PMI Quarterly on China Manufacturing

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
Global Sourcing
Helen Chin / helenchin@fung1937.com

China Federation of Logistics & Purchasing
Chen ZhongTao / czt@clic.org.cn

PMI indicates improvement in manufacturing sector and economy

- Output index rebounds strongly in March
- Growth of new orders accelerates.
- Backlogs of orders index rises in March.
- Stocks of finished goods decrease at a slower pace.
- Manufacturers start to increase their purchases of production inputs.
- Prices of production inputs go up.
- Ex-factory prices index rises above critical 50-mark in March.
- Imports index advances to seven-month high.
- Manufacturing employment continues to decrease.
- Suppliers' delivery quickens slightly.
- Purchasing managers become more optimistic.

IN THIS ISSUE:

1. PMI indicates improvement in manufacturing sector and economy

China's manufacturing PMI dropped from 49.5 in January to 49.2 in February. Afterwards, the index rebounded to 50.5 in March, returning to the expansionary zone for the first time in four months. The latest figure indicates an improvement in the manufacturing sector and the economy in China. (See exhibit 1)

It is noteworthy to recognize the discrepancy by size of enterprises. The PMI of 'large enterprises' fluctuated within the range of 51.1 to 51.5 throughout January to March. The index stayed above the critical 50-mark during the period, indicating a continuous expansionary of 'large enterprises'. The PMI of 'medium enterprises' dropped from 47.2 in January to 46.9 in February, but then rebounded strongly to 49.9 in March. Meanwhile, the PMI of 'small enterprises' went down from 47.3 in January to 45.3 in February, before rising to 49.3 in March. The readings of both indices in March indicate that the situations facing 'medium enterprises' and 'small enterprises' have been improving recently. (See exhibit 2)

The headline PMI rose above the critical 50-mark in March, indicating that the manufacturing sector has started to expand recently. The output index went up strongly by 3.2 pts from the previous month to 52.7 in March, showing a quick recovery in production activities. This was due largely to an improving domestic demand: The new orders index has returned to the expansionary zone since February.[1] Meanwhile, the new export orders index rebounded from 45.2 in February to 47.1 in March, indicating that the new export orders have decreased at a slower pace lately.

Prices of industrial products have started to rise: the ex-factory prices index went up above the critical 50-mark in March. A major reason behind the increase in product prices was the recent rise in prices of materials. The input prices index went up above 50 in February, and further reached 53.5 in March.

Looking ahead, the central government is likely to introduce more policies to stabilise economic growth. To tackle the problem of high financing costs on enterprises, China's central bank will use monetary policy tools such as required reserve ratios and interest rates to guide financial institutions in increasing credit supply and bringing down the costs of borrowing, according to the Government Work Report published in March this year. Besides, the government plans to reduce the taxes on and the social insurance contributions of enterprises by almost 2 trillion yuan this year. For example, on 1 April, the value-added tax rate in the manufacturing sector and other

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.

sectors was reduced sharply from 16% to 13%; and the value-added tax rate in the transportation, the construction and other sectors was decreased from 10% to 9%. Moreover, local governments are allowed to lower enterprises' contribution rate to the social pension for urban workers to 16%. We believe that these policies will help alleviate the downward pressure on the Chinese economy.

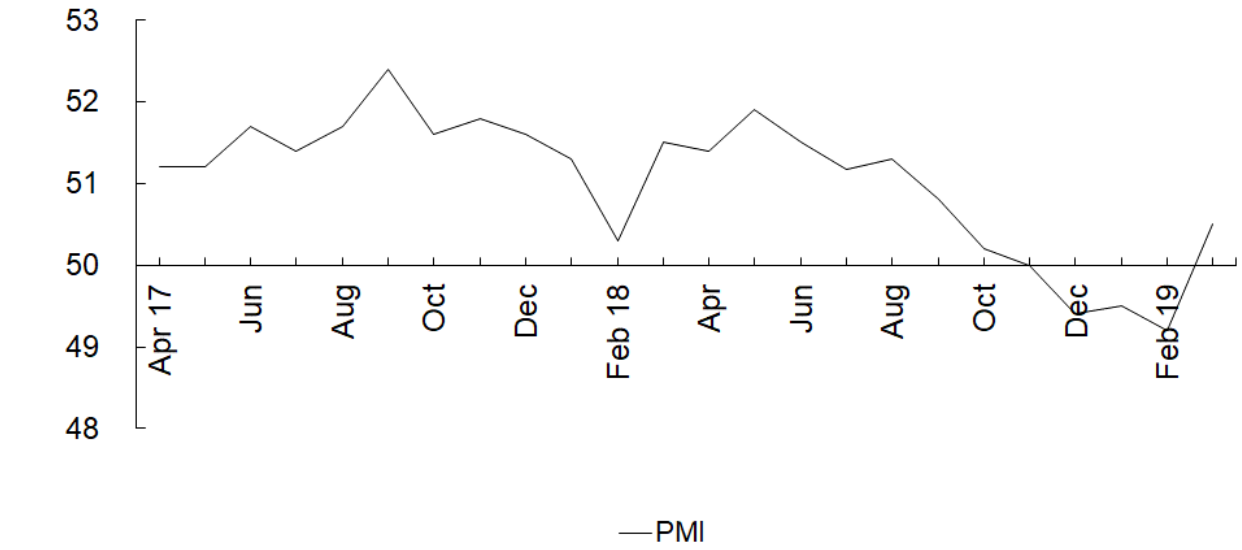
With the positive impact of China's stimulus measures starting to unfold, China's economic growth is set to stabilise in the near term. Overall, we predict that the headline PMI will fluctuate within a higher range of 50 to 51 and the real GDP growth will be around 6.3% yoy in 2Q19. Challenges facing Chinese manufacturers include ongoing trade frictions between China and the US, strong government's determination to tackle pollution problem, intense competition in the international market, and the weak demand for luxury products. Overall, we expect that the industrial production (VAIO) growth will moderate to around 6.0% yoy in 2Q19.

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

Among the 12 sub-indices (i.e. excluding the suppliers' delivery time index), only the business expectations index remained in the expansionary zone over the past three months. Meanwhile, the indices of new export orders, backlogs of orders, stocks of finished goods, imports, stocks of major inputs and employment stayed in the contractionary zone over the same period.

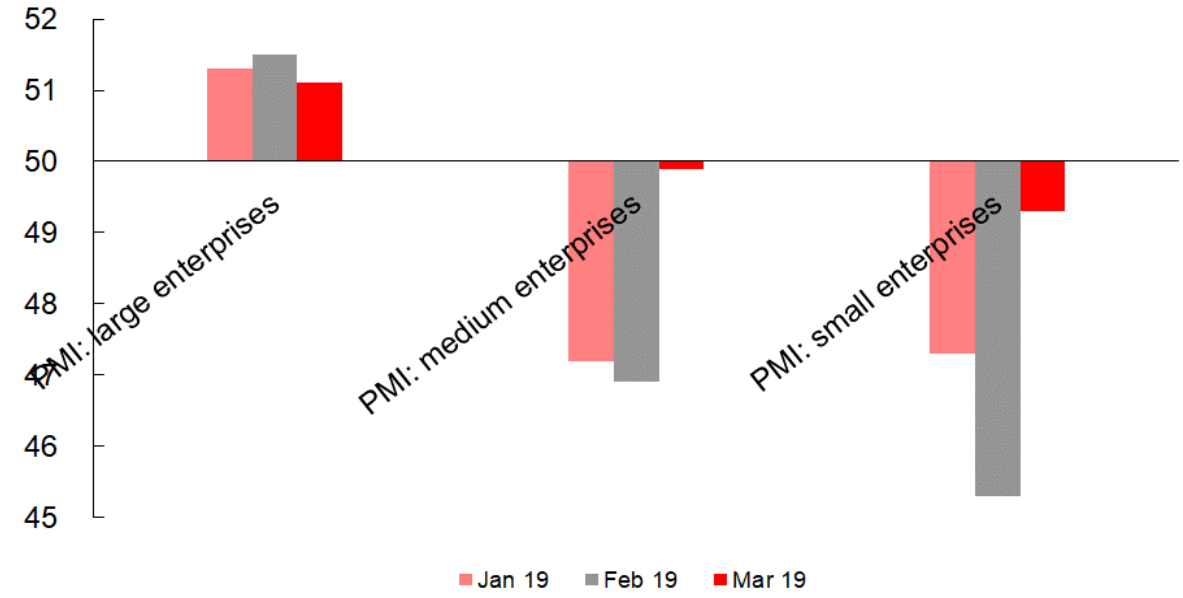
China's manufacturing PMI has so far done a satisfactory job in predicting economic growth. Exhibit 5 plots the quarterly real GDP yoy growth rates versus the monthly PMIs since January 2014. It could be seen that the PMI demonstrates a fairly good track record of forecasting the growth trend of the economy at least over the next few months. Based on this chart we project that the real GDP growth will be around 6.3% in 2Q19.

Exhibit 1: Headline PMI, April 2017 to March 2019



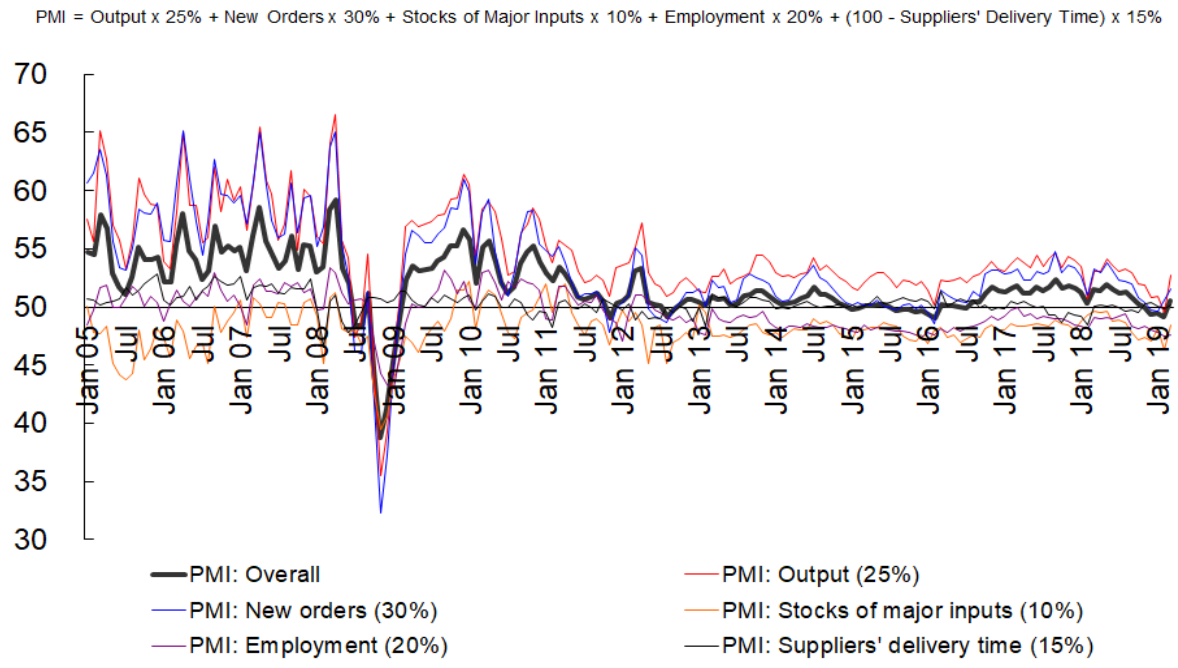
Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

Exhibit 2: PMIs of large enterprises, medium enterprises and small enterprises, January to March 2019



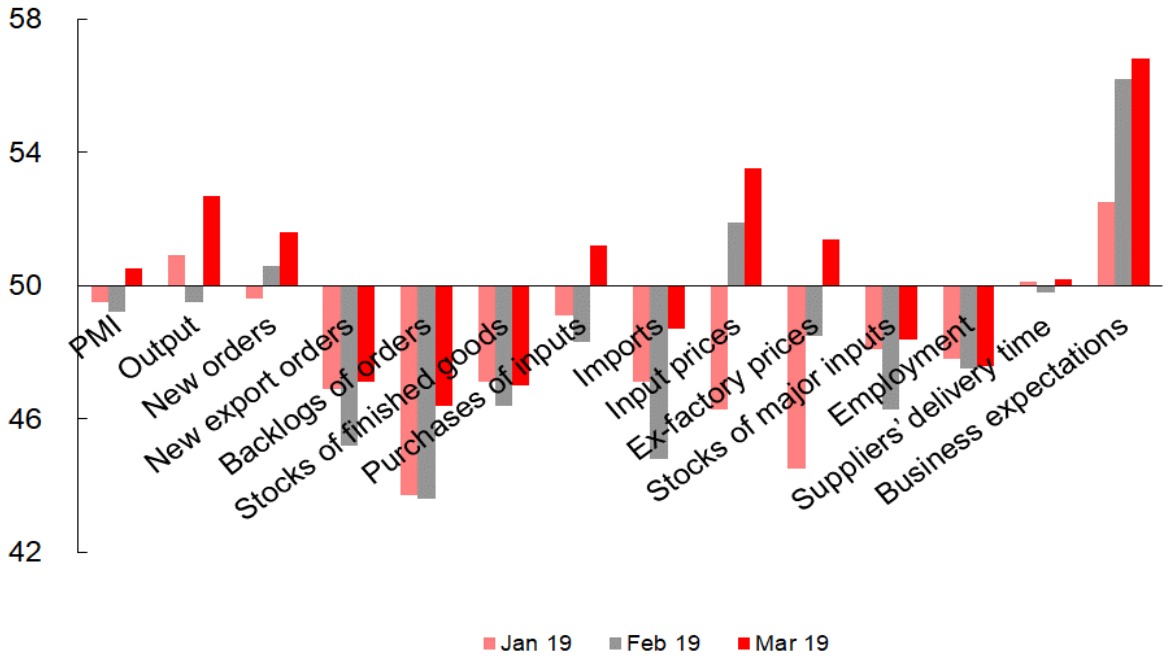
Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

Exhibit 3: Headline PMI and sub-indices, January 2005 to March 2019



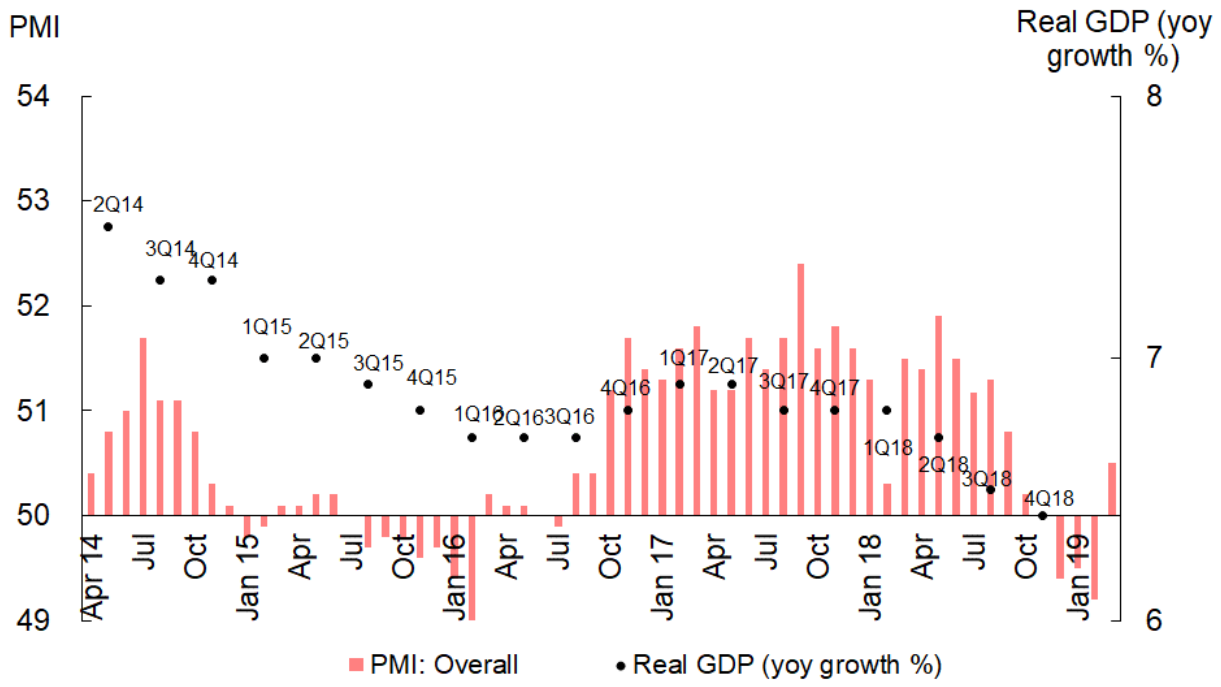
Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

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, April 2014 to March 2019



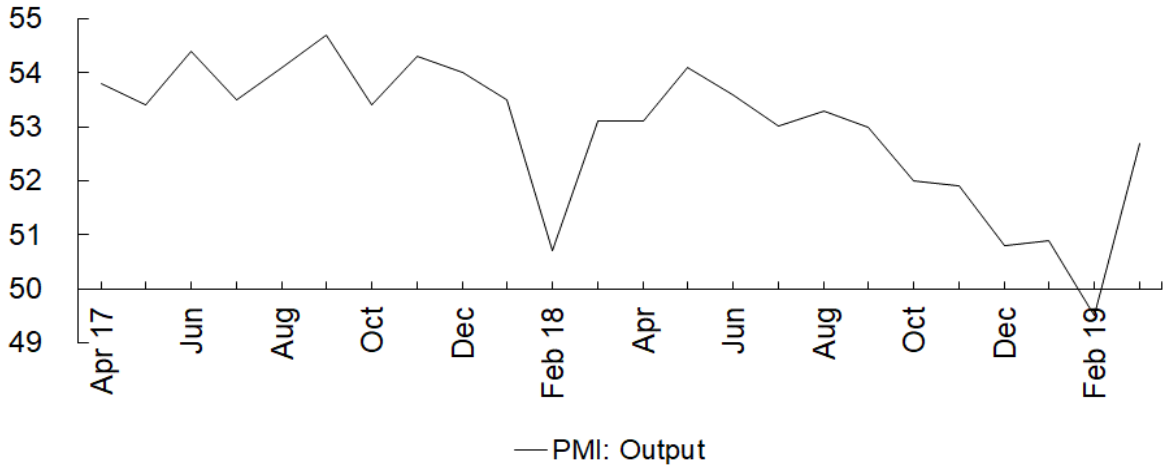
Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

2. Output index rebounds strongly in March

The output index fell from 50.9 in January to 49.5 in February, but then rebounded strongly to 52.7 in March, returning to the expansionary zone. The index reading in March indicates a quick recovery in production activities. (See exhibit 6)

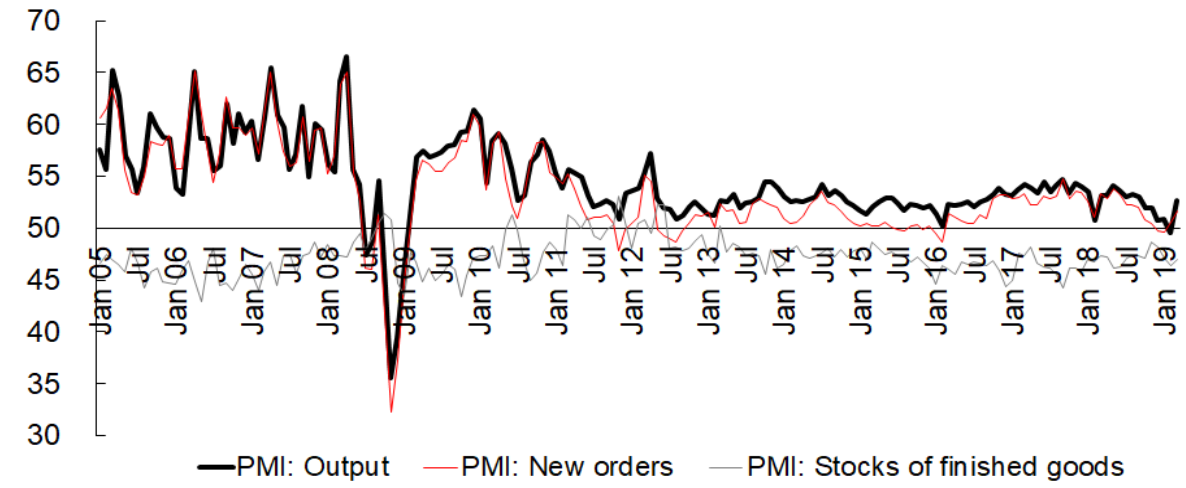
Exhibit 7 shows that the output growth was mainly fuelled by new orders growth instead of restocking activities, as the stocks of finished goods index has stayed in the contractionary zone for seventy two consecutive months. However, output may grow strongly later when manufacturers have finally run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

Exhibit 6: Output index, April 2017 to March 2019



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

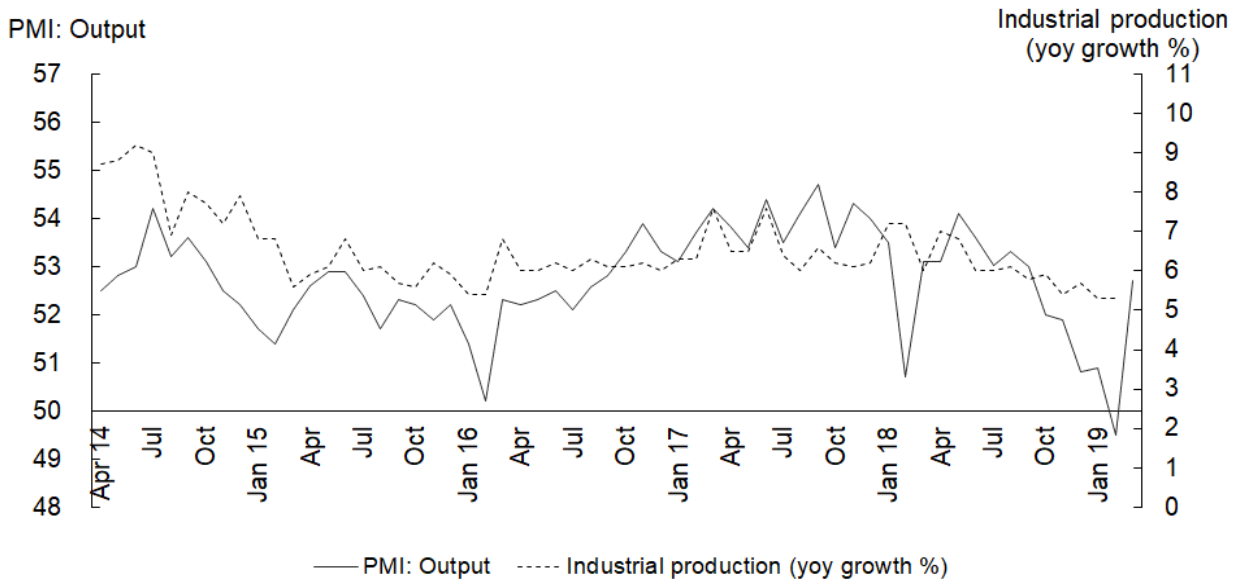
Exhibit 7: Output, new orders and stocks of finished goods, January 2005 to March 2019



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 accelerate to around 6.0% yoy in 2Q19, boosted by the positive impact of the cut in value-added tax rate for the manufacturing sector. Challenges facing Chinese manufacturers include ongoing trade frictions between China and the US, strong government's determination to tackle pollution problem, intense competition in the international market, and the weak demand for luxury products.

Exhibit 8: Output index and industrial production growth, April 2014 to March 2019



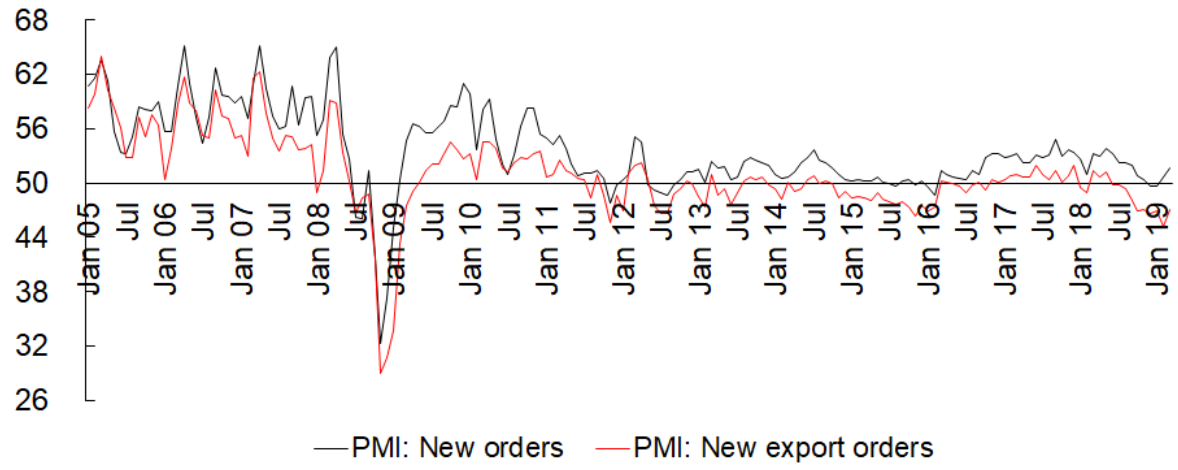
Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

3. Growth of new orders accelerates

The new orders index rose from 49.6 in January to 50.6 in February, and then went up to 51.6 in March, indicating an acceleration in the growth of new orders. In our view, this implies an improvement in overall demand.

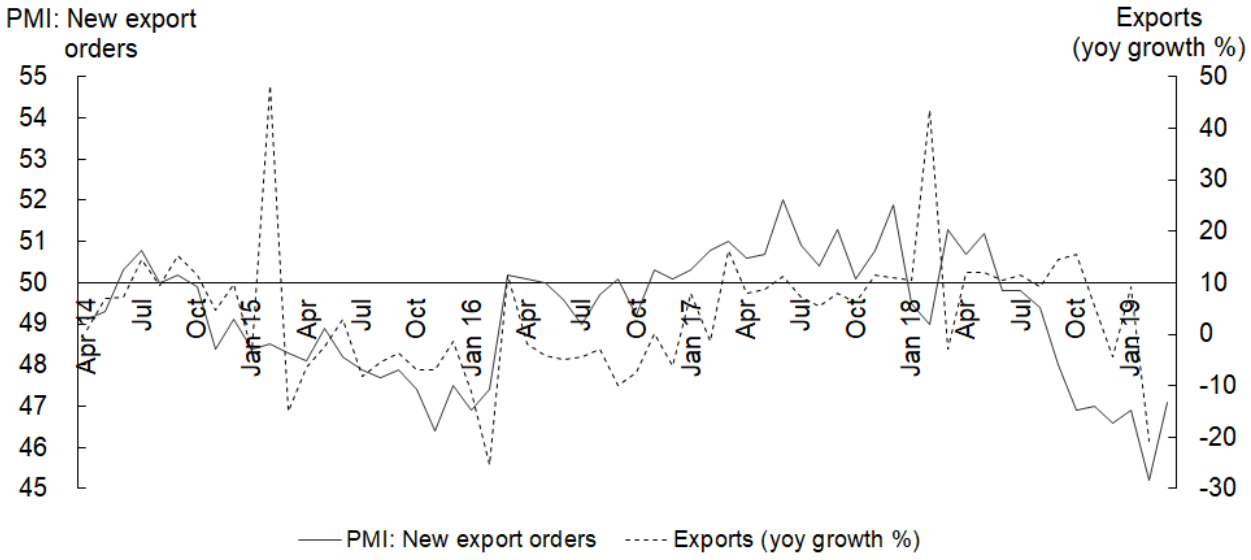
Meanwhile, the new export orders index fell from 46.9 in January to 45.2 in February, but then rebounded to 47.1 in March. The latest figure indicates that the new export orders have decreased at a slower pace lately. The trade talks between China and the US have been underway recently and thus, industry players have been relatively optimistic. In our view, this has helped prevent a marked drop in the new export orders. (See exhibit 9)

Exhibit 9: New orders index and new export orders index, January 2005 to March 2019



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

Exhibit 10: New export orders index and export growth, April 2014 to March 2019



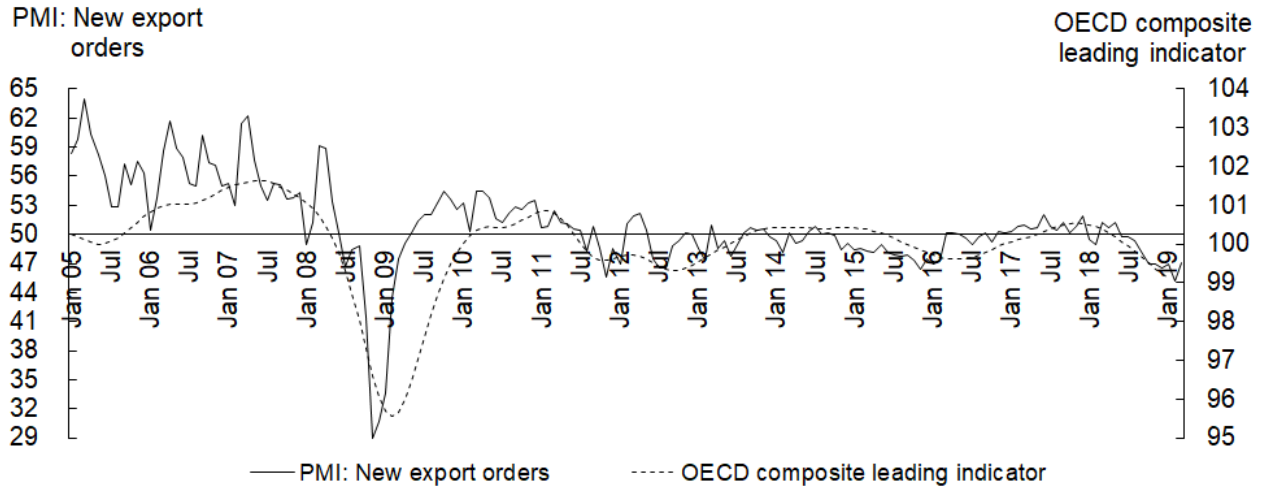
Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics, China Customs

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 contractionary zone since June last year, we have become less 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 indicator[2] has continued to fall since

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.

December 2017, suggesting a moderation in the growth of the global economy. All in all, we forecast that China's exports will show negative year-on-year growth in 2Q19.

Exhibit 11: New export orders index and OECD composite leading indicator, January 2005 to March 2019



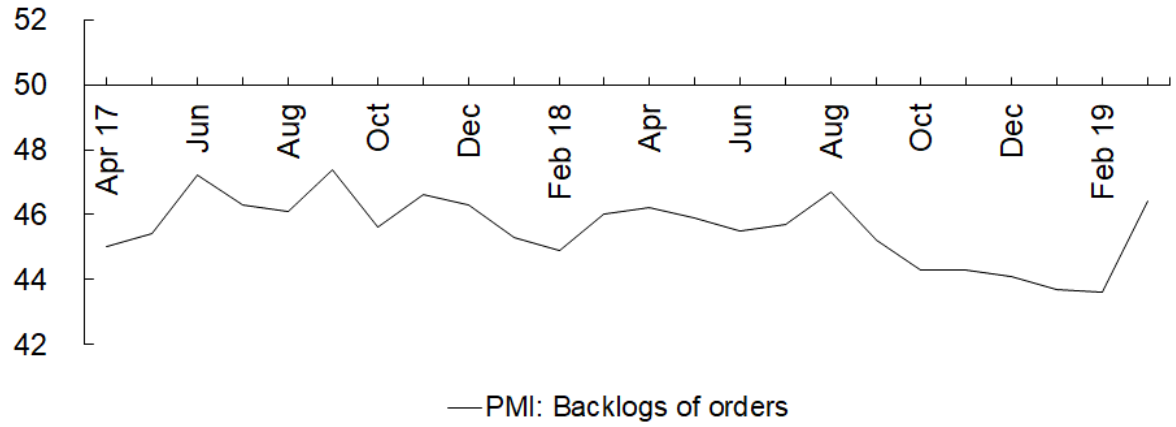
Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics, Organization for Economic Cooperation and Development

4. Backlogs of orders index rises in March

The backlogs of orders index fell slightly from 43.7 in January to 43.6 in February. Then, in March, the index rebounded to a seven-month high of 46.4, showing that backlogs of orders have decreased at a slower pace lately. (See exhibit 12)

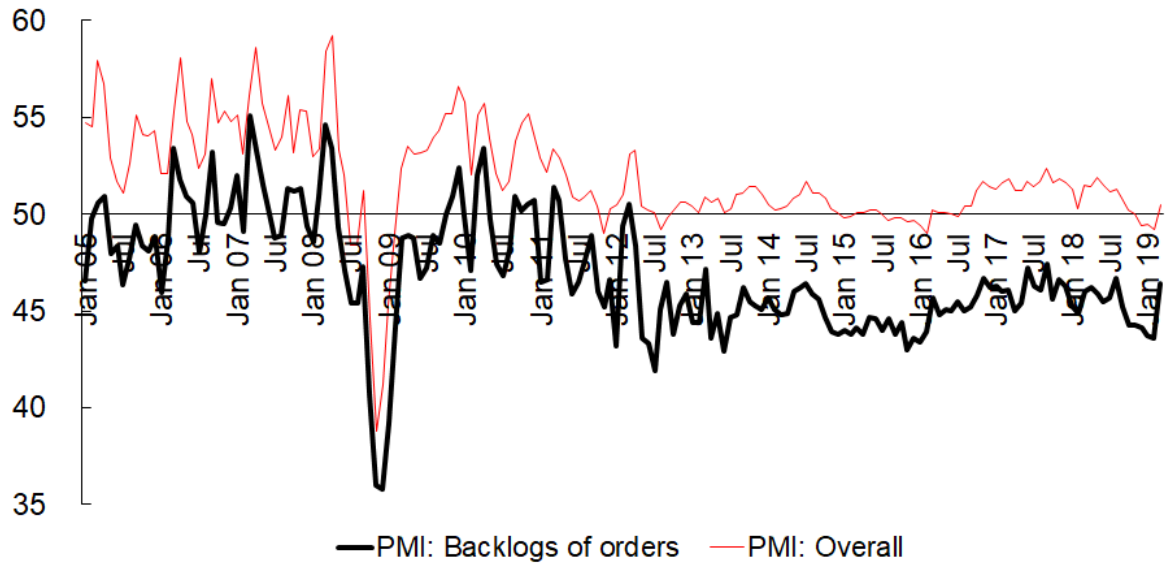
Looking ahead, we expect the index to rise further in the near term, as indicated by the apparently very high correlation between the sub-index and the headline PMI, and the recent rebound in the headline PMI. (See exhibit 13)

Exhibit 12: Backlogs of orders index, April 2017 to March 2019



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

Exhibit 13: Backlogs of orders index and headline PMI, January 2005 to March 2019



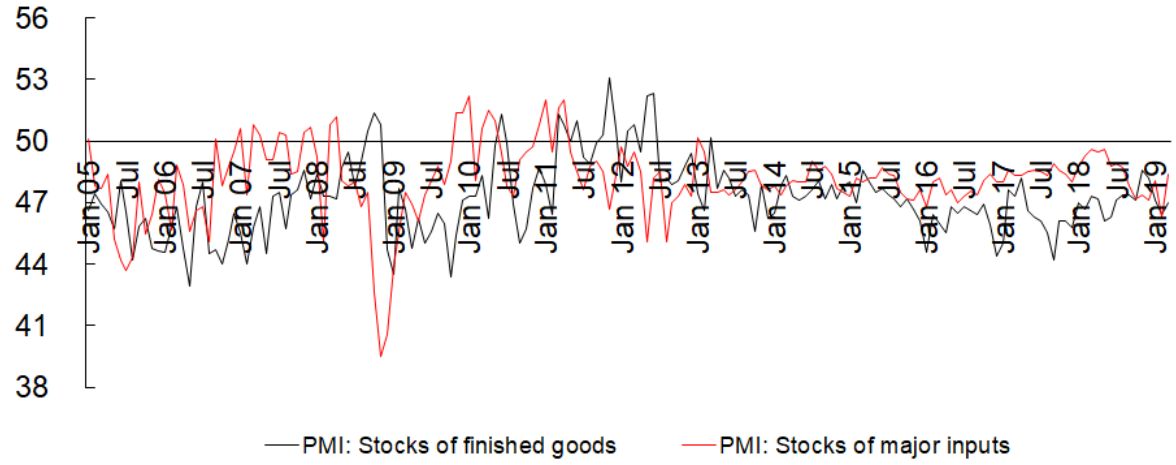
Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

5. Stocks of finished goods decrease at a slower pace

The stocks of finished goods index rose from 46.4 in February to 47.0 in March, indicating that the stocks of finished goods held by manufacturers have decreased at a slower pace lately.

Meanwhile, the stocks of major inputs index fluctuated within a range of 46.3 to 48.4 throughout January to March, below 50, indicating that the stocks of major inputs have fallen in recent months. (Exhibit 14)

Exhibit 14: Stocks of finished goods index and stocks of major inputs index, January 2005 to March 2019



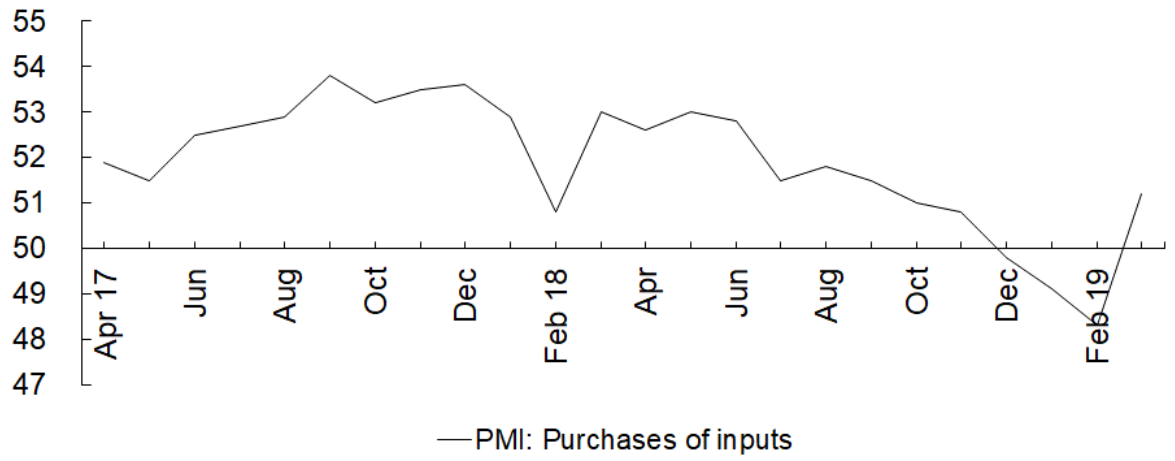
Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

6. Manufacturers start to increase their purchases of production inputs

After having dropped for six consecutive months, the purchases of inputs index rebounded to 51.2 in March, returning to the expansionary zone. The latest figure indicates that manufacturers have started to increase their purchases of production inputs recently. (Exhibit 15)

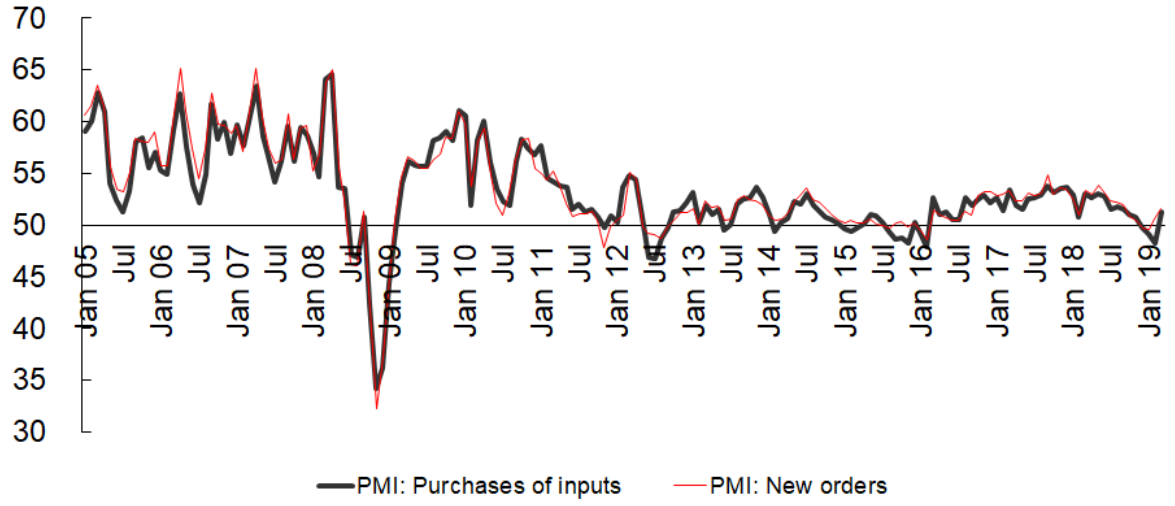
A number of factors affect the purchasing activities of manufacturers, among which the amount of new orders received by manufacturers has been the most important factor. Exhibit 16 plots the purchases of inputs index against the new orders index. The correlation between the two sub-indices is very strong. 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 2017 to March 2019



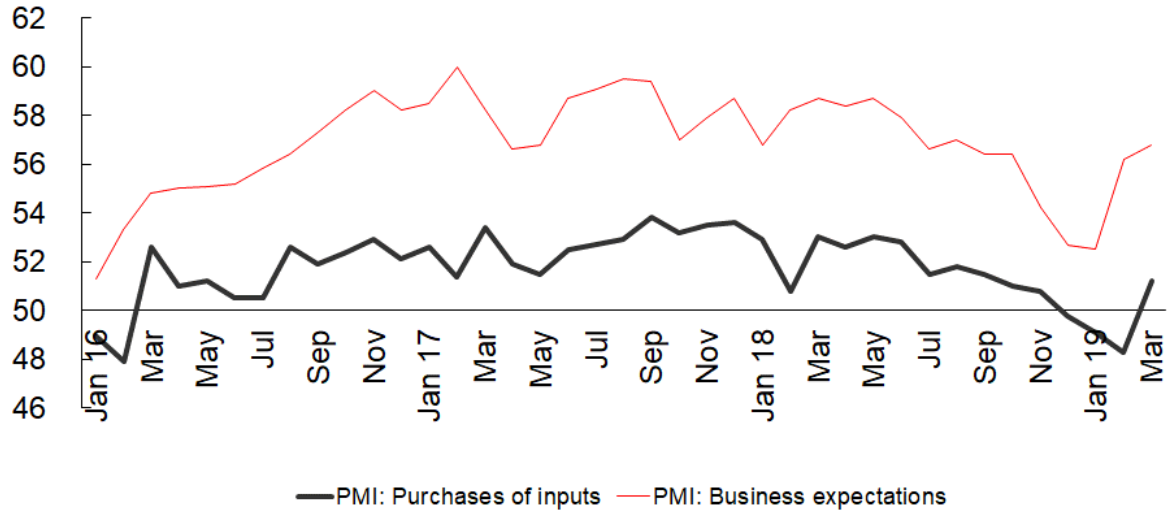
Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

Exhibit 16: Purchases of inputs and new orders, January 2005 to March 2019



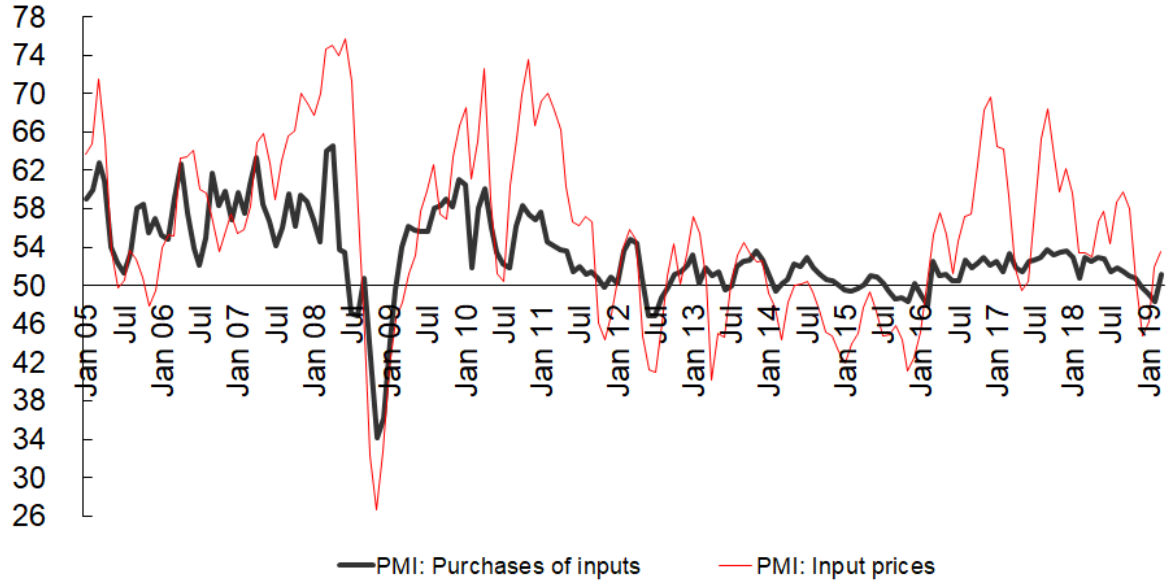
Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

Exhibit 17: Purchases of inputs and business expectations, January 2016 to March 2019



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 2019

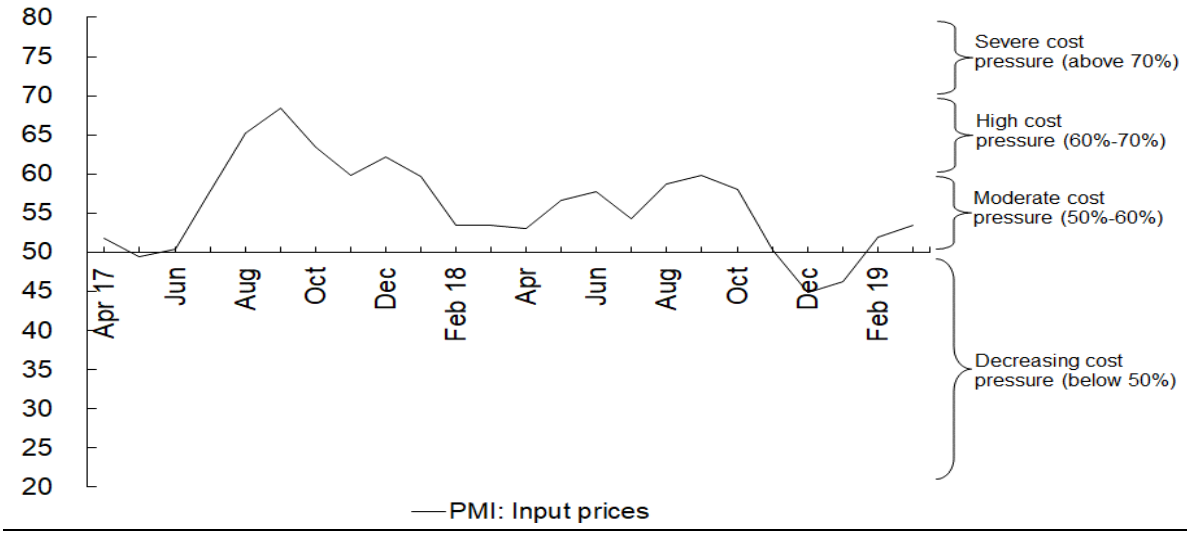


Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

7. Prices of production inputs go up

The input prices index rose sharply from 46.3 in January to 51.9 in February, and then went up to 53.5 in March. The index was above the critical 50-mark in the past two months, indicating a rise in prices of production inputs. This would increase the cost pressure on Chinese manufacturers. (Exhibit 19)

Exhibit 19: Input prices index, April 2017 to March 2019

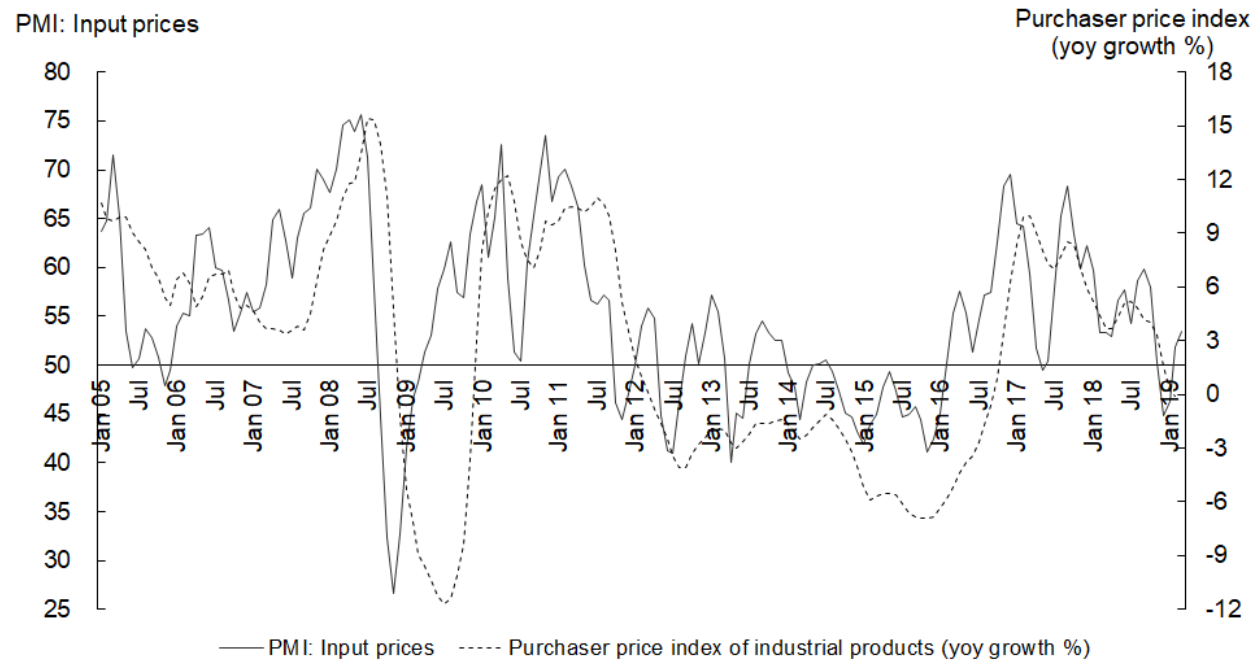


Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

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 purchaser price index and the producer price index (PPI) will go up in coming months. Consequently, the year-on-year growth rates for both the purchaser price index and the PPI will bottom out in near future. Meanwhile, we forecast that the year-on-year CPI growth will stay soft in the coming months given the still-weak consumer confidence. 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]

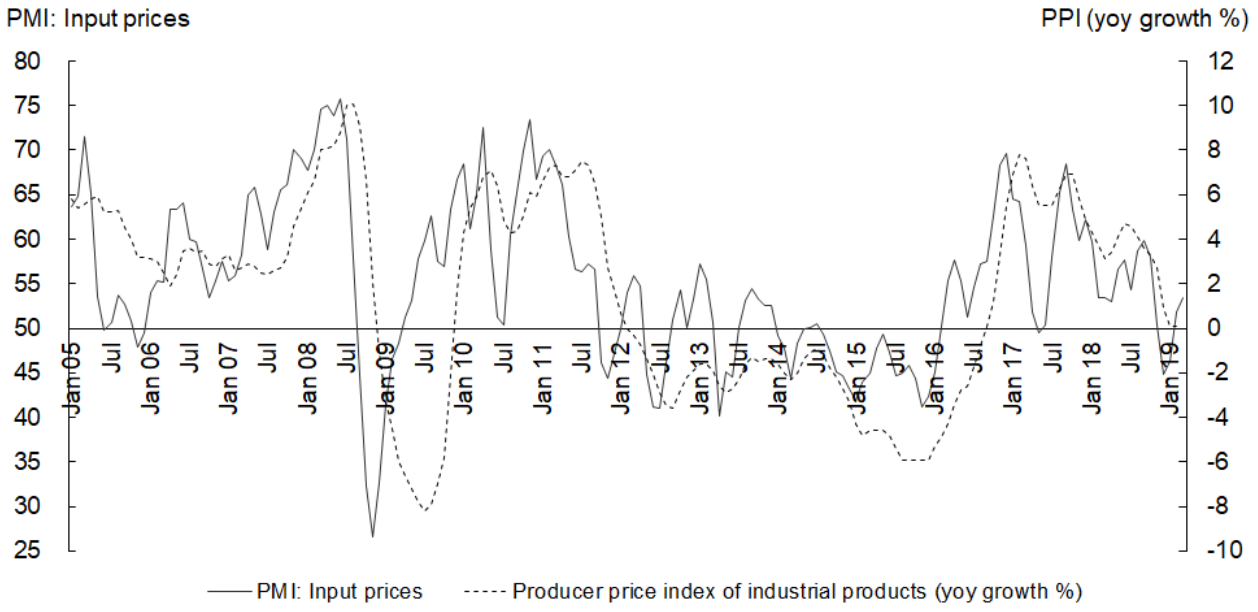
3 The producer price index of industrial goods (PPI), compiled by China National Bureau of Statistics, measures the prices of industrial products when they are sold for the first time after production.
4 The Thomson Reuters/ CoreCommodity CRB Index, which comprises 19 commodities such as crude oil, aluminum, 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 2019



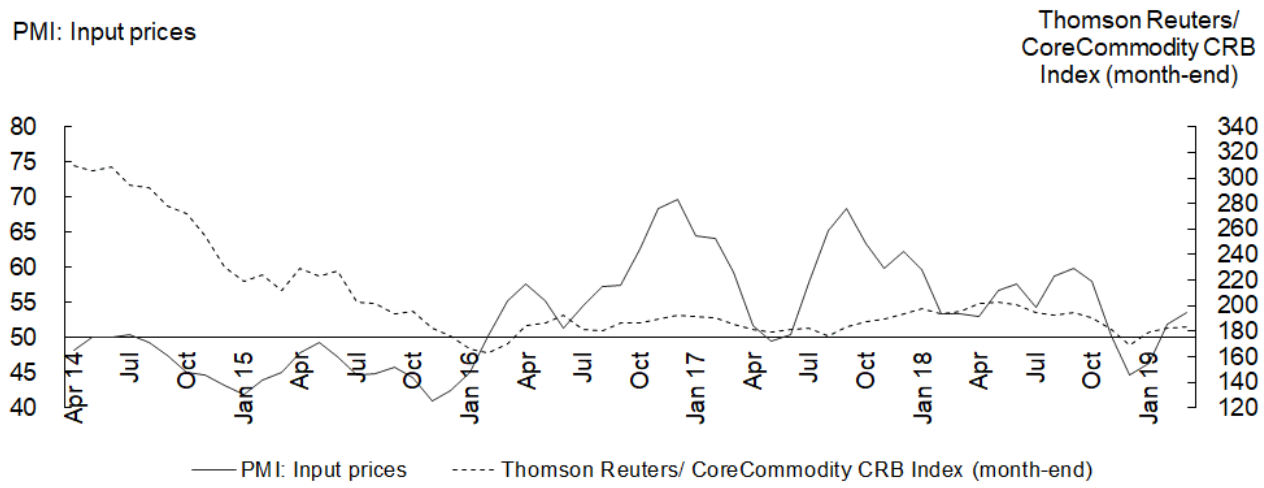
Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

Exhibit 21: Input prices index and producer price index, January 2005 to March 2019



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

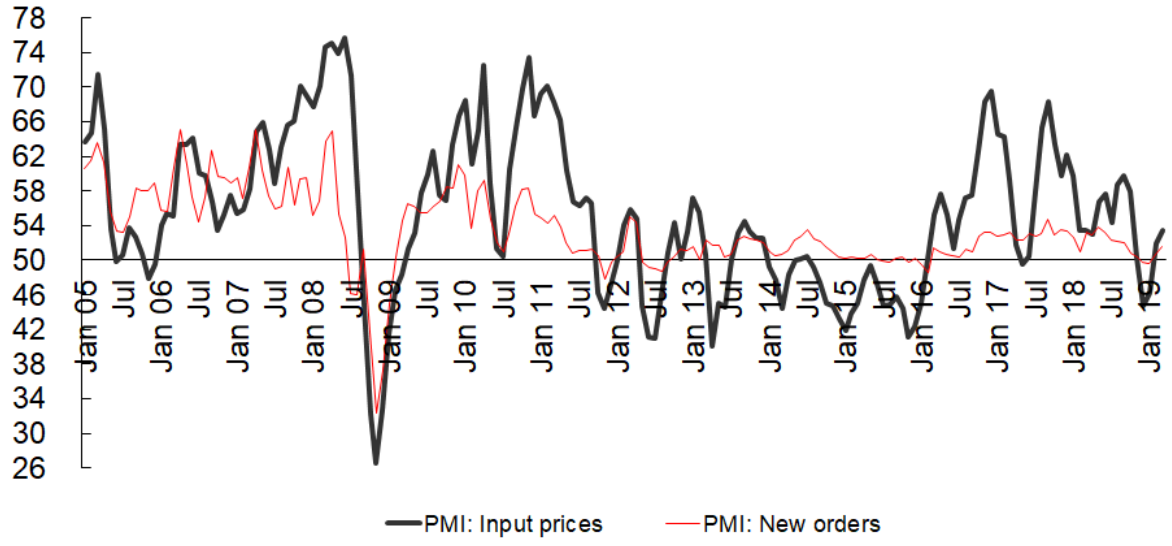
Exhibit 22: Input prices index and Thomson Reuters/ CoreCommodity CRB Index, April 2014 to March 2019



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. Input prices have risen faster than new orders recently, and this may imply a decrease in manufacturers' profit margins in the coming future.

Exhibit 23: Input prices and new orders, January 2005 to March 2019

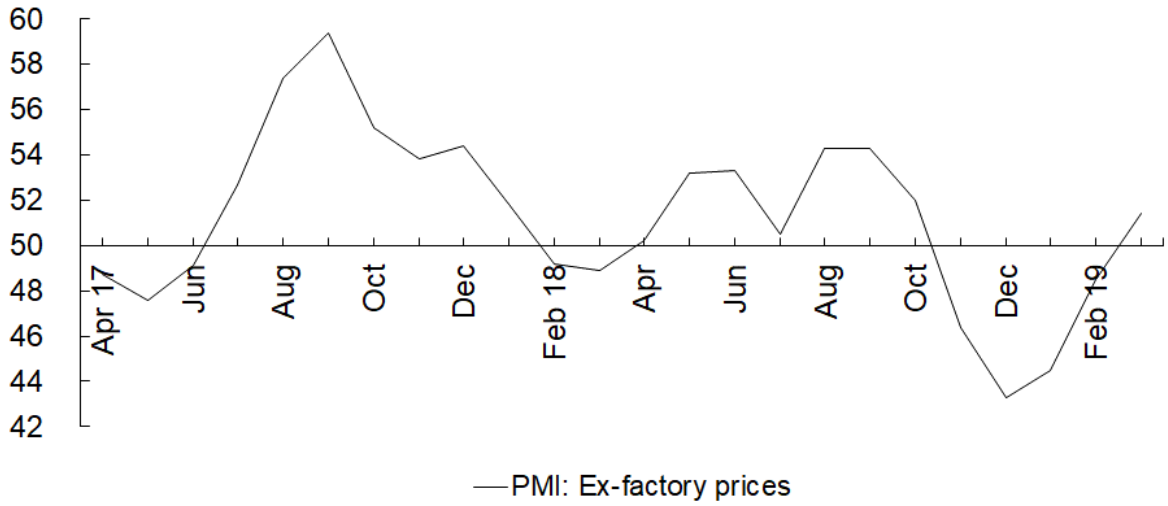


Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

8. Ex-factory prices index rises above critical 50-mark in March

The ex-factory prices index went up from 44.5 in January to 48.5 in February, and advanced further to 51.4 in March. The above-50 reading in March indicates that Chinese manufacturers have started to raise the ex-factory prices of their finished products.[5] (Exhibit 24)

Exhibit 24: Ex-factory prices index, April 2017 to March 2019



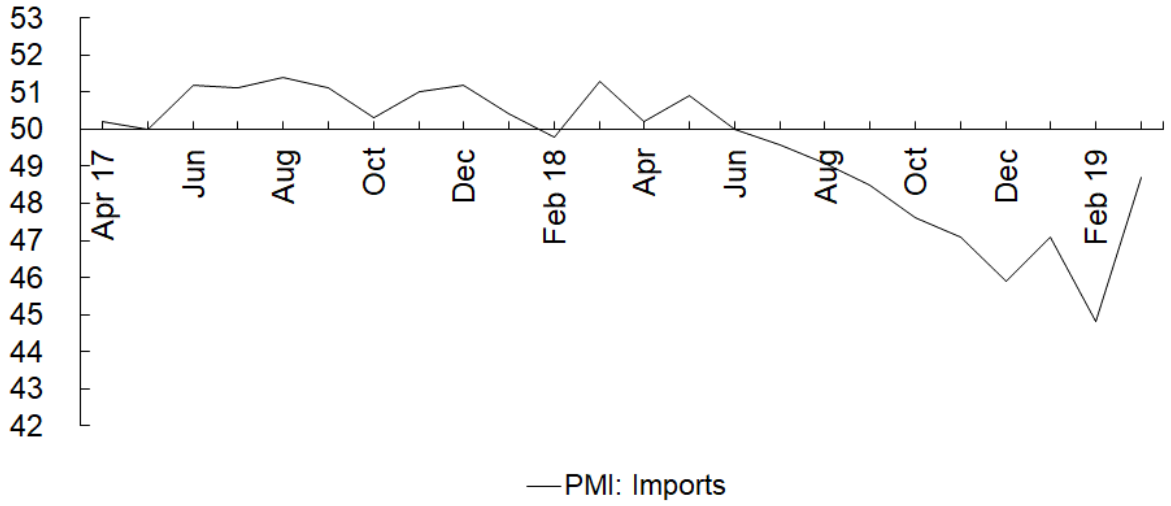
Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

9. Imports index advances to seven-month high

The imports index went down from 47.1 in January to 44.8 in February. Afterwards, in March, the index rebounded strongly to 48.7, the highest level in seven months. The rise in the index in March shows that imports of raw materials and parts have decreased at a slower pace lately. (Exhibit 25)

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

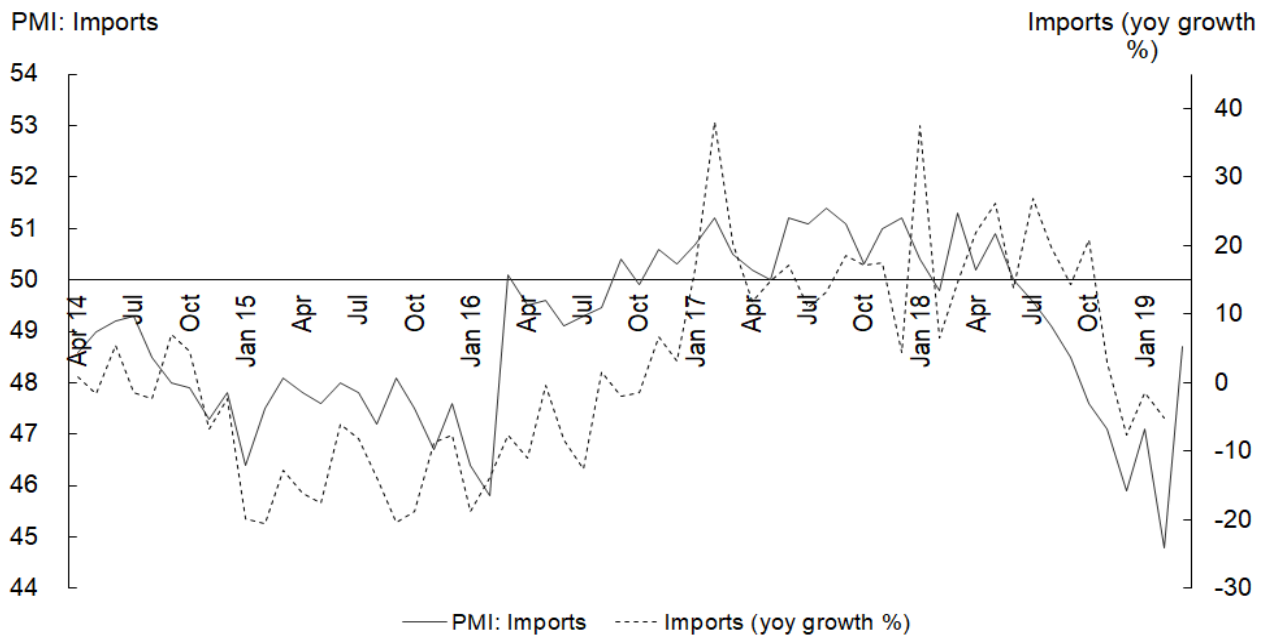
Exhibit 25: Imports index, April 2017 to March 2019



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

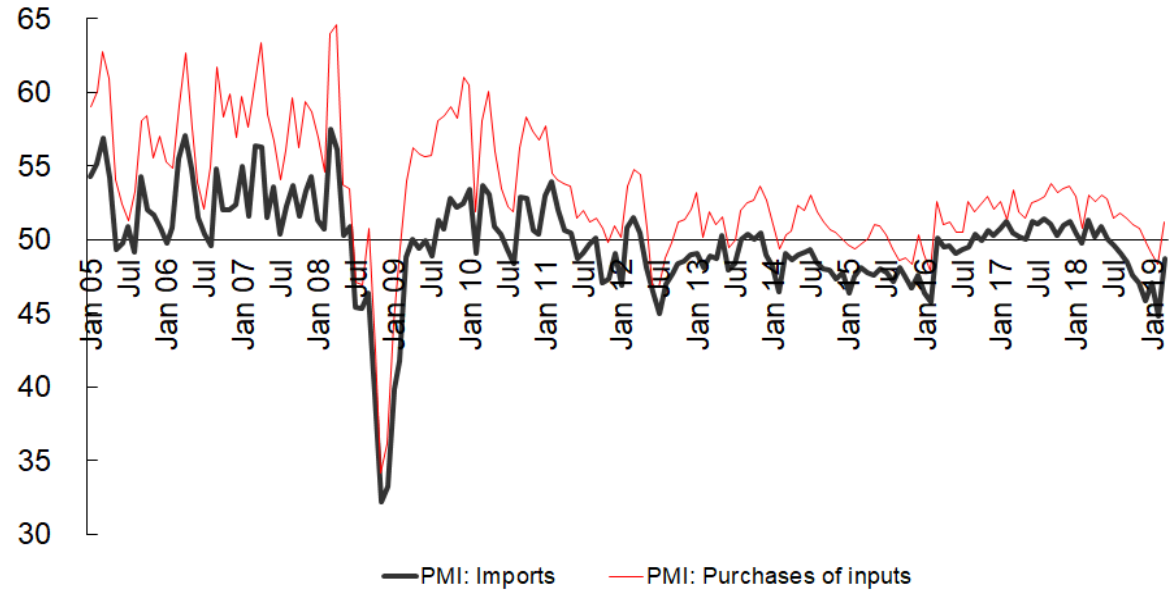
Exhibit 26 shows that the imports index is highly correlated (with some lags) to the year-on-year growth rate in imports. We expect imports growth to show negative year-on-year growth in 2Q19. Exhibit 27 illustrates the strong association between the imports index and the purchases of inputs index – 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)

Exhibit 26: Imports index and import growth, April 2014 to March 2019



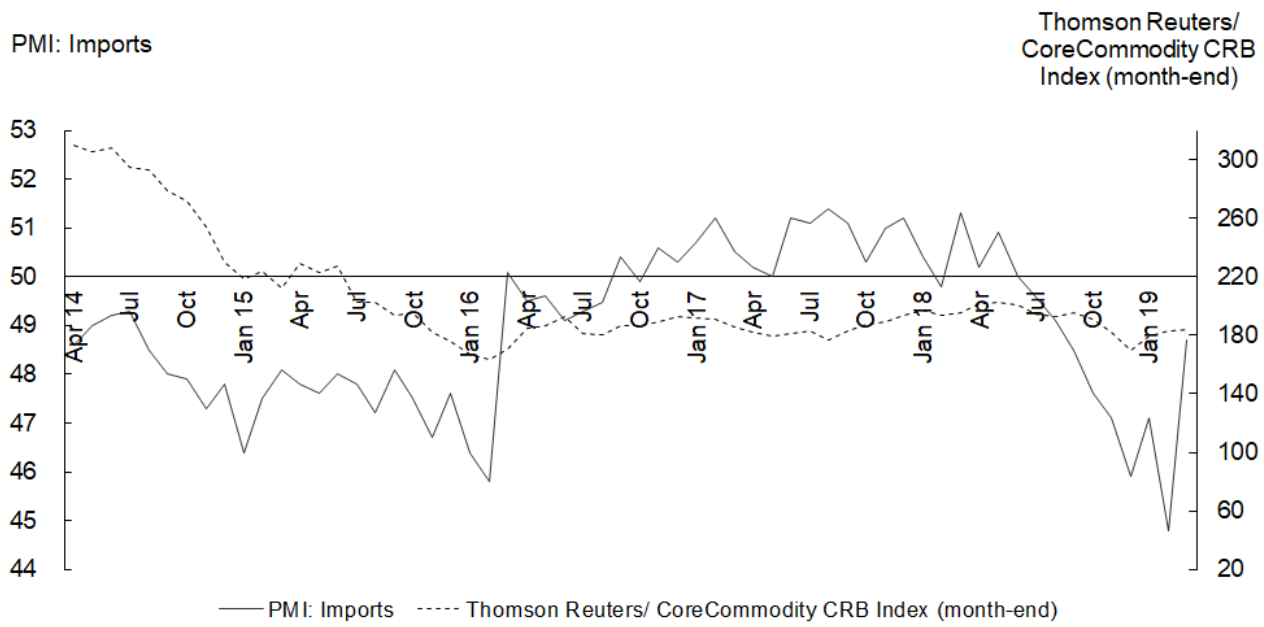
Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics, China Customs

Exhibit 27: Imports and purchases of inputs, January 2005 to March 2019



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

Exhibit 28: Imports index and Thomson Reuters/ CoreCommodity CRB Index, April 2014 to March 2019

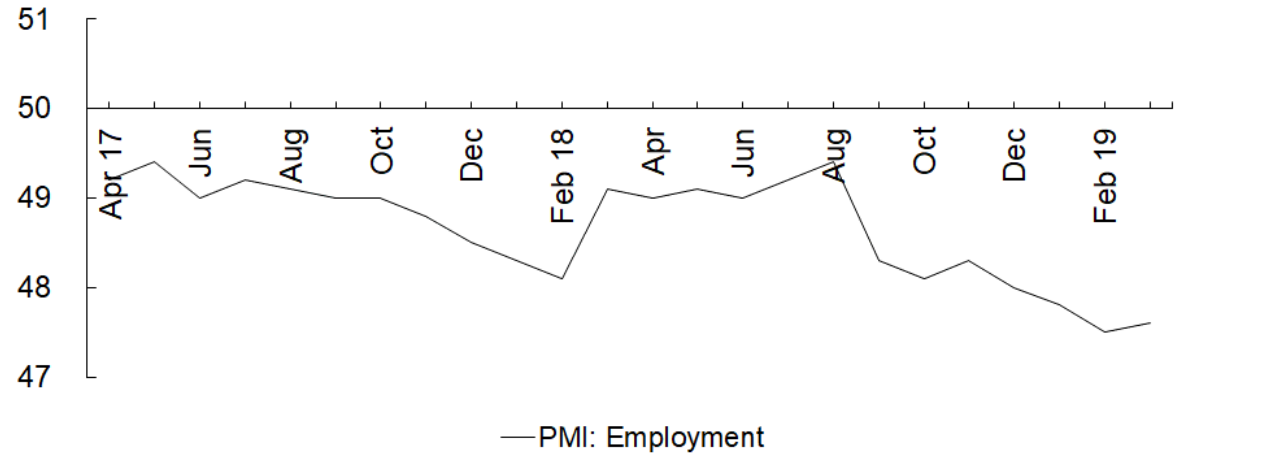


Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics, Thomson Reuters

10. Manufacturing employment continues to decrease

The employment index fell from 47.8 in January to 47.5 in February, and then stayed low at 47.6 in March. (Exhibit 29) These figures show a continuous drop in manufacturing employment.

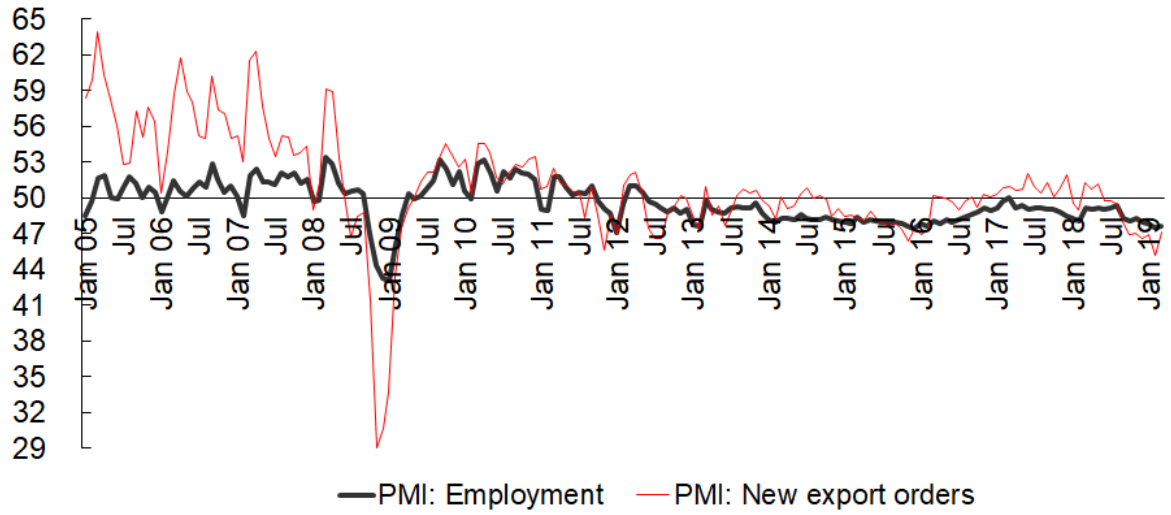
Exhibit 29: Employment index, April 2017 to March 2019



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

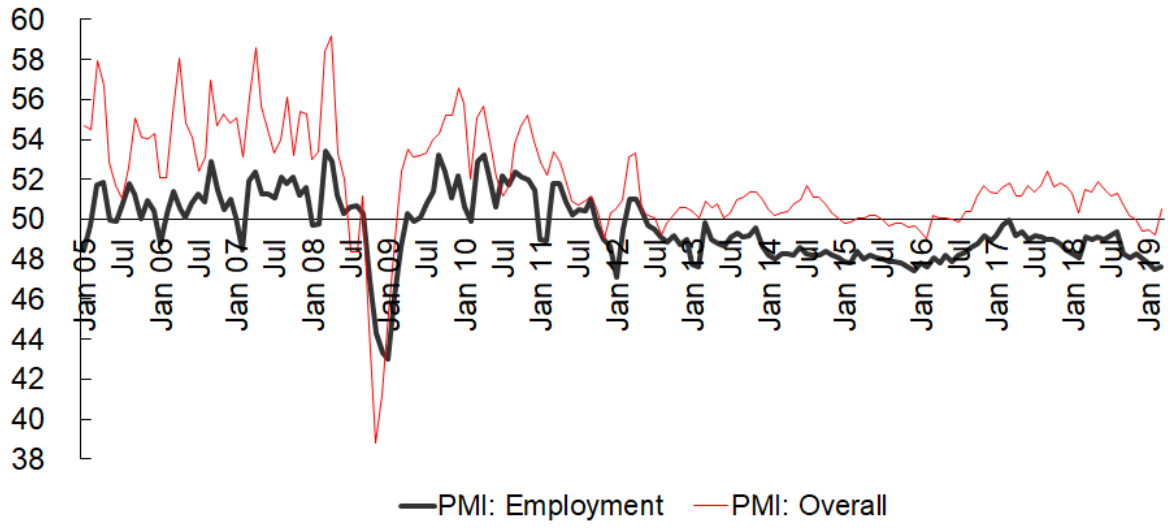
Exhibit 30 proves that the employment in China's manufacturing sector has relied heavily on the export sector. Exhibit 31 and 32 give our readers some ideas about the extent to which the employment situation improves or deteriorates with the manufacturing sector and the overall economy.

Exhibit 30: Employment and new export orders, January 2005 to March 2019



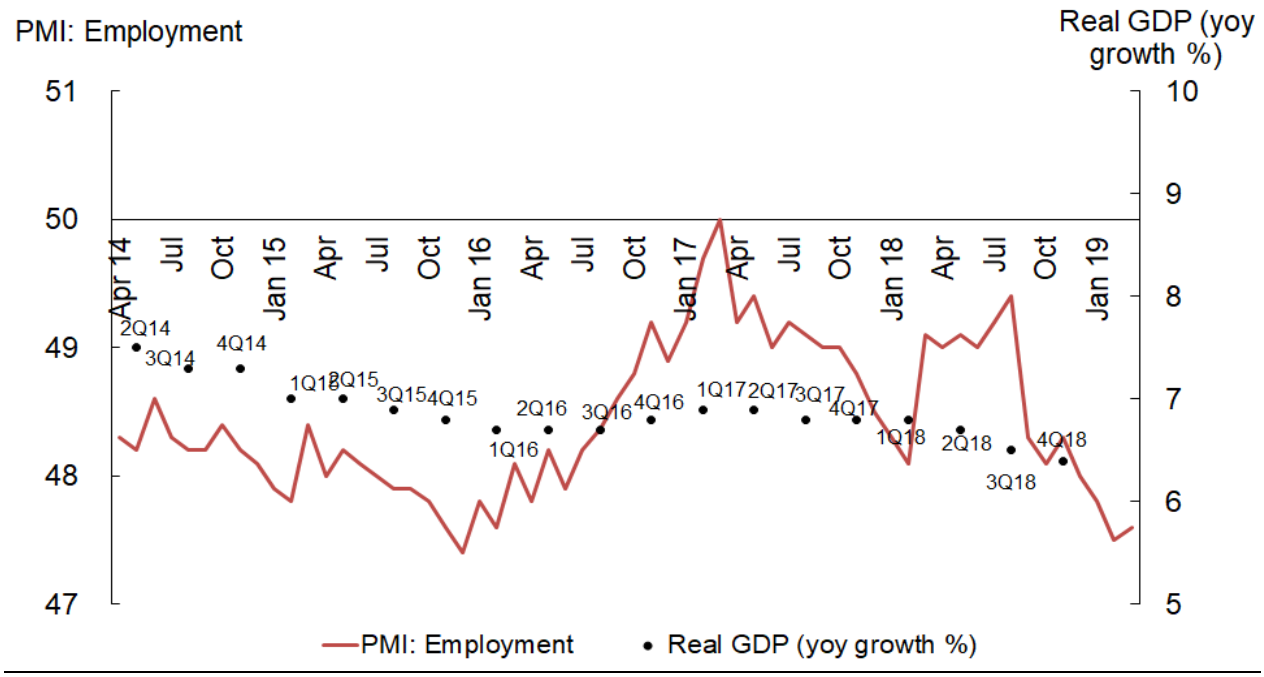
Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

Exhibit 31: Employment index and headline PMI, January 2005 to March 2019



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

Exhibit 32: Employment index and real GDP growth, April 2014 to March 2019

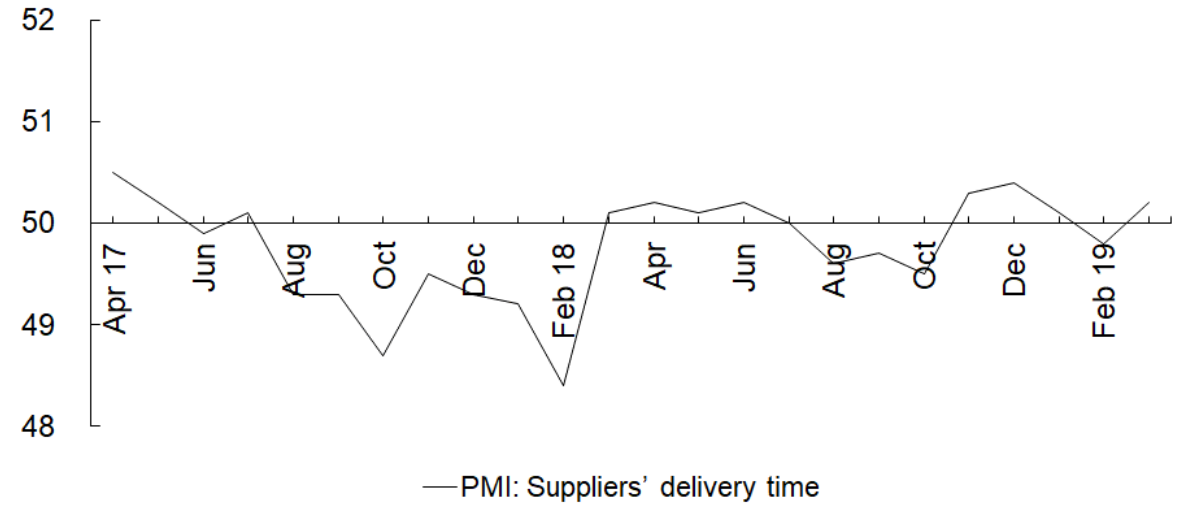


Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

11. Suppliers' delivery quickens slightly

After falling from 50.1 in January to 49.8 in February, the suppliers' delivery time index rose to 50.2 in March. The index reading in March was slightly above the critical 50-mark, indicating that suppliers' delivery has slightly quickened recently. (Exhibit 33)

Exhibit 33: Suppliers' delivery time index, April 2017 to March 2019

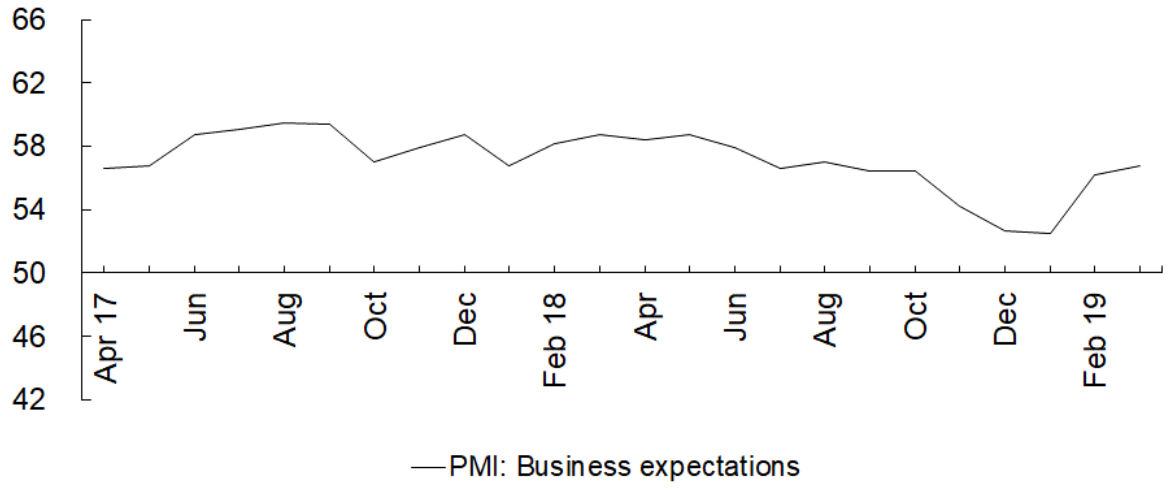


Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

12. Purchasing managers become more optimistic

The business expectations index rose from 52.5 in January to 56.2 in February, and further to 56.8 in March. The uptrend indicates that purchasing managers have become more optimistic recently.[6] (See exhibit 34)

Exhibit 34: Business expectations index, April 2017 to March 2019



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

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.

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

Fung Holdings (1937) Limited, a privately-held business entity headquartered in Hong Kong, is the major shareholder of the Fung Group of companies, whose core businesses operate across the entire global supply chain for consumer goods including trading, logistics, distribution and retail. The Fung Group comprises 42,000 people working in more than 40 economies worldwide. We have a rich history and heritage in export trading and global supply chain management that dates back to 1906 and traces the story of how Hong Kong and the Pearl River Delta emerged as one of the world's foremost manufacturing and trading regions. We are focused on both creating the Supply Chain of the Future to help brands and retailers navigate the digital economy as well as creating new opportunities, product categories and market expansion for brands on a global scale.

Listed entities of the Group include Li & Fung Limited (SEHK: 00494), Global Brands Group Holding Limited (SEHK: 00787) and Convenience Retail Asia Limited (SEHK: 00831). Privately-held entities include LH Pegasus, Branded Lifestyle Holdings Limited, Fung Kids (Holdings) Limited, Toys "R" Us (Asia) and Suhyang Networks.

For more information, please visit www.funggroup.com.