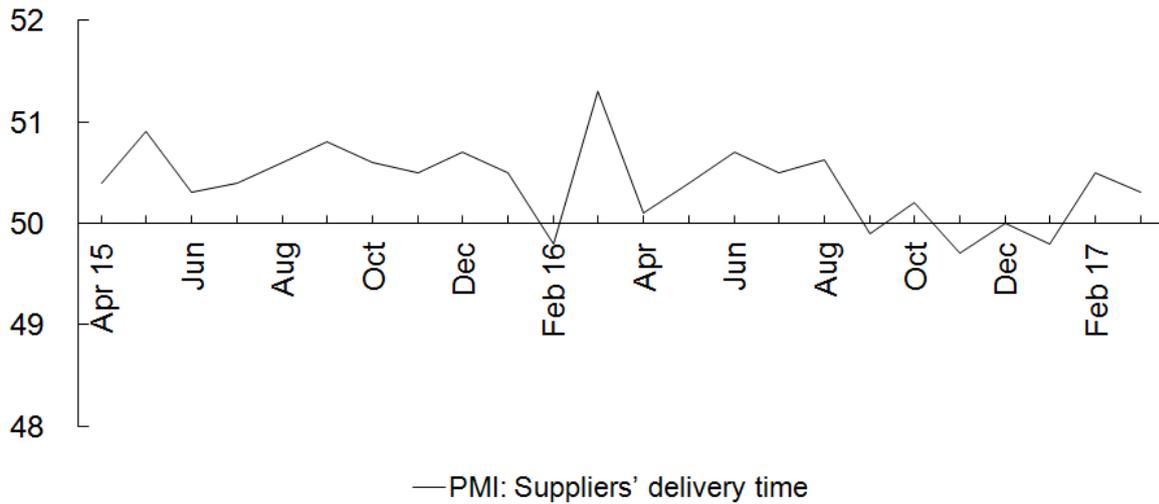


Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

11. Suppliers’ delivery accelerates

The suppliers’ delivery time index rose from 49.8 in January to 50.5 in February, before dropping to 50.3 in March. The index has stayed above the critical 50-mark for two consecutive months, indicating an acceleration in suppliers’ delivery. (Exhibit 33)

Exhibit 33: Suppliers’ delivery time index, April 2015 to March 2017



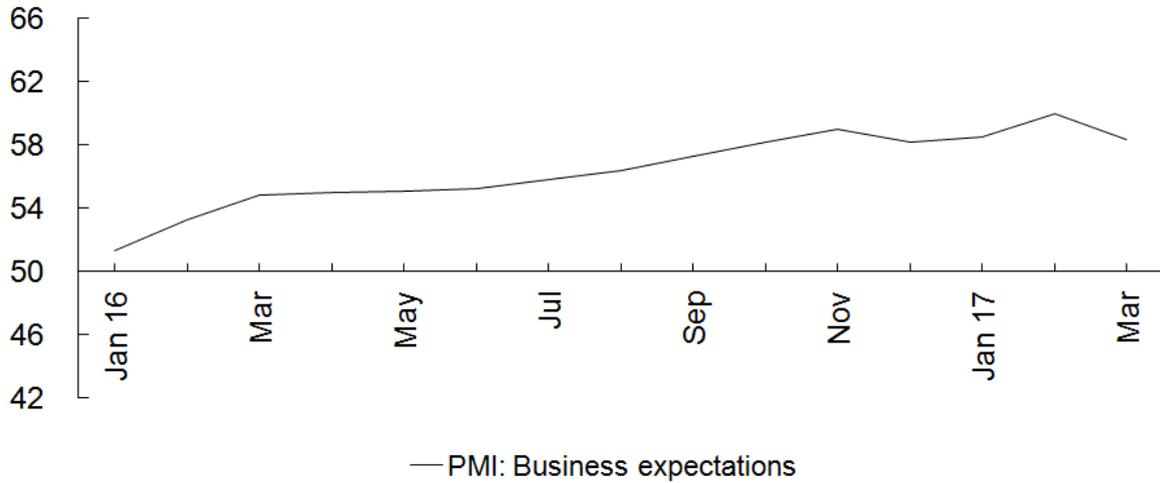
Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

12. Chinese manufacturers remain optimistic

The business expectations index went up from 58.5 in January to 60.0 in February, before dropping to 58.3 in March.⁶ The latest reading was well above the critical 50-mark, indicating that purchasing managers have remained optimistic about the near term outlook for their respective industries recently. (See exhibit 34)

⁶ Since January 2017, a new method of seasonal adjustment to the business expectations index has been adopted; and accordingly, the historical readings of the index have been revised.

Exhibit 34: Business expectations index, January 2016 to March 2017



Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

About China Manufacturing PMI:

China Manufacturing Purchasing Managers' Index (PMI) provides an early indication each month of economic activities in the Chinese manufacturing sector. It is jointly published by China Federation of Logistics & Purchasing (CFLP) and the National Bureau of Statistics (NBS). Fung Business Intelligence is responsible for drafting and disseminating the English PMI report.

Every month questionnaires are sent to 3,000 manufacturing enterprises all over China. The data presented herein is compiled from the enterprises' responses about their purchasing activities and supply situations. CFLP makes no representation regarding the data collection procedures, nor does it disclose any data of individual enterprises. The PMI should be compared to other economic data sources when used in decision-making.

3,000 manufacturing enterprises in 31 industries from Eastern, Northeastern, Central and Western China are surveyed. The sampling of the enterprises involves the use of Probability Proportional to Size Sampling (PPS), which means the selection of enterprises surveyed is largely based on each industry's contribution to GDP, and the representation of each geographical region.

There are 13 sub-indicators in the survey: Output, New Orders, New Export Orders, Backlogs of Orders, Stocks of Finished Goods, Purchases of Inputs, Imports, Input Prices, Stocks of Major Inputs, Ex-factory Prices, Employment, Suppliers' Delivery Time and Business Expectations. An index reading above 50 indicates an overall positive change in a sub-indicator; below 50, an overall negative change.

The PMI is a composite index based on the seasonally adjusted indices for five of the sub-indicators with varying weights: New Orders—30%; Output—25%; Employment—20%; Suppliers' Delivery Time—15%; and Stocks of Major Inputs—10%. A PMI reading above 50 indicates an overall expansion in the manufacturing sector; below 50, an overall contraction.

Currently there are more than twenty countries and regions conducting the PMI survey and compilation, based on an internationally standardized methodology.

About the Organisations:

China Federation of Logistics & Purchasing

China Federation of Logistics & Purchasing (CFLP) is the logistics and purchasing industry association approved by the State Council. CFLP's mission is to push forward the development of the logistics industry and the procurement businesses of both government and enterprises, as well as the circulation of factors of production in China. The government authorizes the CFLP to produce industry statistics and set industry standards. CFLP is also China's representative in the Asian-Pacific Logistics Federation (APLF) and the International Federation of Purchasing and Supply Management (IFPSM).

Fung Business Intelligence

Fung Business Intelligence collects, analyses and interprets market data on global sourcing, supply chains, distribution, retail and technology.

Headquartered in Hong Kong, it leverages unique relationships and information networks to track and report on these issues with a particular focus on business trends and developments in China and other Asian countries. Fung Business Intelligence makes its data, impartial analysis and specialist knowledge available to businesses, scholars and governments around the world through regular research reports and business publications.

As the knowledge bank and think tank for the Fung Group, a Hong Kong-based multinational corporation, Fung Business Intelligence also provides expertise, advice and consultancy services to the Group and its business partners on issues related to doing business in China, ranging from market entry and company structure, to tax, licensing and other regulatory matters.

Fung Business Intelligence was established in the year 2000.

Fung Group

The Fung Group is a privately held multinational group of companies headquartered in Hong Kong whose core businesses are trading, logistics, distribution and retailing. The Fung Group employs over 45,100 people across 40 economies worldwide, generating total revenue of over US\$24.8 billion in 2015. Fung Holdings (1937) Limited, a privately held business entity headquartered in Hong Kong, is the major shareholder of the Fung group of companies.

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