

PMI Quarterly on China Manufacturing

China Federation of Logistics & Purchasing

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PMI indicates a pick-up in production and economic activities in China

- Growth of production activities accelerates.
- New orders expand at a faster pace.
- Backlogs of orders index remains in contractionary zone.
- Stocks of major inputs decrease at a slower pace.
- Purchases of inputs index rebounds in March.
- Input prices rise at a slower pace.
- Ex-factory prices index falls below critical 50-mark.
- Imports index rises to a seven-month high.
- Employment index was slightly below 50.
- Suppliers' delivery time stays relatively stable.
- Confidence among purchasing managers improves.

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1. PMI indicates a pick-up in production and economic activities in China

China's manufacturing PMI fell from 51.3 in January to 50.3 in February. The index then rebounded to 51.5 in March, showing a resumption of production and economic activities in China after the Chinese New Year holidays. (See exhibit 1)

It is noteworthy to recognize the discrepancy by size of enterprises. The PMI of 'large enterprises' dropped from 52.6 in January to 52.2 in February, and then rebounded to 52.4 in March, indicating that the growth of 'large enterprises' has reaccelerated recently. The PMI of 'medium enterprises' fell from 50.1 in January to 49.0 in February, before rising to 50.4 in March. The latest figure shows that 'medium enterprises' have expanded at a relatively fast pace lately. Meanwhile, the PMI of 'small enterprises' dropped from 48.5 in January to 44.8 in February, and then rebounded strongly to 50.1 in March, returning to the expansionary zone for the first time in nine months. The March figure indicates that the situations facing 'small enterprises' have been improving. (See exhibit 2)

The set of PMI data in March indicates a recent improvement in the Chinese economy. For example, the output and the new orders indices gained 2.4 pts and 2.3 pts respectively in March, showing that the output and the overall new orders have expanded at a faster pace recently. Besides, the new export orders index returned to the expansionary zone in March. Meanwhile, the input prices index stayed relatively low at 53.4 in March, showing a mild rise in prices of production inputs.

Looking ahead, the Chinese policy makers will strive to maintain stable growth of the Chinese economy in near future. We predict that China's monetary policy will stay neutral, and loans and 'total social financing' will continue to grow at a reasonable pace this year. Moreover, the central government will continue with its active fiscal policy. According to the Government Work Report published in March, the government will launch a series of measures to reduce taxes and fees by 800 billion yuan and 300 billion yuan respectively this year. In the meantime, the central government will increase its efforts to curb major risks, cut poverty and tackle pollution.

Given these policy directions, we remain optimistic about China's economic outlook. The Chinese economy is set to maintain stable growth in the coming quarter. We predict that the headline PMI will hover around 51.5 in 2Q18. We also forecast that the real GDP growth will remain stable at 6.8% in 2Q18. Challenges facing Chinese manufacturers, however, include stronger government's efforts to enforce environmental regulations, a marked increase in prices of materials, the greater uncertainty in the US trade policies under the Trump administration, intense competition in the international market, and the weak demand for luxury products.

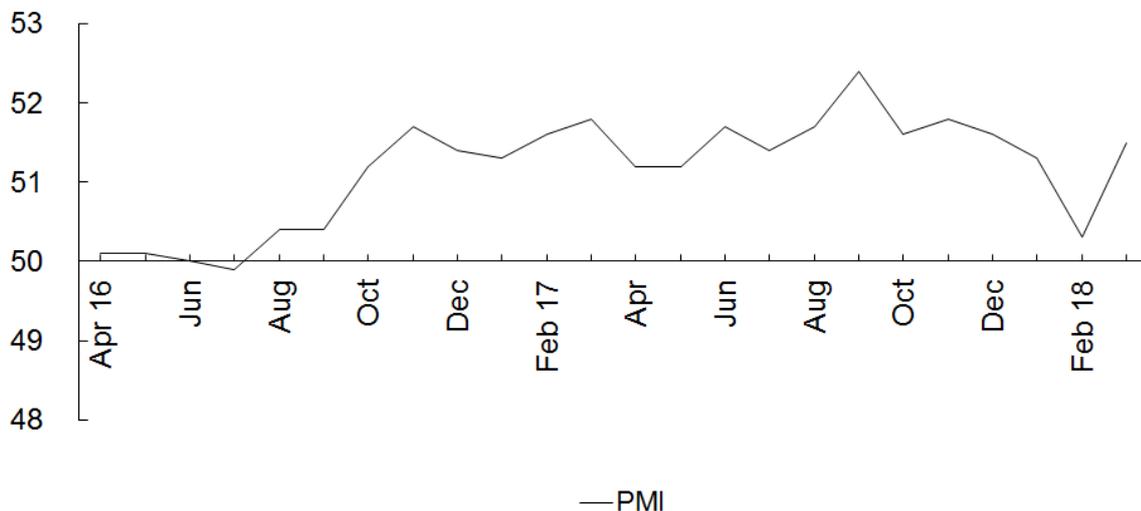
Overall, we expect that the industrial production (VAIO) growth will be around 6.5-7.0% yoy in 2Q18.

Exhibit 3 shows that the rebound in the headline PMI in March was largely due to the rise in the output index (which weighs 25% in the computation of the headline PMI) and the new orders index (weighs 30%). In March, 11 of the 13 sub-indices were higher than their respective levels in the previous month. (See exhibit 4)

Among the 13 sub-indices, 5 stayed in the expansionary zone over the past three months (i.e. output, new orders, purchases of inputs, input prices and business expectations). Meanwhile, the indices of backlogs of orders, stocks of finished goods, stocks of major inputs and employment remained in the contractionary zone over the same period.

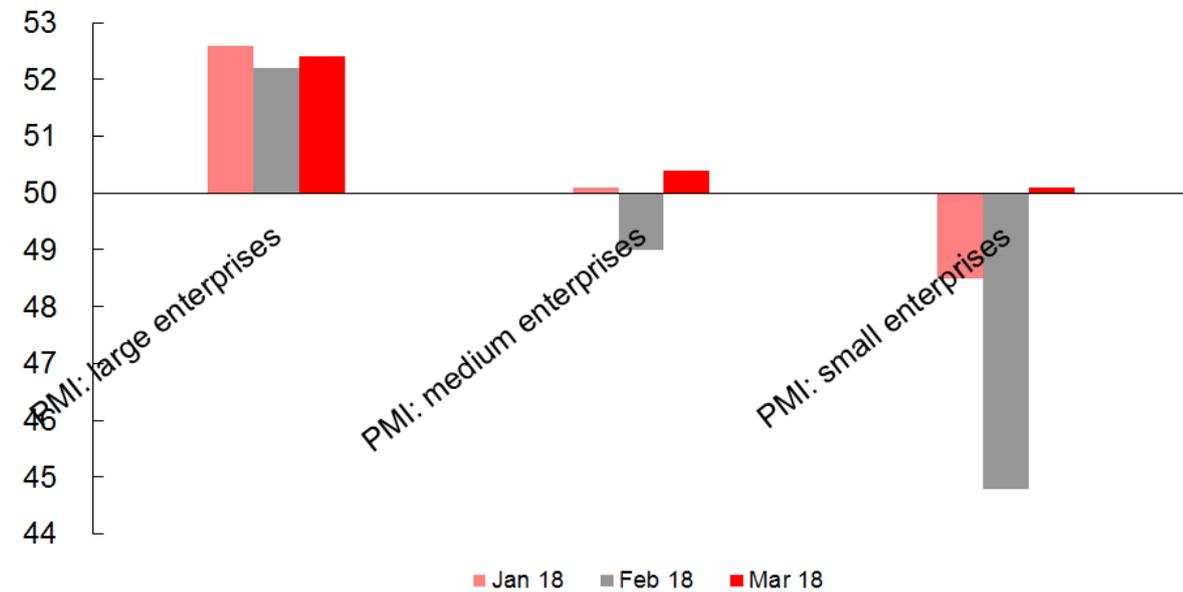
China’s manufacturing PMI has so far done a satisfactory job in predicting economic growth. Exhibit 5 plots the quarterly real GDP yoy growth rates versus the monthly PMIs since its inception. It could be seen that the PMI demonstrates a fairly good track record of forecasting the growth trend of the economy at least over the next few months. Based on this chart we project that the real GDP growth will stay stable at 6.8% yoy in 2Q18.

Exhibit 1: Headline PMI, April 2016 to March 2018



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

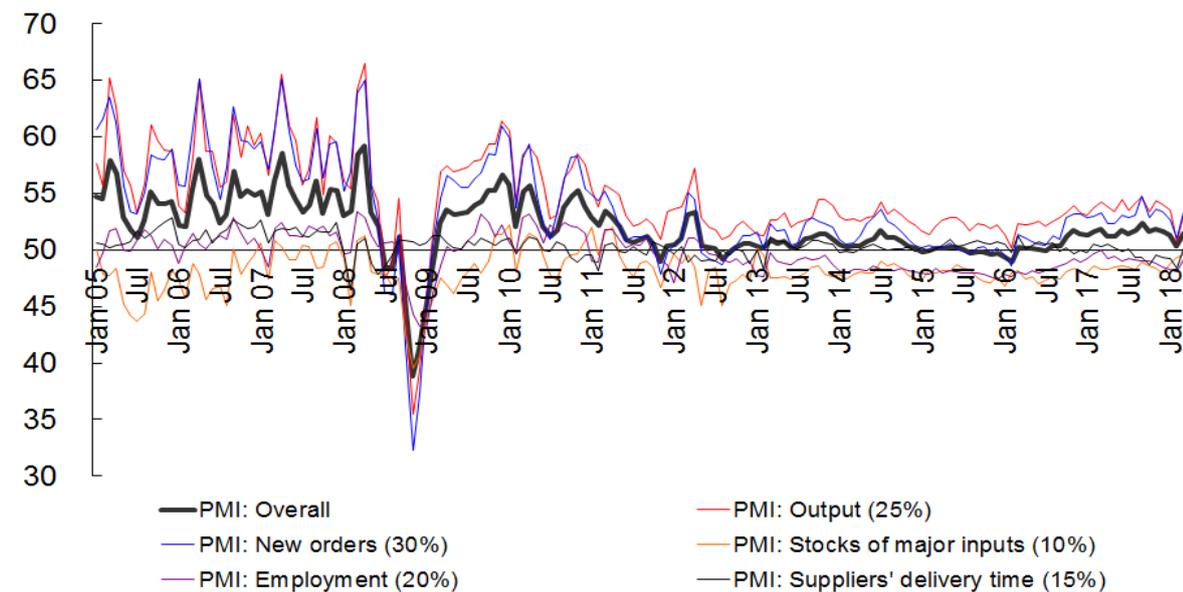
Exhibit 2: PMIs of large enterprises, medium enterprises and small enterprises, January to March 2018



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

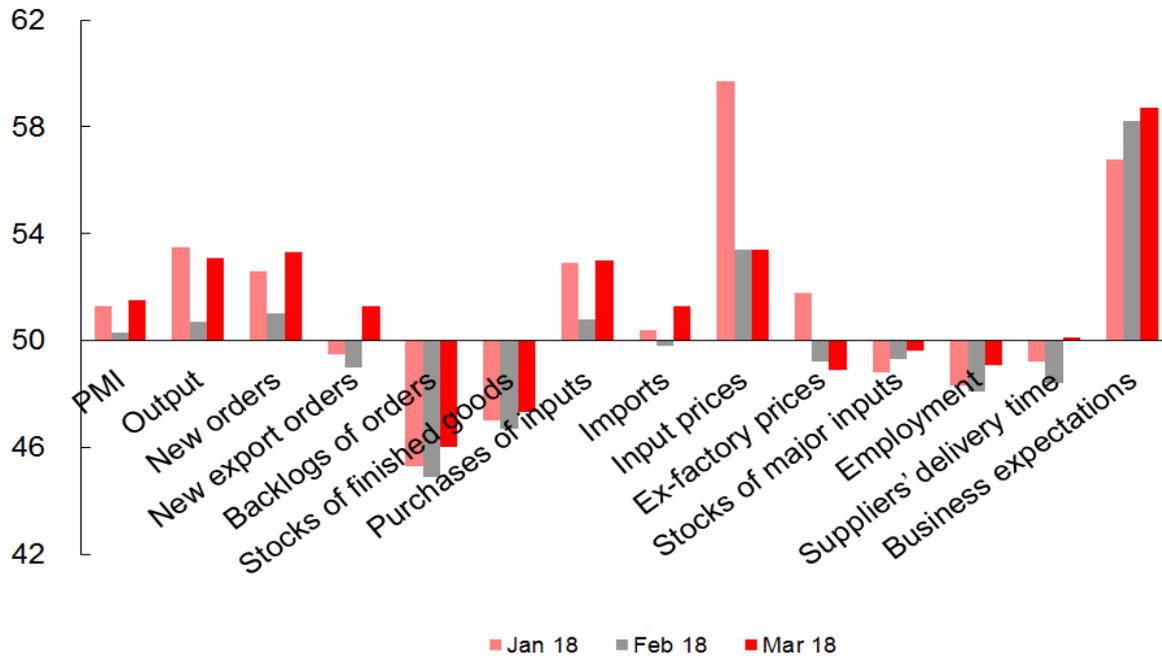
Exhibit 3: Headline PMI and sub-indices, January 2005 to March 2018

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



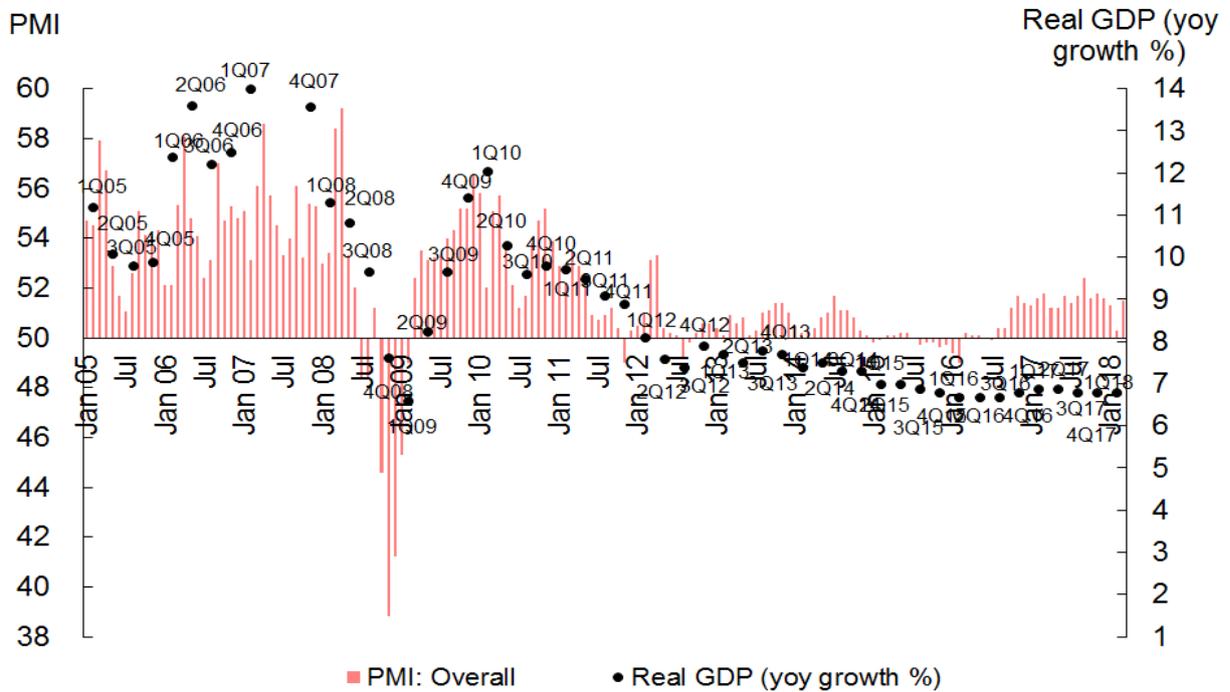
Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

Exhibit 4: Headline PMI and all sub-indices, January to March 2018



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

Exhibit 5: Headline PMI and real GDP growth, January 2005 to March 2018



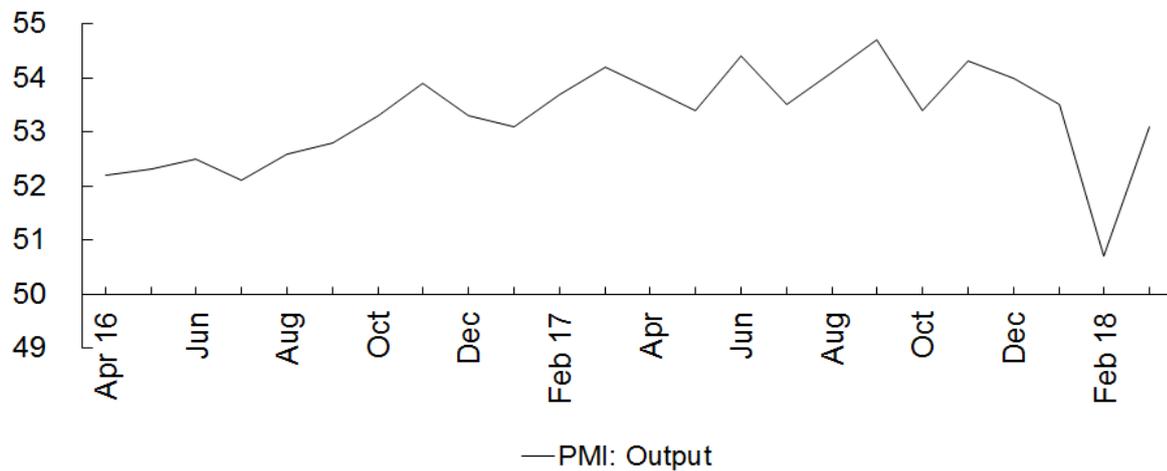
Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

2. Growth of production activities accelerates

The output index fell from 53.5 in January to 50.7 in February, but then rebounded to 53.1 in March. The latest figure indicates that the growth of the production activities has accelerated recently. (See exhibit 6)

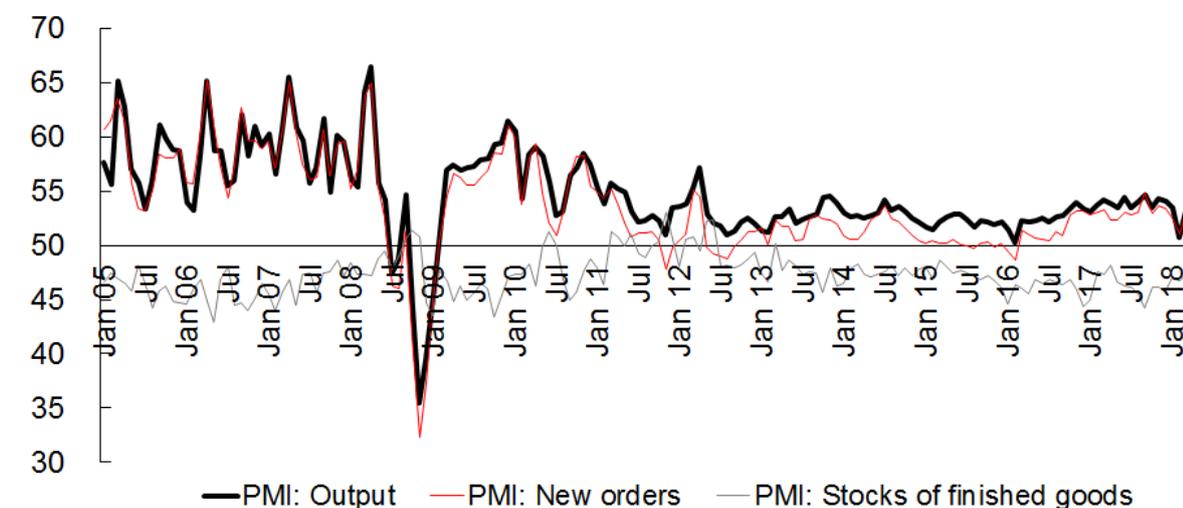
Exhibit 7 shows that the output growth was mainly fuelled by new orders growth instead of restocking activities, as the stocks of finished goods index has stayed in the contractionary zone for sixty consecutive months. However, output may grow strongly later when manufacturers have finally run out of their inventory or regained confidence to restock.

Exhibit 6: Output index, April 2016 to March 2018



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

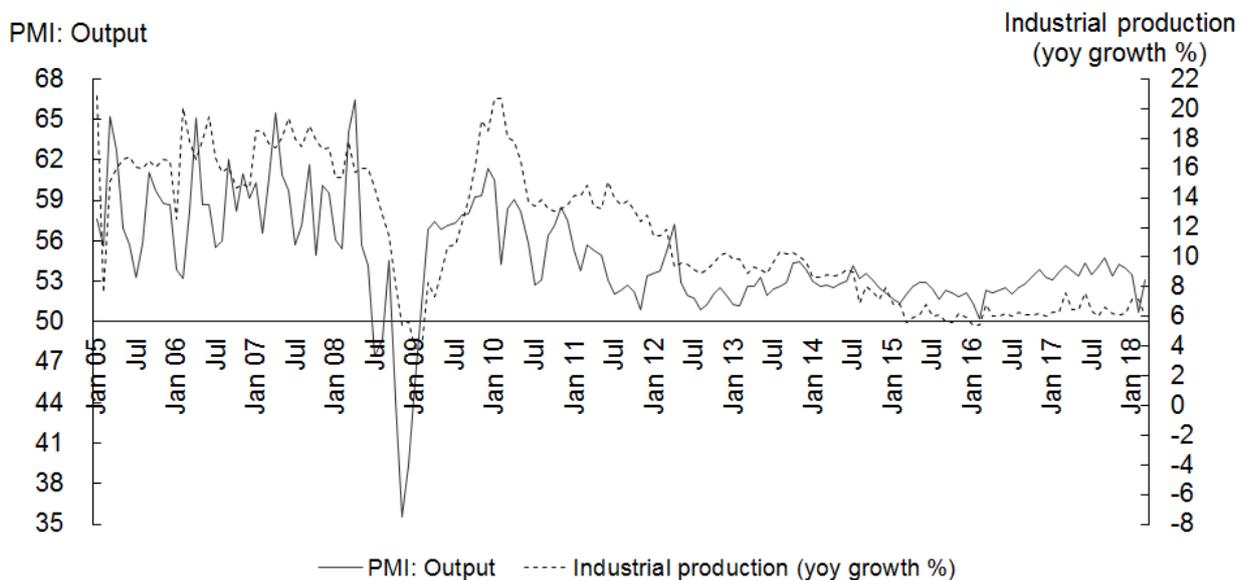
Exhibit 7: Output, new orders and stocks of finished goods, January 2005 to March 2018



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 6.5-7.0% yoy in 2Q18. In the coming months, industrial activities will be supported by an improvement in demand. Challenges facing Chinese manufacturers, however, include stronger government’s efforts to enforce environmental regulations, a marked increase in prices of materials, the greater uncertainty in the US trade policies towards China, intense competition in the international market, and the weak demand for luxury products.

Exhibit 8: Output index and industrial production growth, January 2005 to March 2018

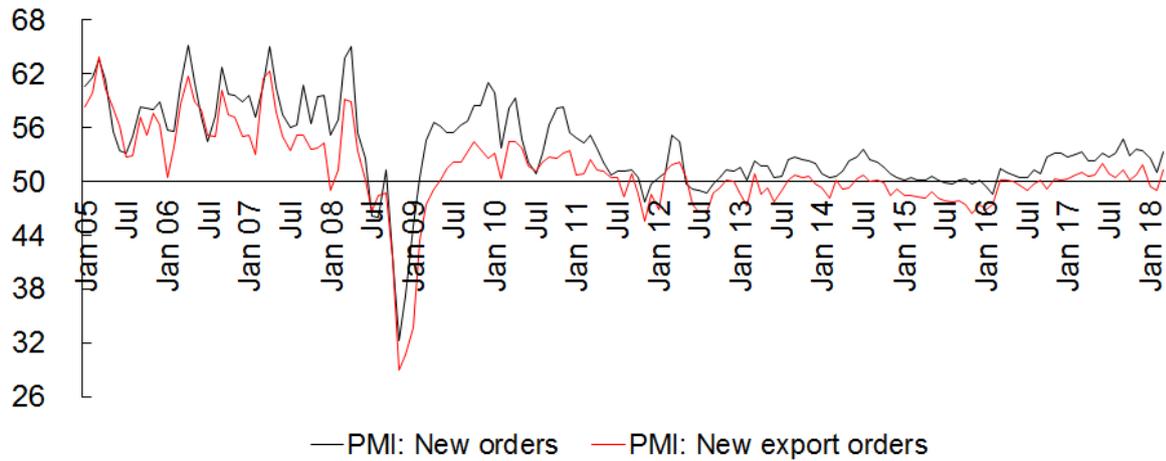


Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

3. New orders expand at a faster pace

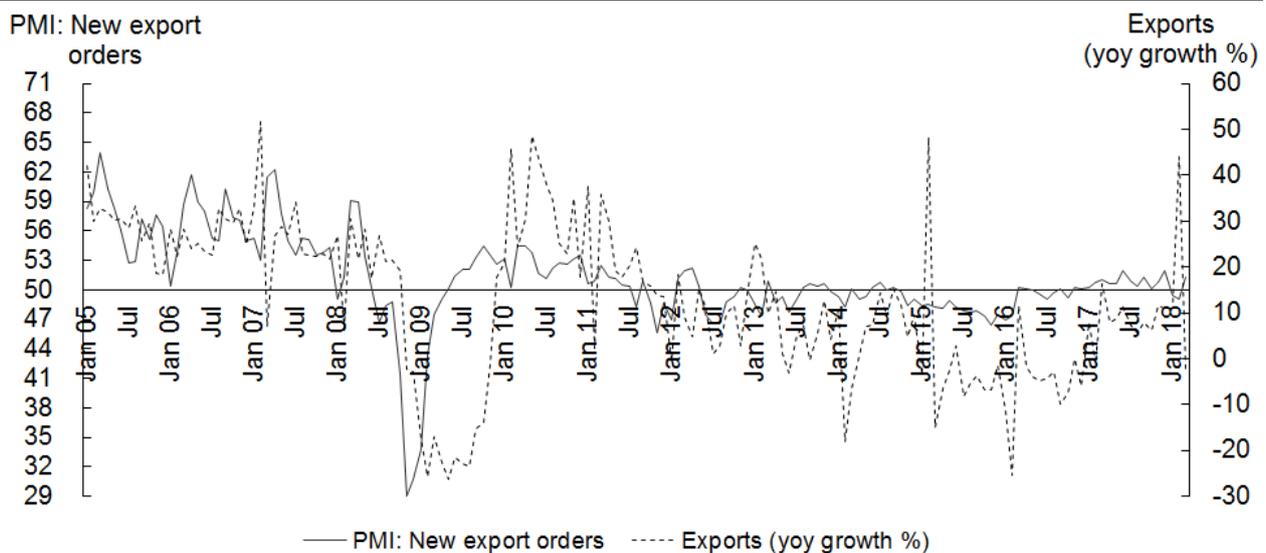
The new orders index fell from 52.6 in January to 51.0 in February, but then rebounded to 53.3 in March. The latest reading indicates that overall new orders have expanded at a faster pace recently, attributable to an improvement in overall market demand. Meanwhile, the new export orders index dropped from 49.5 in January to 49.0 in February, before rising to 51.3 in March. The index returned to the expansionary zone in the month, indicating a recent rebound in new export orders. (See exhibit 9)

Exhibit 9: New orders index and new export orders index, January 2005 to March 2018



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

Exhibit 10: New export orders index and export growth, January 2005 to March 2018



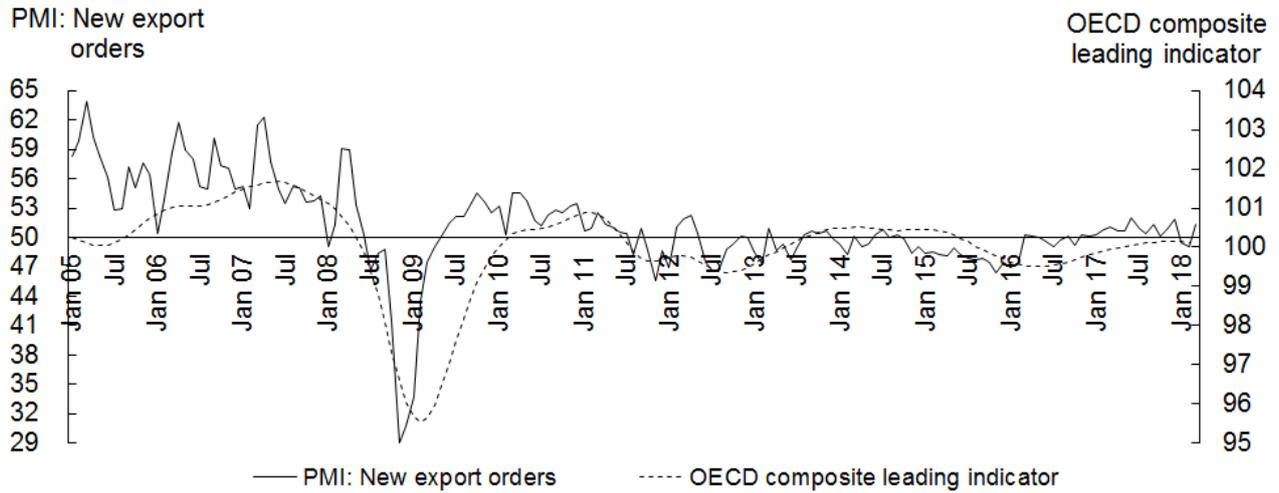
Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics, China Customs

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 returned to the expansionary zone in March, we have become more optimistic about the near-term prospects of China’s exports. 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 indicator¹ has been on an upward trend

¹ 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.

since June 2016, suggesting a continuous improvement in the global economy. All in all, we forecast that China’s exports will continue to show double-digit year-on-year growth in 2Q18.

Exhibit 11: New export orders index and OECD composite leading indicator, January 2005 to March 2018



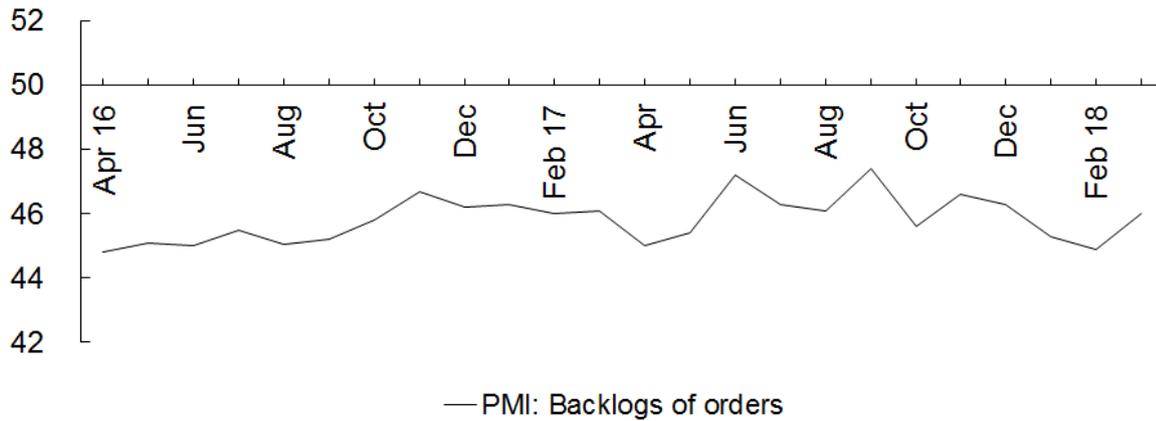
Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics, Organization for Economic Cooperation and Development

4. Backlogs of orders index remains in contractionary zone

After going down from 45.3 in January to 44.9 in February, the backlogs of orders index rose to 46.0 in March. The index remained in the contractionary zone in the past three months, indicating that backlogs of orders have continued to drop. (See exhibit 12)

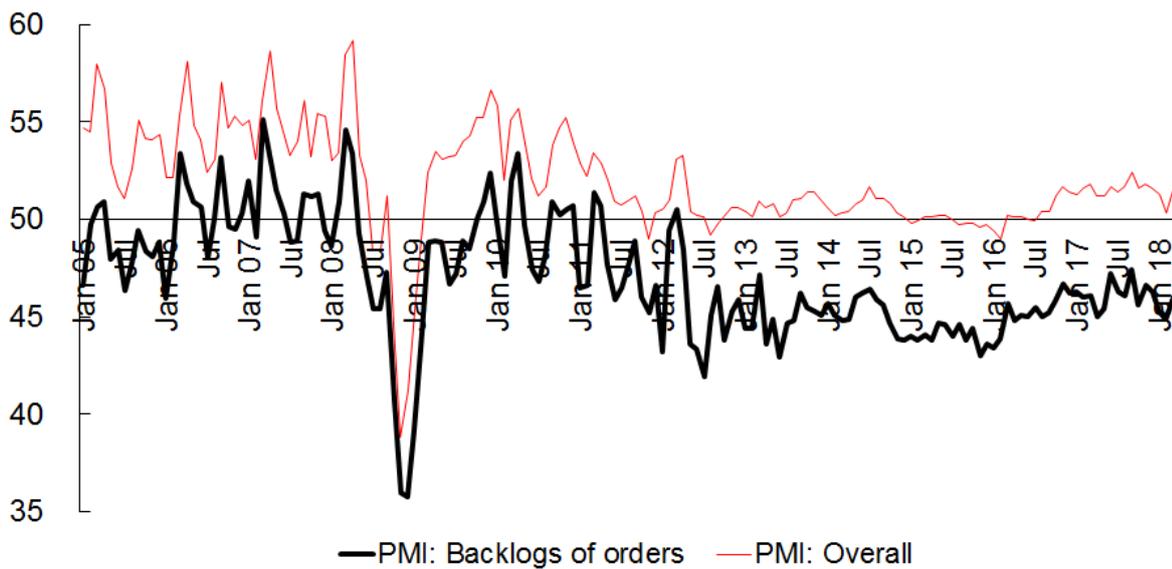
Looking ahead, we expect the index to go up further in the near term, as indicated by the apparently very high correlation between the sub-index and the headline PMI, and the recent rebound in the headline PMI. (See exhibit 13)

Exhibit 12: Backlogs of orders index, April 2016 to March 2018



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

Exhibit 13: Backlogs of orders index and headline PMI, January 2005 to March 2018



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

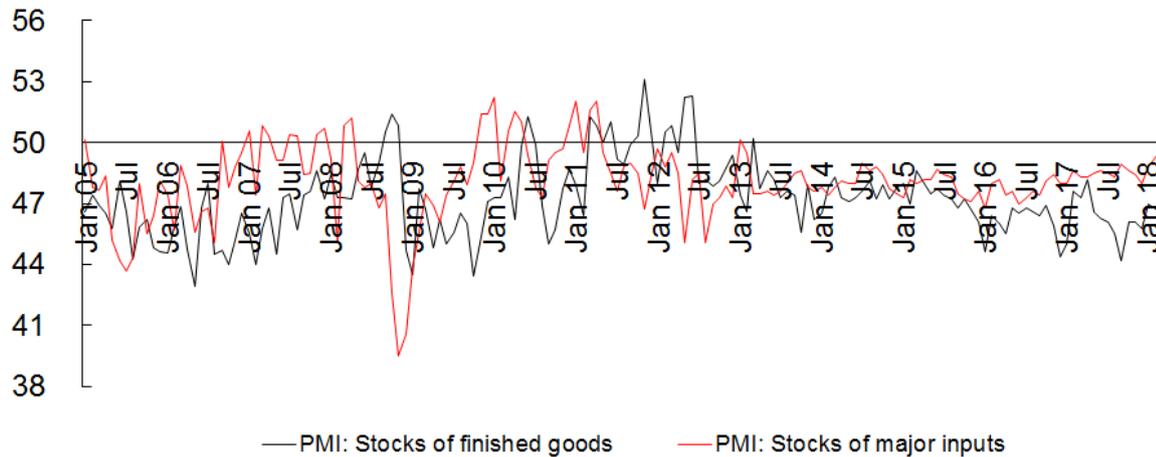
5. Stocks of major inputs decrease at a slower pace

The stocks of finished goods index fluctuated within the narrow range of 46.7 to 47.3 throughout January to March. The index stayed in the contractionary zone in the past three months, indicating that the stocks of finished goods held by manufacturers continued to fall during the period.

The stocks of major inputs index rose from 48.8 in January to 49.3 in February, and further to

49.6 in March. (Exhibit 14) The uptrend indicates that the stocks of major inputs have decreased at a slower pace.

Exhibit 14: Stocks of finished goods index and stocks of major inputs index, January 2005 to March 2018



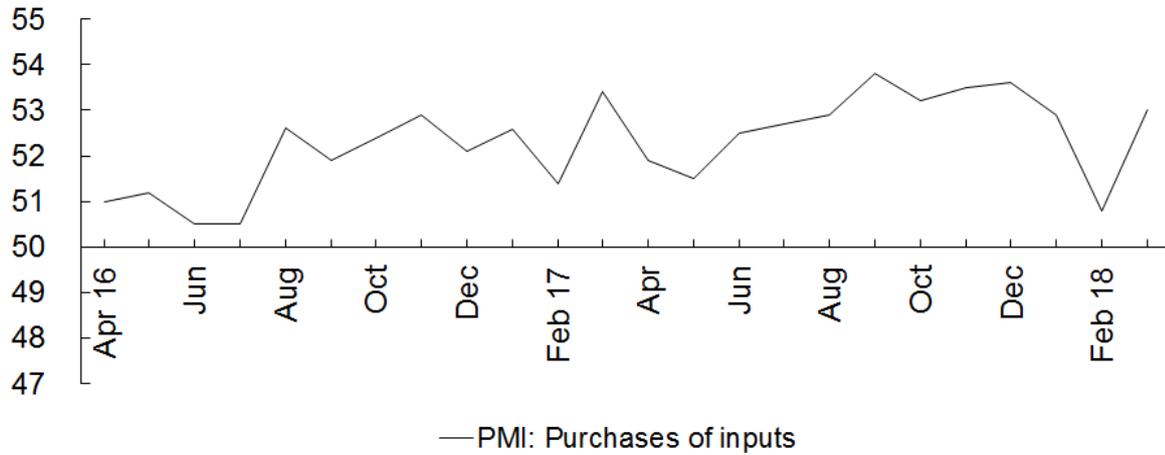
Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

6. Purchases of inputs index rebounds in March

The purchases of inputs index went down from 52.9 in January to 50.8 in February, but then rebounded to 53.0 in March. The latest reading shows that manufacturers have accelerated their purchases of production inputs. (Exhibit 15)

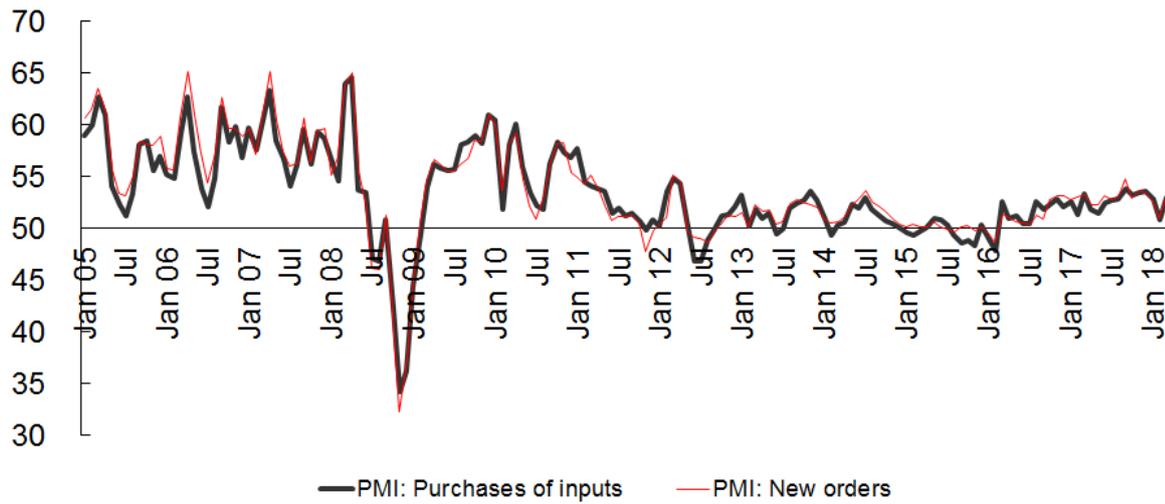
A number of factors affect the purchasing activities of manufacturers, among which the amount of new orders received by manufacturers has been the most important factor. Exhibit 16 plots the purchases of inputs index against the new orders index. The correlation between the two sub-indices is very strong. This is intuitively easy to explain – as manufacturers usually need to purchase extra inputs to cope with new orders. We expect to see a continuous increase in purchases if the rise 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 2016 to March 2018



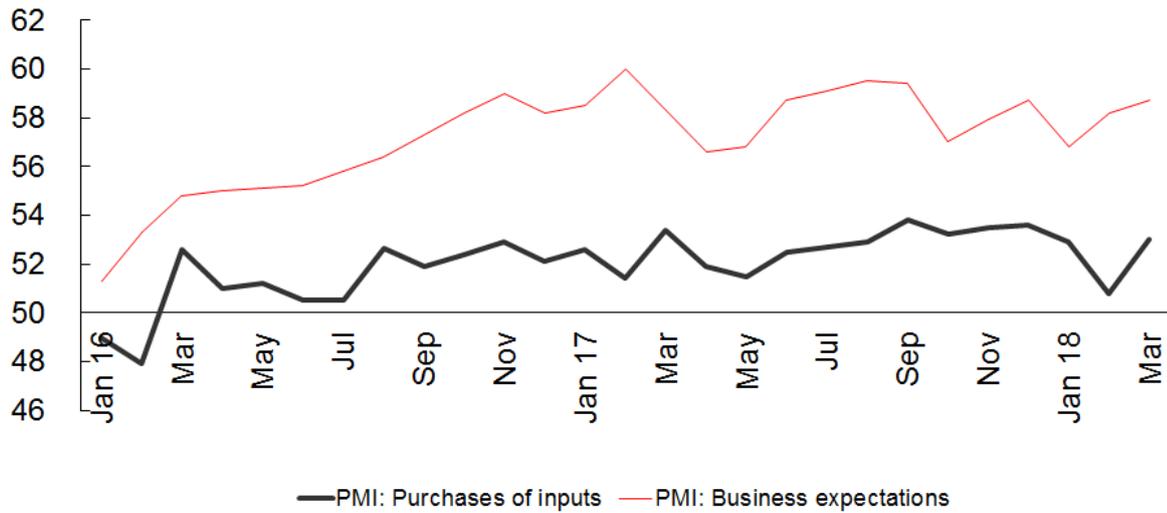
Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

Exhibit 16: Purchases of inputs and new orders, January 2005 to March 2018



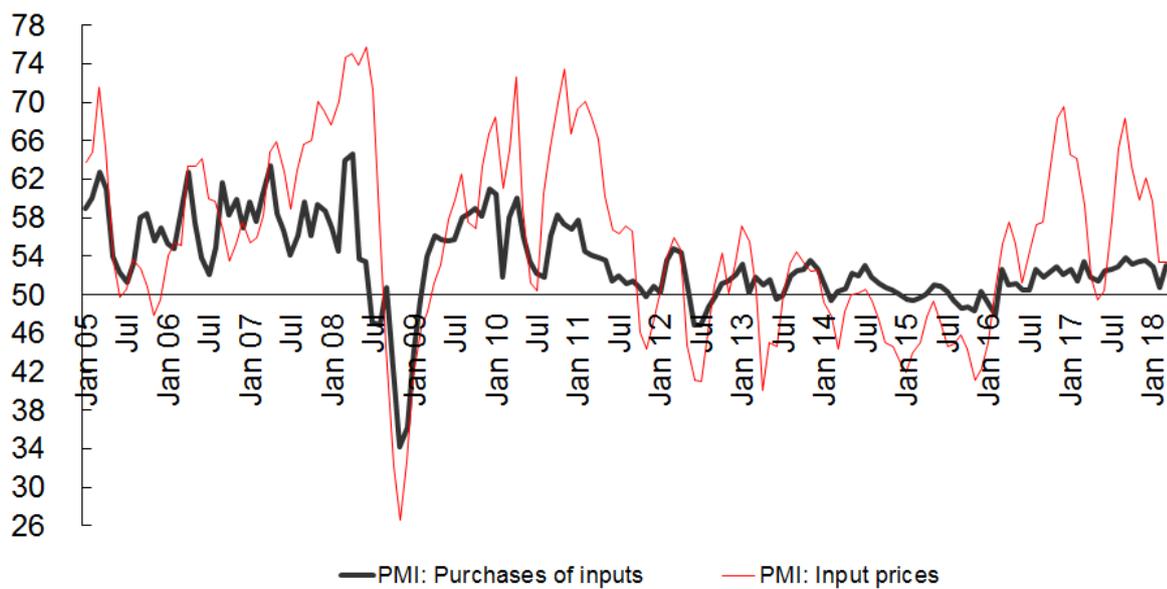
Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

Exhibit 17: Purchases of inputs and business expectations, January 2016 to March 2018



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 2018

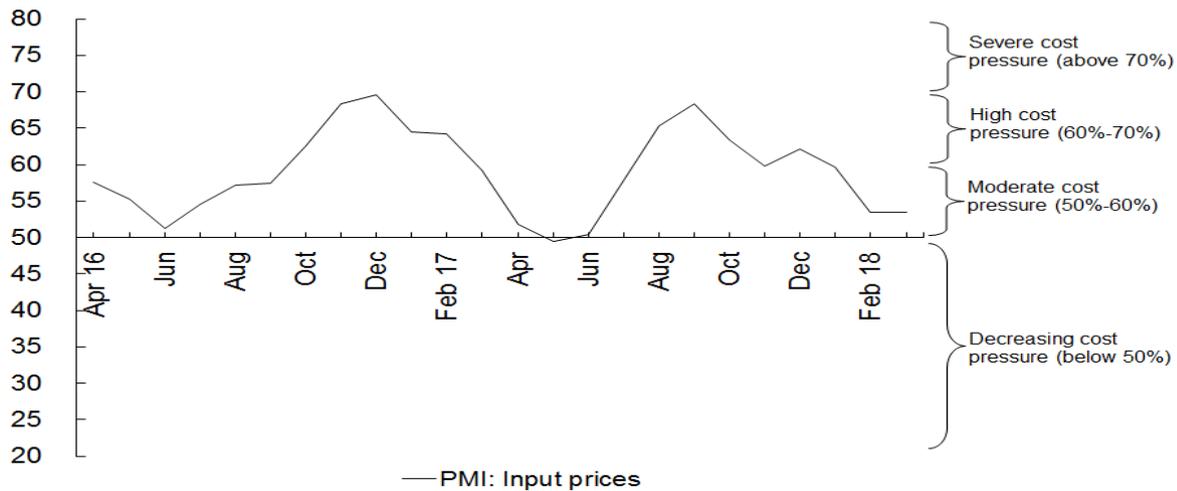


Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

7. Input prices rise at a slower pace

The input prices index fell markedly from 59.7 in January to 53.4 in February and March, indicating that prices of production inputs have risen at a slower pace recently. (Exhibit 19)

Exhibit 19: Input prices index, April 2016 to March 2018



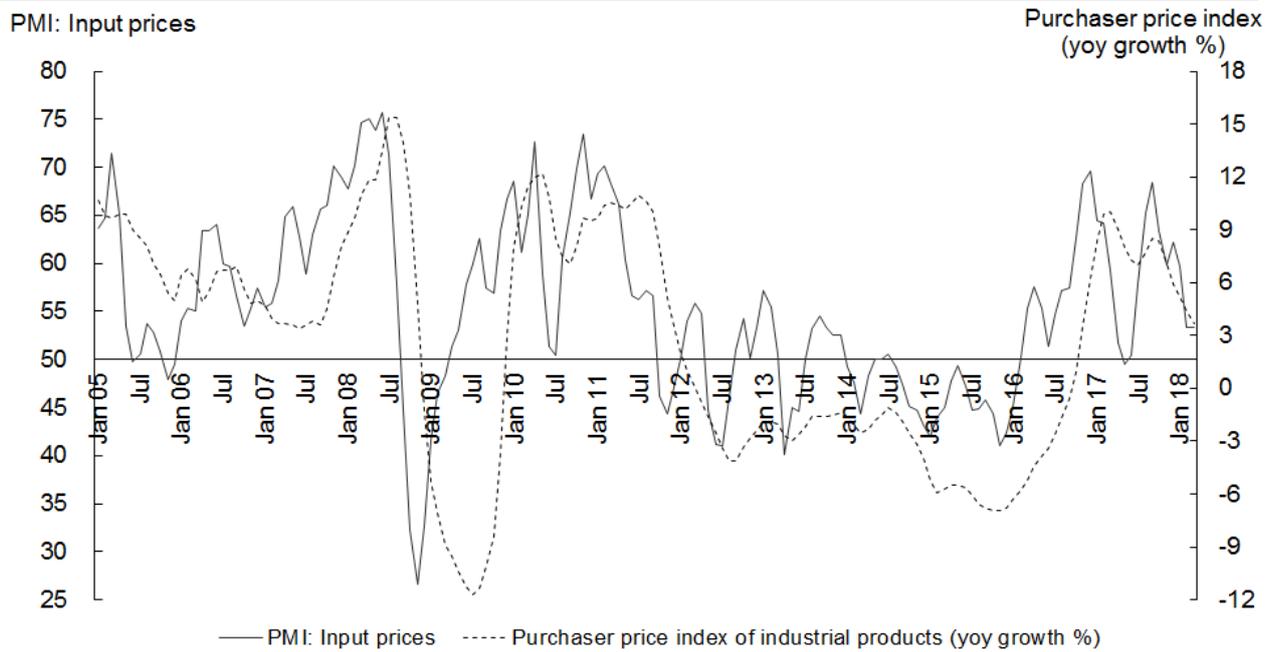
Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

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)² 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 moderate further in near future. Meanwhile, we forecast that the year-on-year CPI growth will hover around 2% in the coming months. 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.³

2 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.

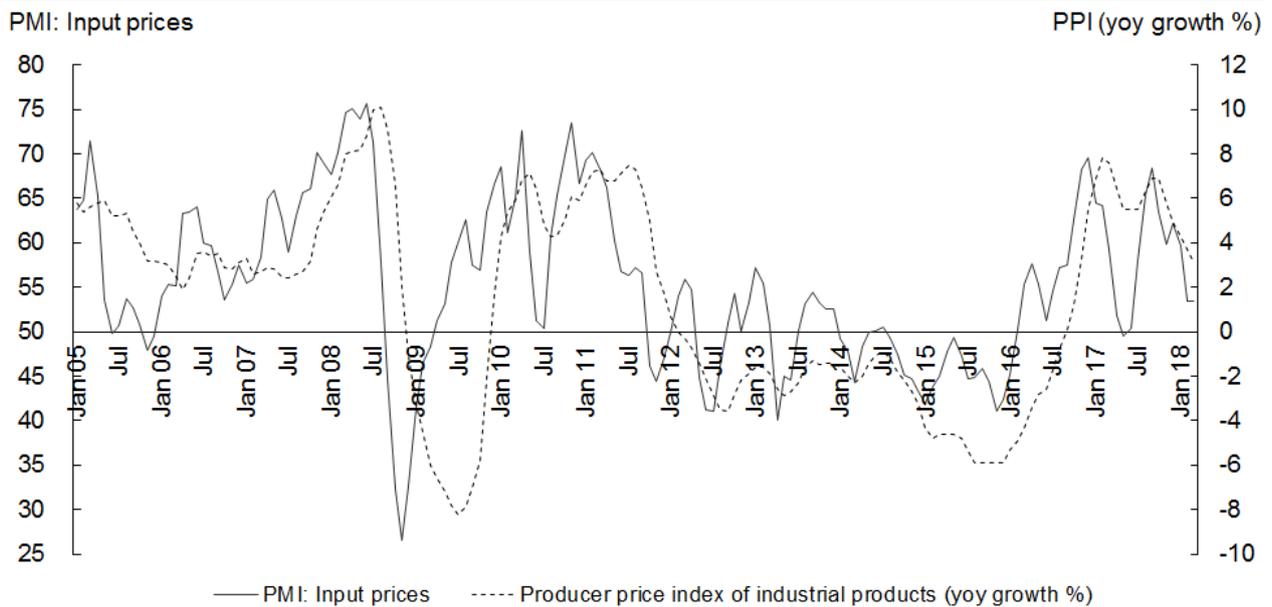
3 The Thomson Reuters/ CoreCommodity CRB Index, which comprises 19 commodities such as crude oil, aluminum, corn, cotton, gold, natural gas, soybeans, etc, has served as one of the most recognized measures of global commodities markets.

Exhibit 20: Input prices index and purchaser price index of industrial products, January 2005 to March 2018



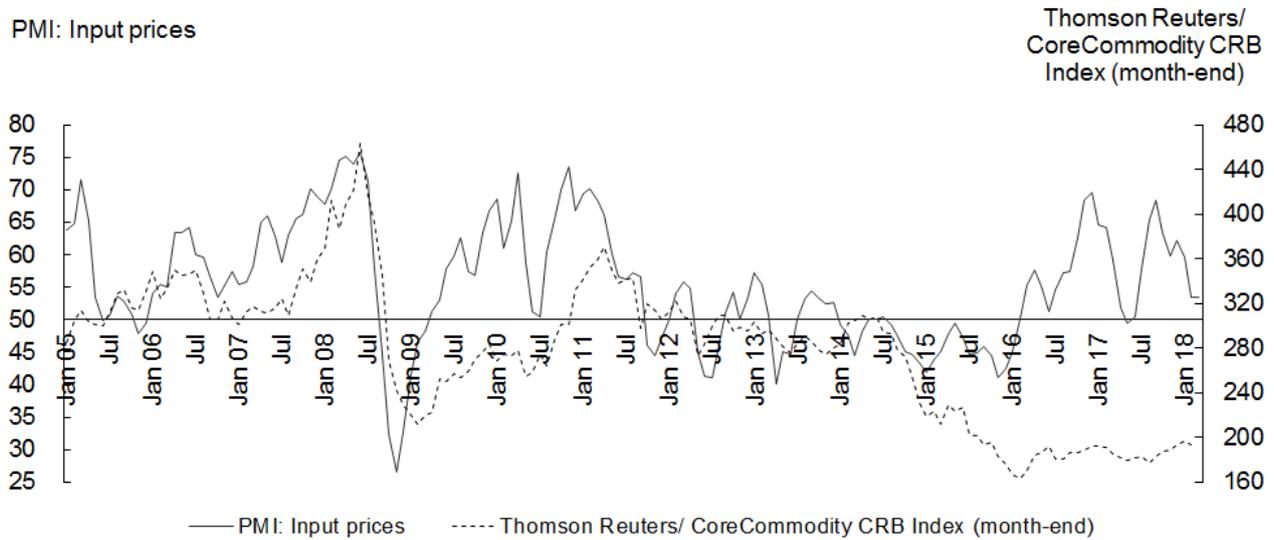
Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

Exhibit 21: Input prices index and producer price index, January 2005 to March 2018



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

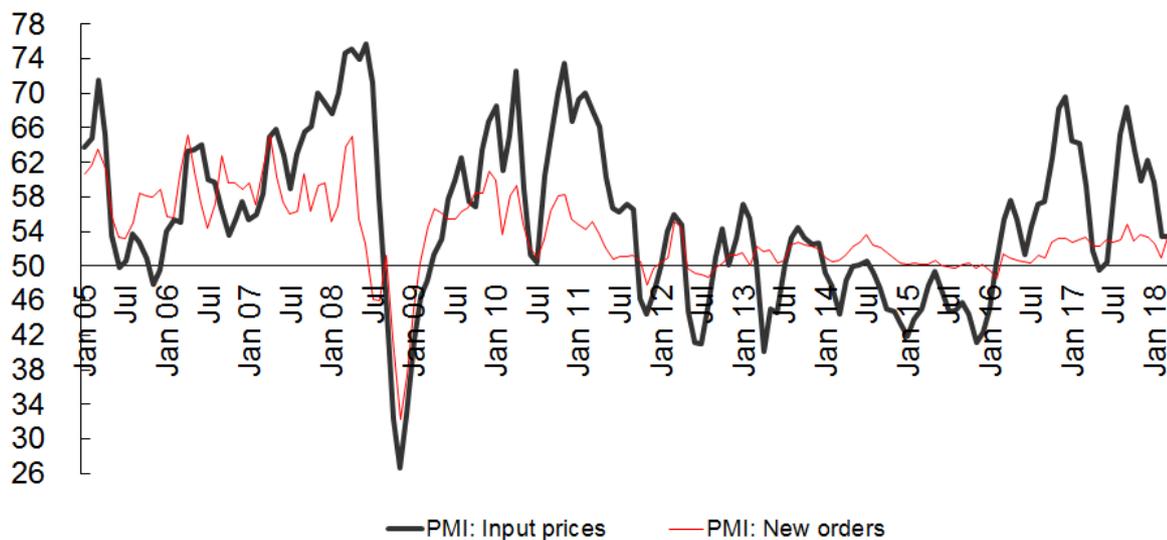
Exhibit 22: Input prices index and Thomson Reuters/ CoreCommodity CRB Index, January 2005 to March 2018



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 continued to rise faster than new orders. This may imply a decrease in manufacturers’ profit margins in the near future.

Exhibit 23: Input prices and new orders, January 2005 to March 2018

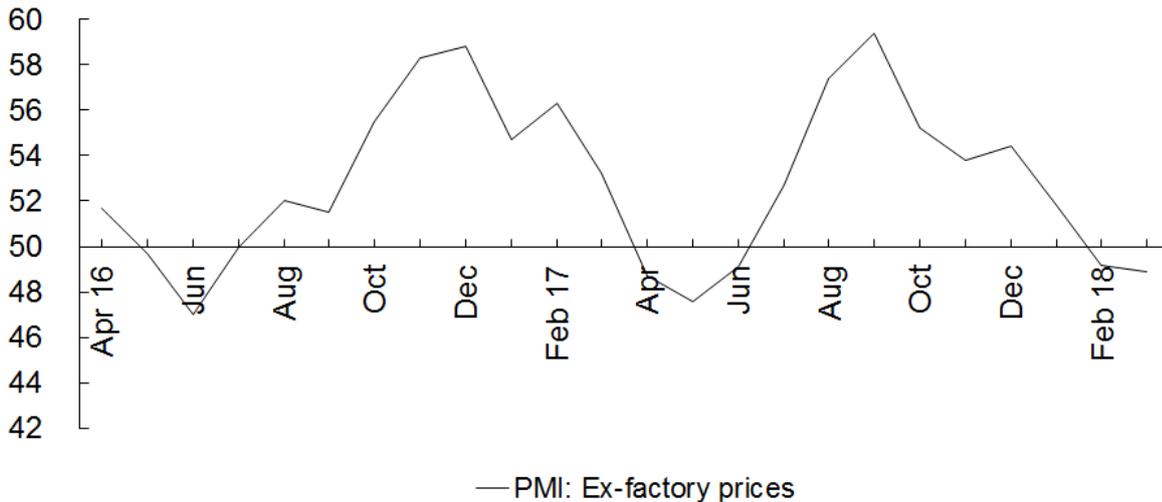


Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

8. Ex-factory prices index falls below critical 50-mark

The ex-factory prices index fell from 51.8 in January to 49.2 in February, and further to 48.9 in March. The index was below the critical 50-mark in the past two months, indicating that the ex-factory prices of finished goods have continued to fall.⁴ (Exhibit 24)

Exhibit 24: Ex-factory prices index, April 2016 to March 2018



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

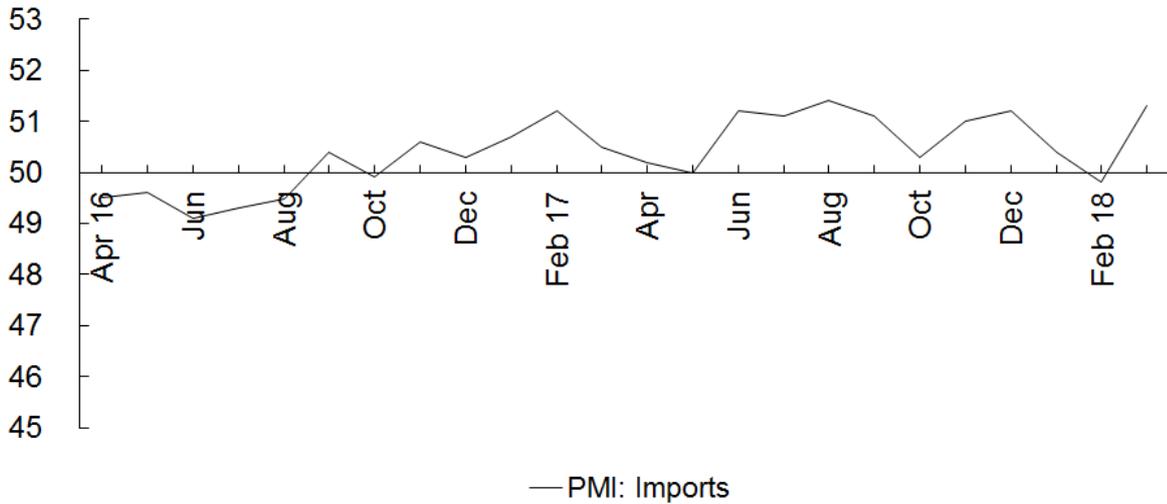
9. Imports index rises to a seven-month high

The imports index went down from 50.4 in January to 49.8 in February, before rebounding to 51.3 in March, the highest level in seven months. The March reading indicates that the imports of raw materials and parts used in manufacturing have expanded at a relatively fast pace recently. (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 rapid growth in 2Q18. 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 imports index has been positively related to global commodity prices. (Exhibit 28)

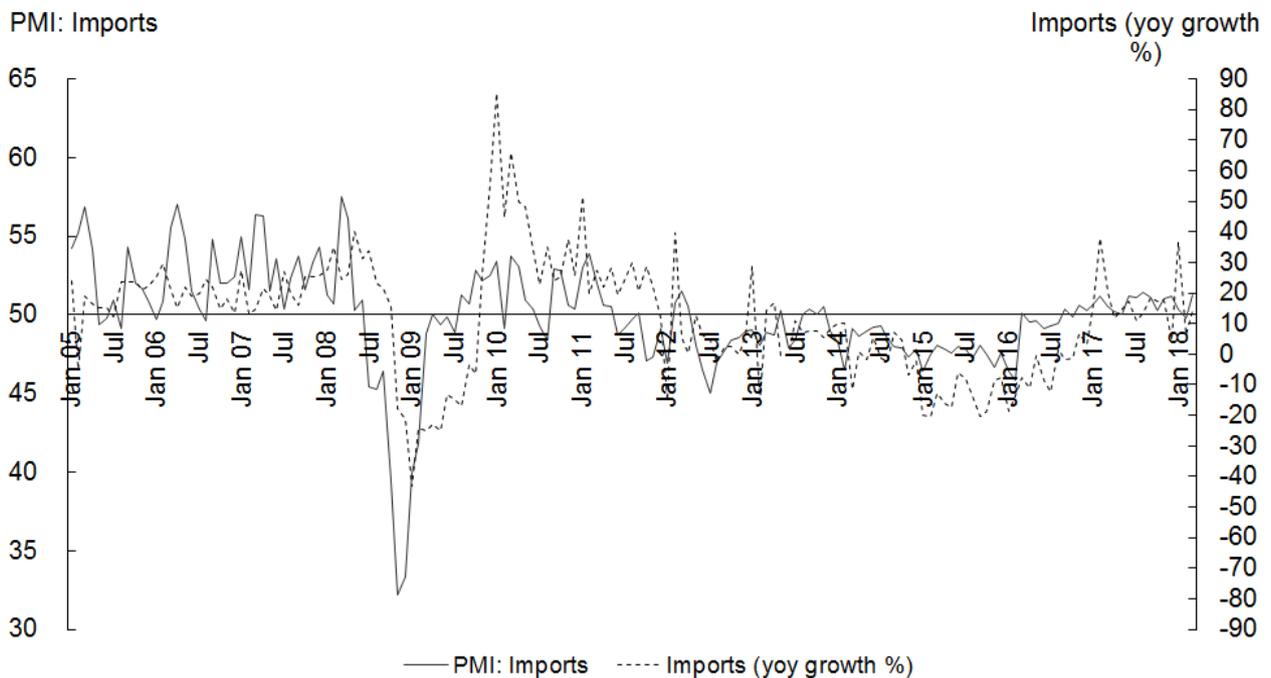
⁴ The ex-factory prices index has been published since January 2017.

Exhibit 25: Imports index, April 2016 to March 2018



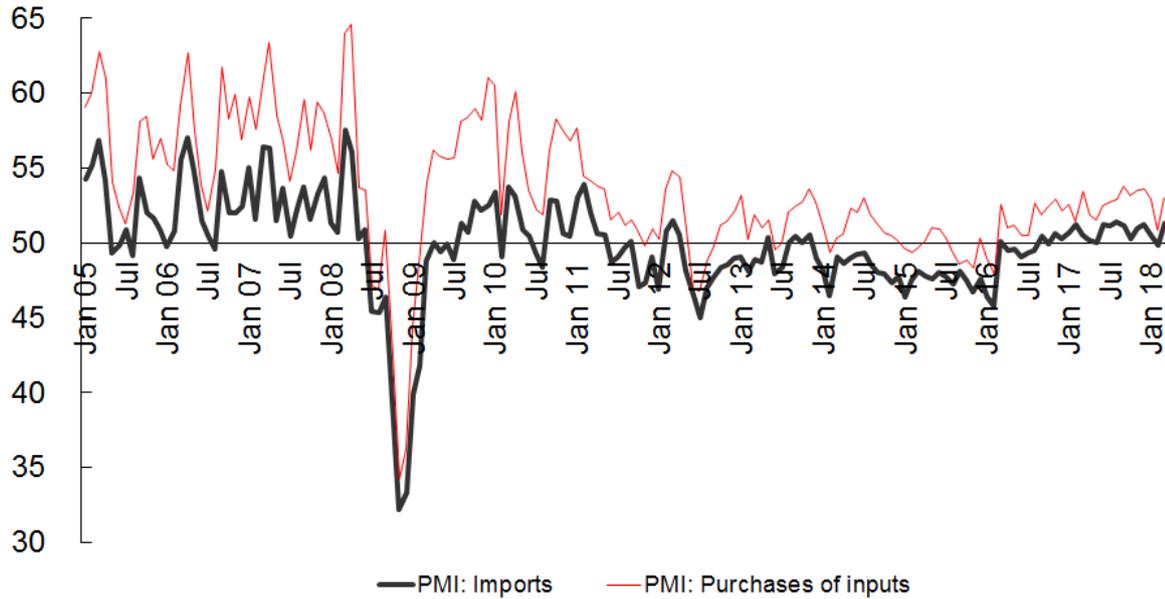
Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

Exhibit 26: Imports index and import growth, January 2005 to March 2018



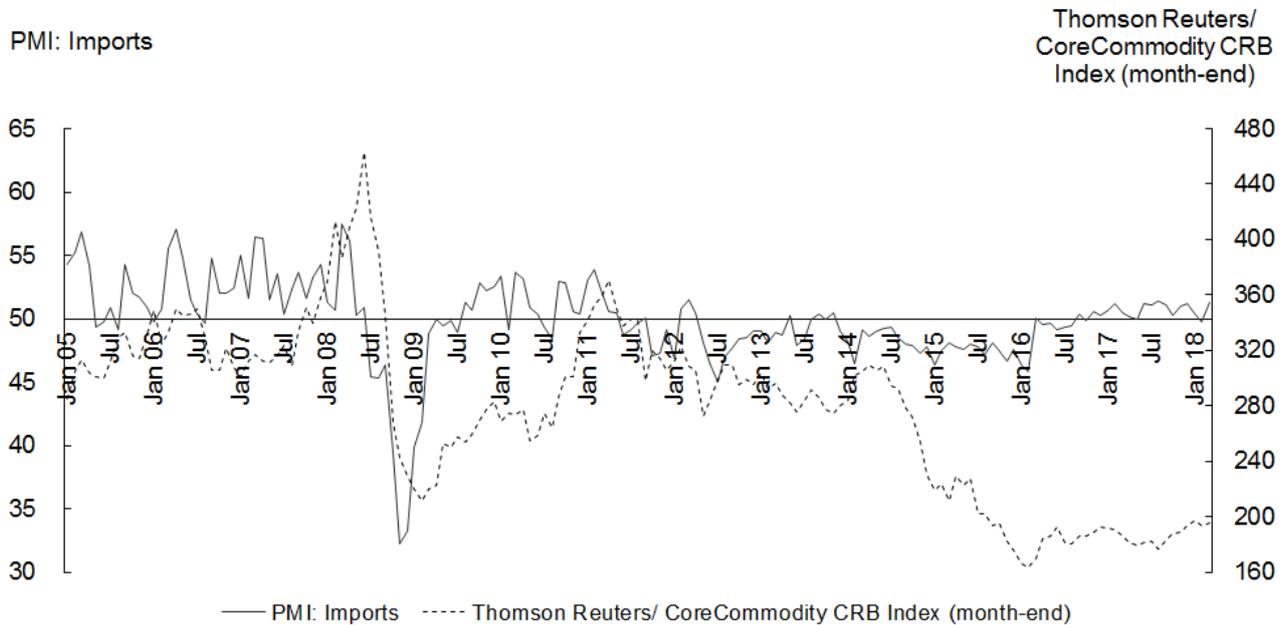
Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics, China Customs

Exhibit 27: Imports and purchases of inputs, January 2005 to March 2018



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 2018

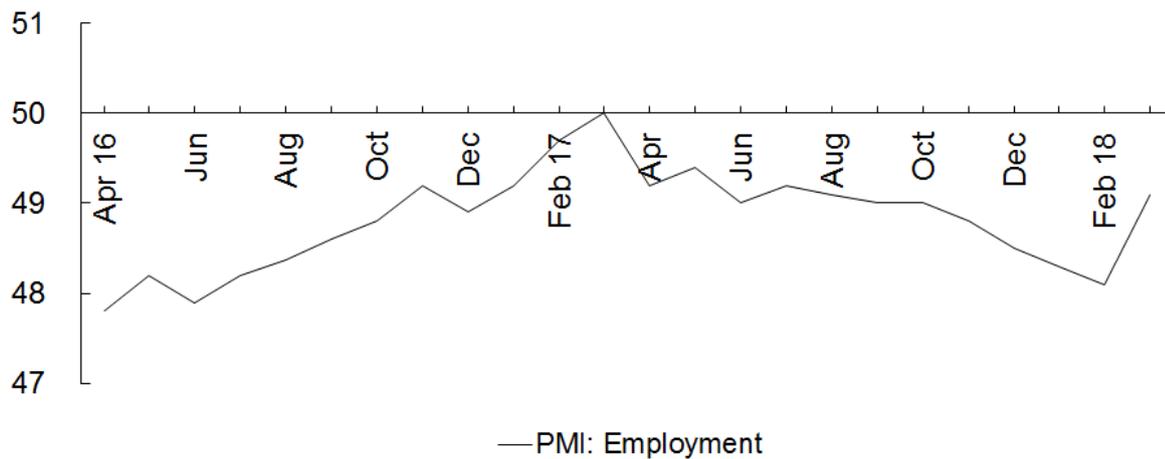


Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics, Thomson Reuters

10. Employment index was slightly below 50

The employment index fell from 48.3 in January to 48.1 in February, and then rose to 49.1 in March. (Exhibit 29) The index has been slightly below 50 since April 2017, indicating that manufacturing employment has been falling in a slow and gradual manner over the past year. This was attributable to an improvement in production efficiency of factories in China, in our view.

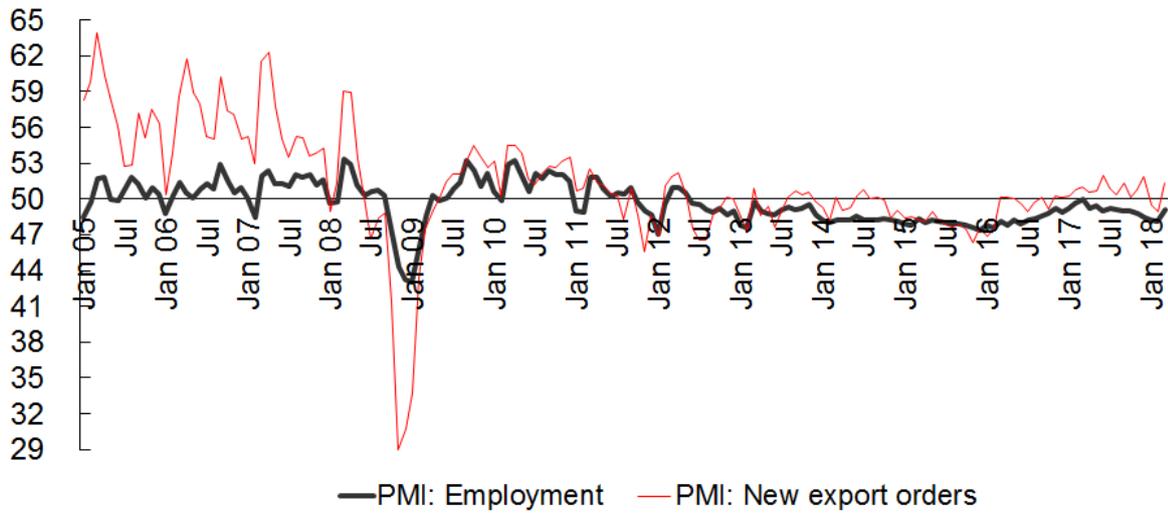
Exhibit 29: Employment index, April 2016 to March 2018



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

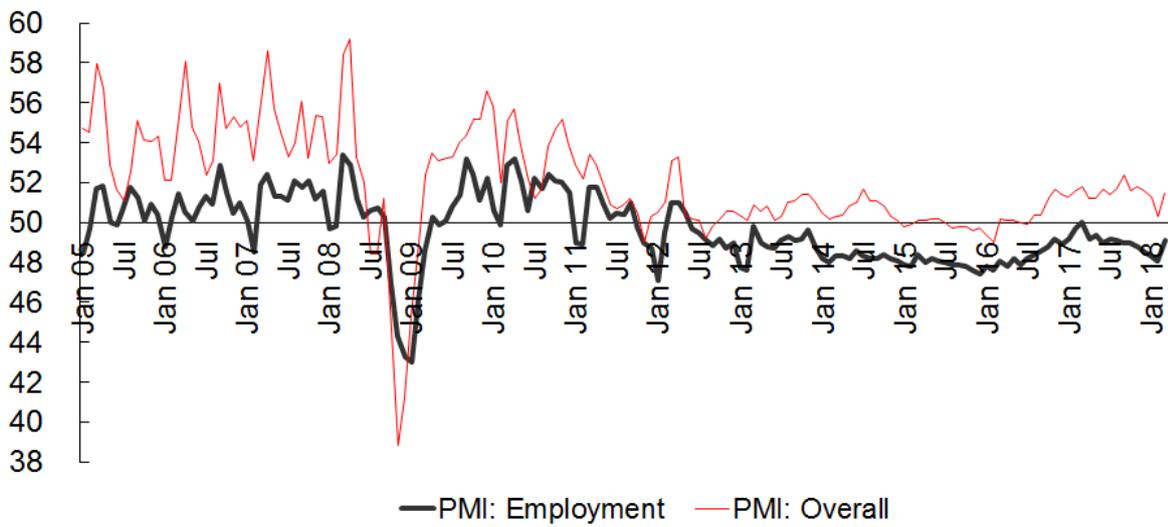
Exhibit 30 proves that the employment in China’s manufacturing sector has relied heavily on the export sector. Exhibit 31 and 32 give our readers some ideas about the extent to which the employment situation improves or deteriorates with the manufacturing sector and the overall economy.

Exhibit 30: Employment and new export orders, January 2005 to March 2018



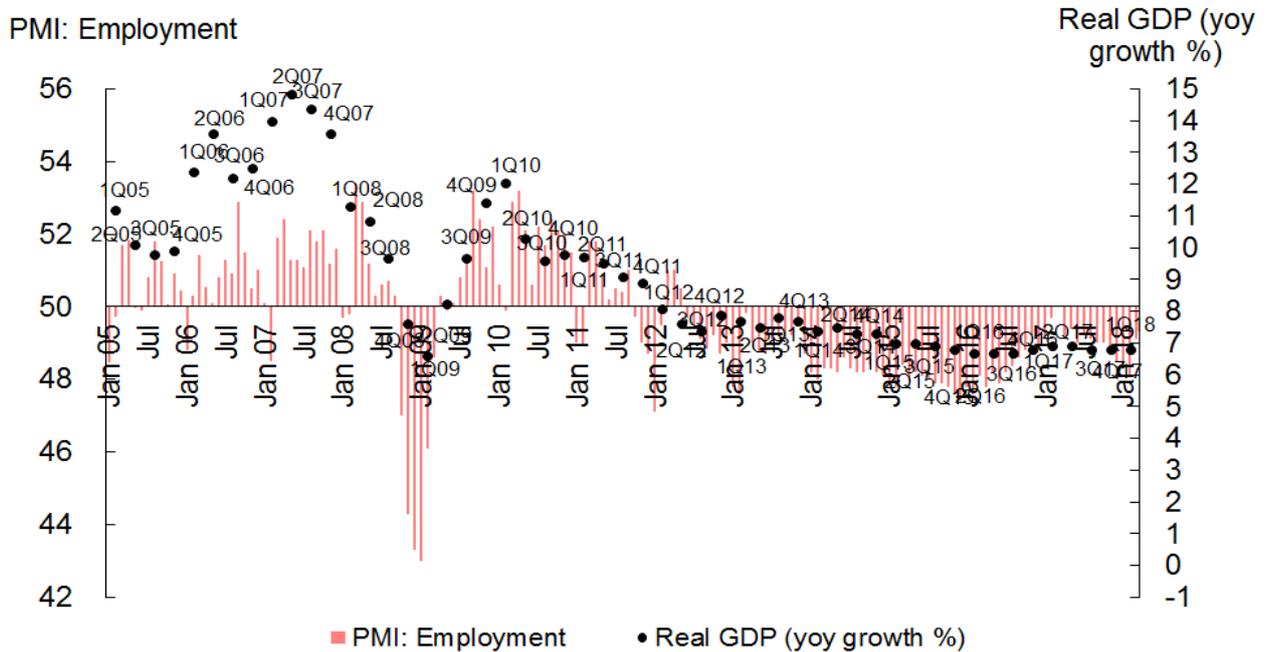
Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

Exhibit 31: Employment index and headline PMI, January 2005 to March 2018



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

Exhibit 32: Employment index and real GDP growth, January 2005 to March 2018

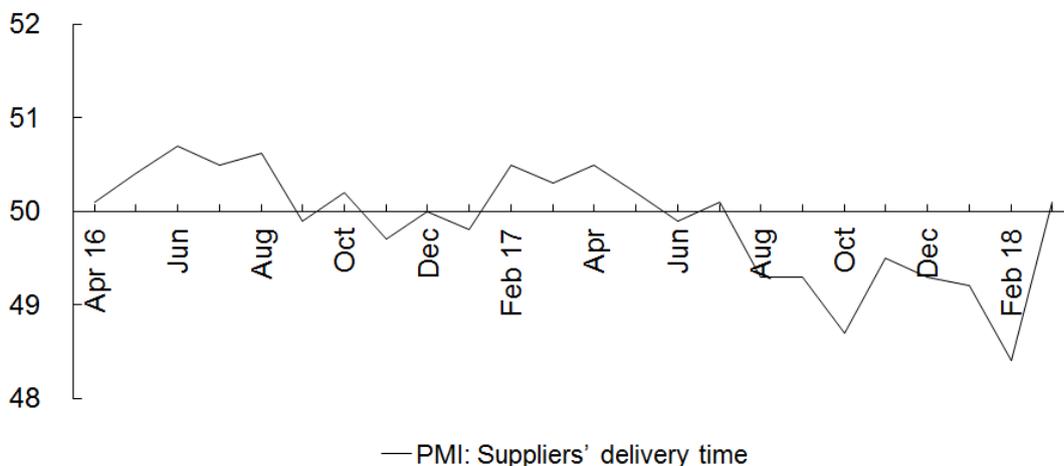


Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

11. Suppliers' delivery time stays relatively stable

After falling from 49.2 in January to 48.4 in February, the suppliers' delivery time index rose to 50.1 in March. The latest reading was close to the critical 50-mark, indicating that suppliers' delivery time has stayed relatively stable recently. (Exhibit 33)

Exhibit 33: Suppliers' delivery time index, April 2016 to March 2018

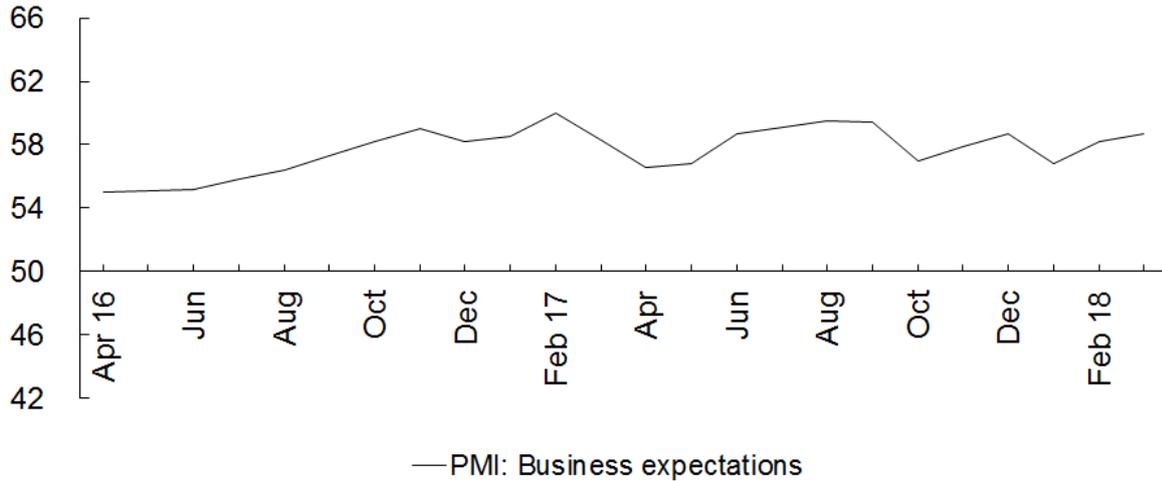


Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

12. Confidence among purchasing managers improves

The business expectations index went up from 56.8 in January to 58.2 in February, and further to 58.7 in March. The continuous rise in the index shows an improvement in the confidence among purchasing managers in China.⁵ (See exhibit 34)

Exhibit 34: Business expectations index, April 2016 to March 2018



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

⁵ 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.

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 39,900 people across 40 economies worldwide, generating total revenue of over US\$22.5 billion in 2016. Fung Holdings (1937) Limited, a privately held business entity headquartered in Hong Kong, is the major shareholder of the Fung group of companies.

Please visit www.funggroup.com for more about the Fung Group.



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