PMI Quarterly on China Manufacturing

China Federation of Logistics & Purchasing

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PMI indicates growth stabilization in the manufacturing sector and the economy

- Output index continues to trend upward
- New orders index stays high; new export orders index returns to the expansionary zone.
- Backlogs of orders index rebounds in September.
- Destocking activities continue.
- Purchasing activities increase at a relatively fast pace.
- Input prices index reaches a five-month high.
- Imports index rises above the critical 50-mark.
- Employment in the manufacturing sector shrinks at a slower pace.
- Suppliers' delivery decelerates.
- Chinese manufacturers become more optimistic.

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

After rising from 49.9 in July to 50.4 in August, China's manufacturing PMI stood at 50.4 in September. The index readings in recent months indicate growth stabilization in the manufacturing sector and the economy, in our view. (See exhibit 1)

It is noteworthy to recognize the discrepancy by size of enterprises. The PMI of 'large enterprises' advanced from 51.2 in July to 51.8 in August, and further to 52.6 in September. The uptrend of the index suggests that the situations facing 'large enterprises' have been improving. Meanwhile, the PMI of 'medium enterprises' stayed stable at 48.9 in July and August, but then fell to 48.2 in September, the lowest level since February this year. The September reading indicates that 'medium enterprises' have contracted at a faster pace. The PMI of 'small enterprises' rose from 46.9 in July to 47.4 in August, before dropping to 46.1 in September. The PMI of 'small enterprises' has been lower than the PMIs of both 'large enterprises' and 'medium enterprises', indicating that 'small enterprises' are still facing relatively difficult situations. (See exhibit 2)

The recent trend of the headline PMI suggests that economic growth has stabilized. Besides, the new orders index stayed above the critical 50-mark in the past three months, indicating the continuous expansion in total new orders. Meanwhile, the output index rose to a fifteen-month high of 52.8 in September, showing that the output has expanded at a relatively fast pace recently. Moreover, confidence among purchasing managers may have improved as they have increased their purchases of inputs lately. After reaching its recent peak of 52.6 in August, the purchases of inputs index moderated to 51.9 in September, still the second highest level in six months. However, the input prices index has been above the critical 50-mark for eight consecutive months, showing an uptrend in prices of production inputs. Cost pressure on manufacturers has built up.

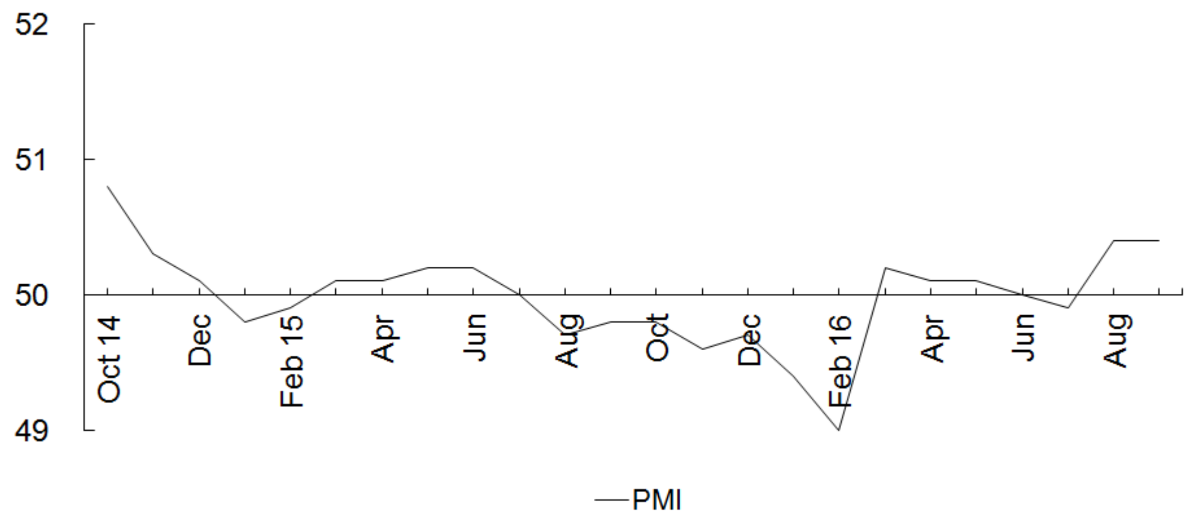
Looking ahead, the Chinese government will strive to maintain stable economic growth in near term. On the monetary front, the central bank will ensure abundant liquidity to support the real economy, though monetary policy is unlikely to be very loose in order to maintain exchange rate stability and curb asset bubbles. On the fiscal front, the government will increase fiscal expenditure as well as infrastructure investment. On 5 September, Premier Li Keqiang presided at a State Council meeting, suggesting that the government should strengthen its efforts to carry out a proactive fiscal policy and should focus on areas such as poverty relief, new industries, post disaster reconstruction, water conservancy facilities and other major infrastructure. Meanwhile, the government will accelerate the 'supply-side reforms', the main tasks of which include tackling the overcapacity problem, reducing housing inventories, de-leveraging, bringing down costs on enterprises and shoring up weak areas. It is noteworthy that the State Council published the *'Work Plan of Reducing Costs for Enterprises in the Real Economy'* in late August. According to the plan, various government departments will introduce a series of measures to reduce the tax burden, as well as the costs of financing, institutional transaction, labour, energy and logistics on enterprises.

We predict that, as the positive impact of the government's moves to boost domestic demand unfolds, China's economic growth will be relatively stable in coming future. Going forward, we expect the headline PMI to hover around 50.5 in 4Q16. We also forecast the real GDP growth to be around 6.8% yoy in 4Q16. That being said, challenges facing Chinese manufacturers include greater economic uncertainty caused by the Deutsche Bank crisis and the 'Brexit' decision, heavy debt burden, increasing labour and environmental costs, intense competition in the international market, a rise in foreign trade protectionism and weaker luxury spending. Overall, we expect that the industrial production (VAIO) growth will accelerate to 6.5% yoy in 4Q16.

Exhibit 3 shows that the stabilization in the headline PMI in September was the result of the rise in the output index (which weighs 25% in the computation of the headline PMI) and the employment index (weighs 20%) as well as the fall in the new orders index (weighs 30%), the stocks of major inputs index (weighs 10%) and the suppliers' delivery time index (weighs 15%). Among the 12 sub-indices, 5 stayed in the expansionary zone over the past three months (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 stayed below 50 throughout the past three months. In September, 7 of the 12 sub-indices were higher than their respective levels in the previous month, while 5 sub-indices (i.e. new orders, stocks of finished goods, purchases of inputs, stocks of major inputs and suppliers' delivery time) were lower than their respective levels in the previous month. (See exhibit 4)

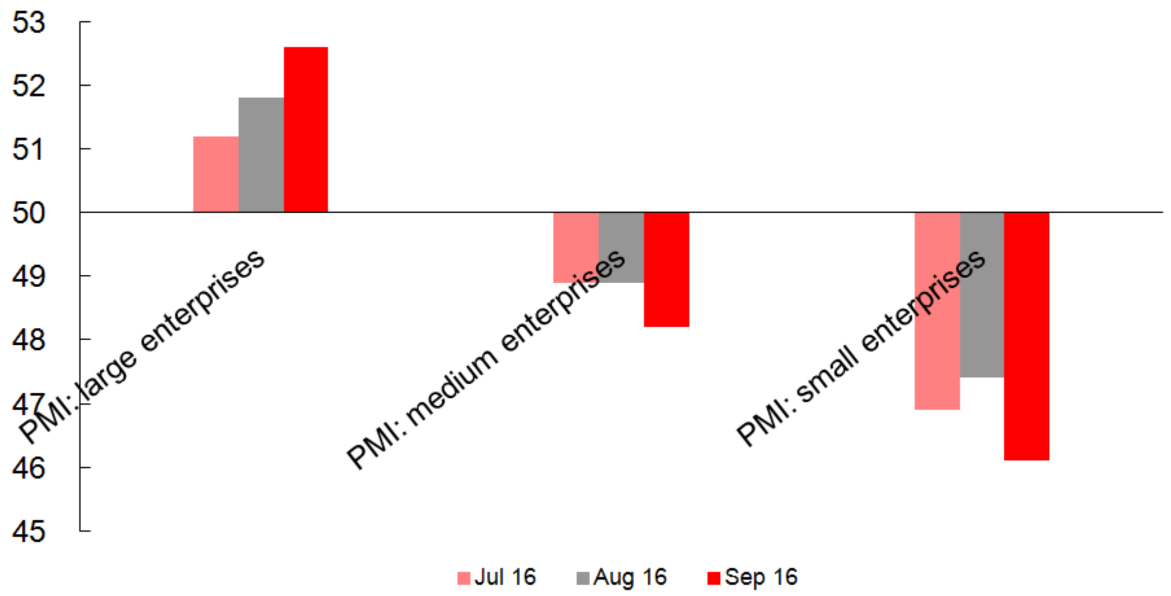
China's manufacturing PMI has so far done a satisfactory job in predicting economic growth. Exhibit 5 plots the quarterly real GDP yoy growth rates versus the monthly PMIs since its inception. It could be seen that the PMI demonstrates a fairly good track record of forecasting the growth trend of the 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 4Q16.

Exhibit 1: Headline PMI, October 2014 to September 2016



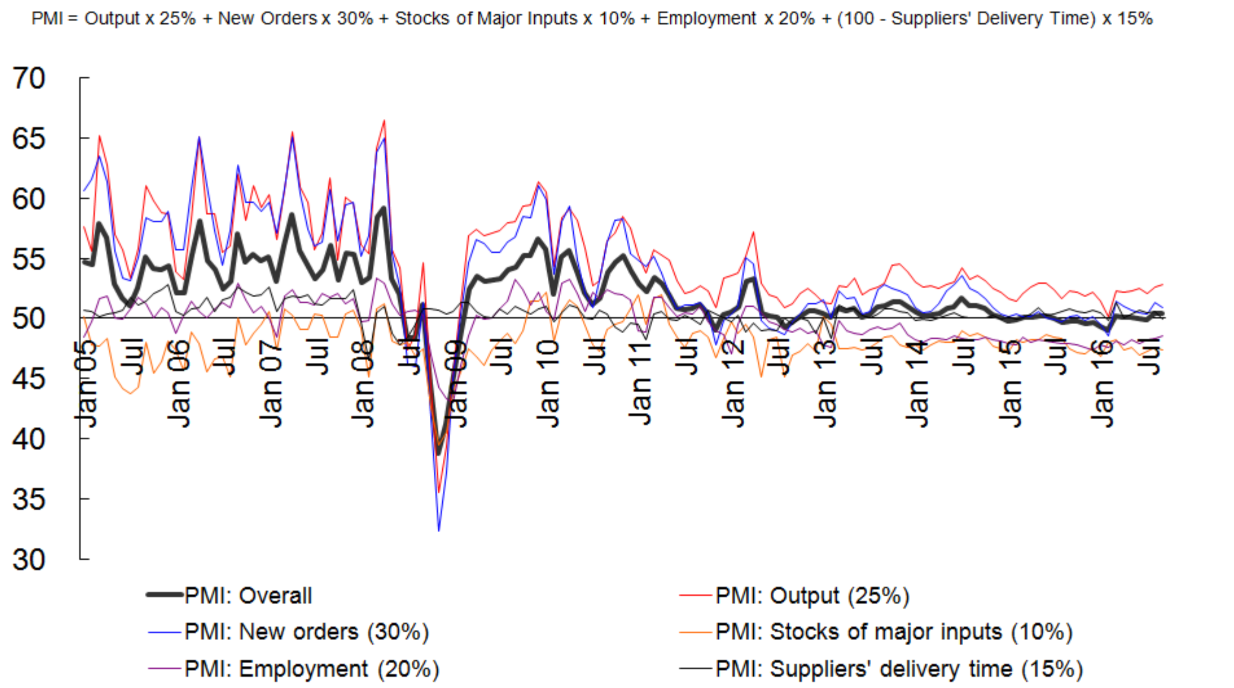
Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

Exhibit 2: PMIs of large enterprises, medium enterprises and small enterprises, July to September 2016



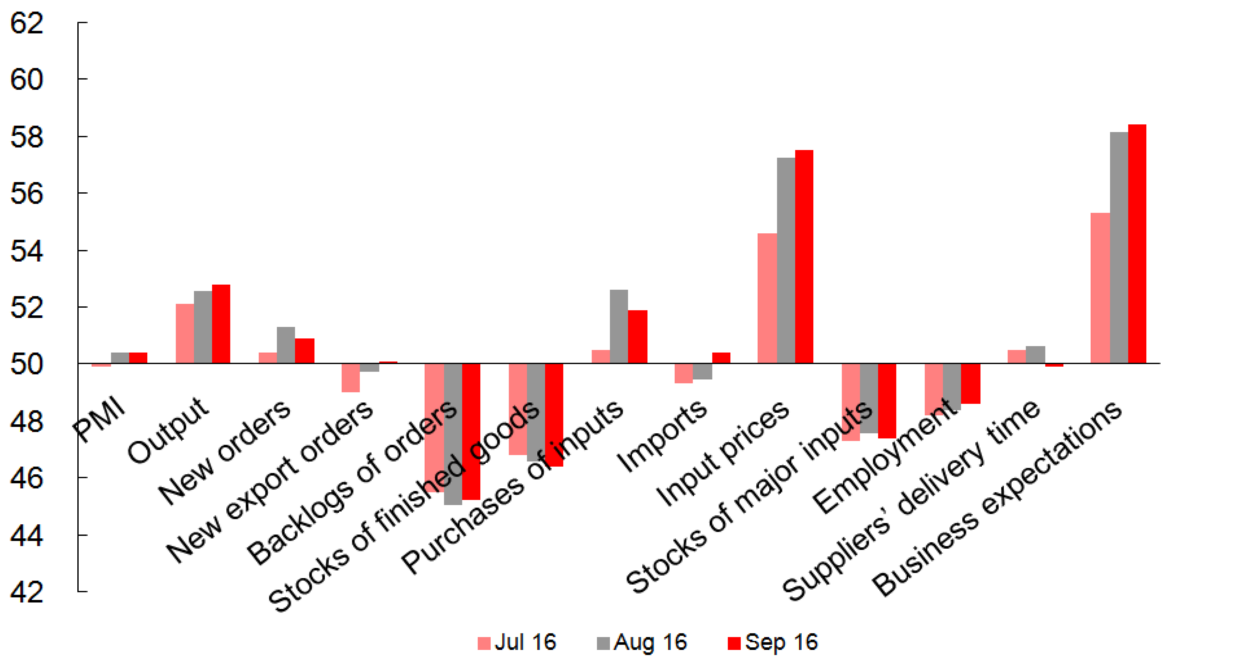
Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

Exhibit 3: Headline PMI and sub-indices, January 2005 to September 2016



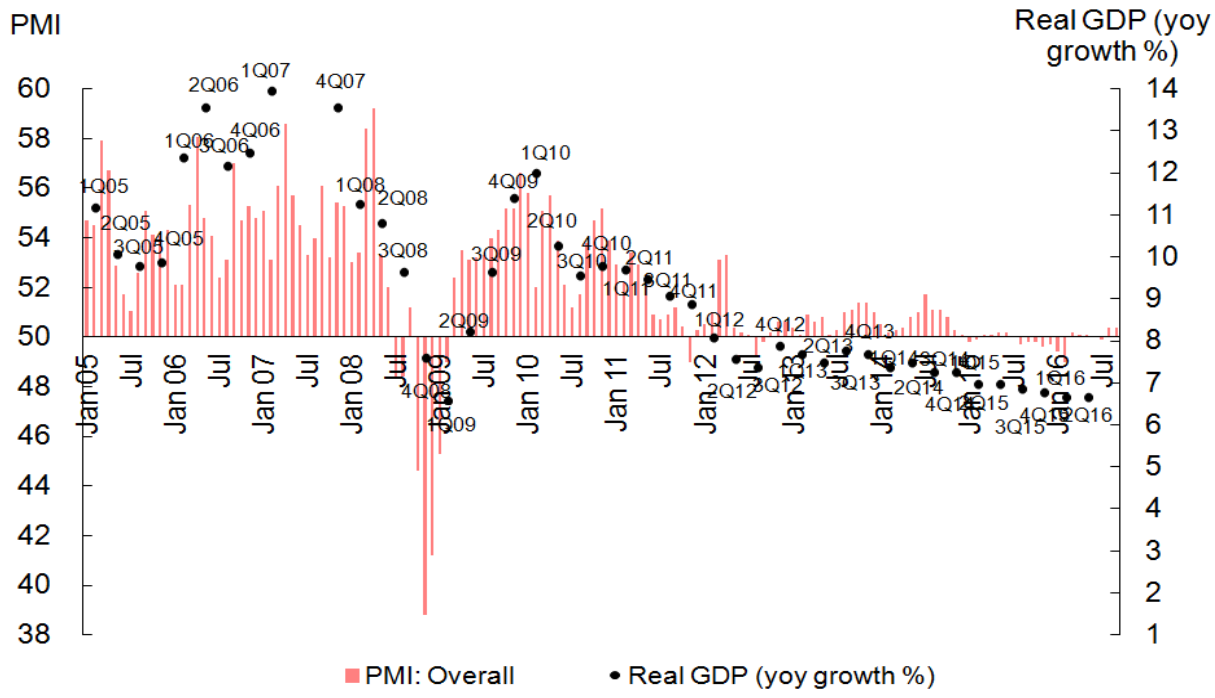
Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

Exhibit 4: Headline PMI and all sub-indices, July to September 2016



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

Exhibit 5: Headline PMI and real GDP growth, January 2005 to September 2016



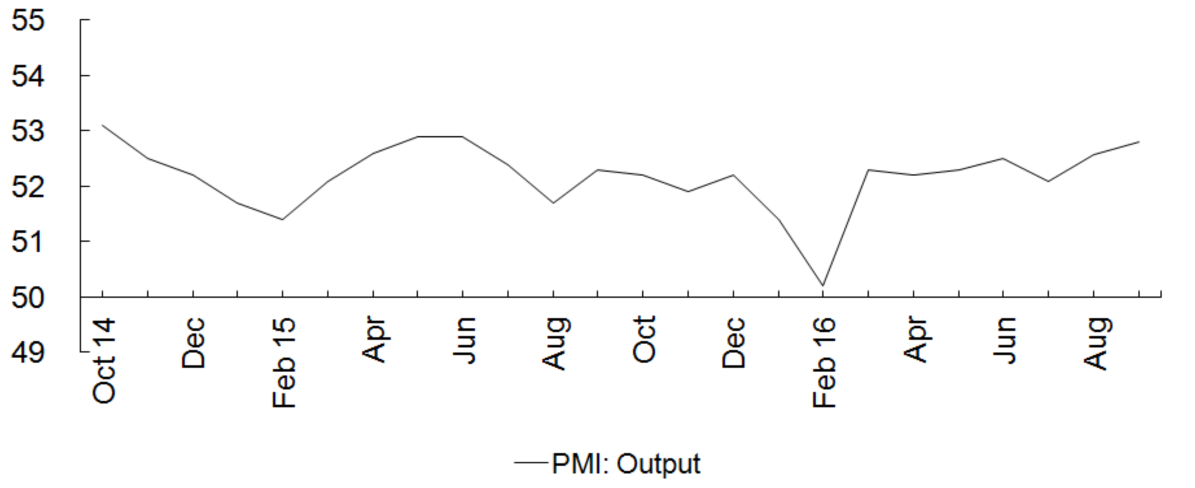
Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

2. Output index continues to trend upward

The output index rose from 52.1 in July to 52.6 in August and 52.8 in September. The September reading is the highest in 15 months. (See exhibit 6) Production activities have increased at a faster pace.

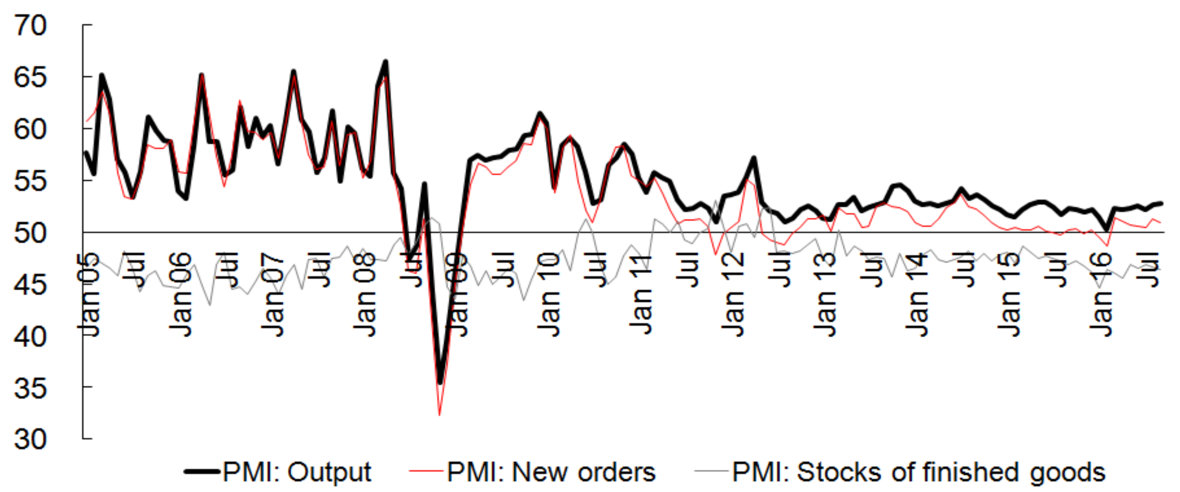
Exhibit 7 shows that the output growth was mainly fuelled by new orders growth instead of restocking activities, as the stocks of finished goods index has stayed in the contractionary zone for forty two consecutive months. However, output may grow strongly later when manufacturers have finally run out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

Exhibit 6: Output index, October 2014 to September 2016



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

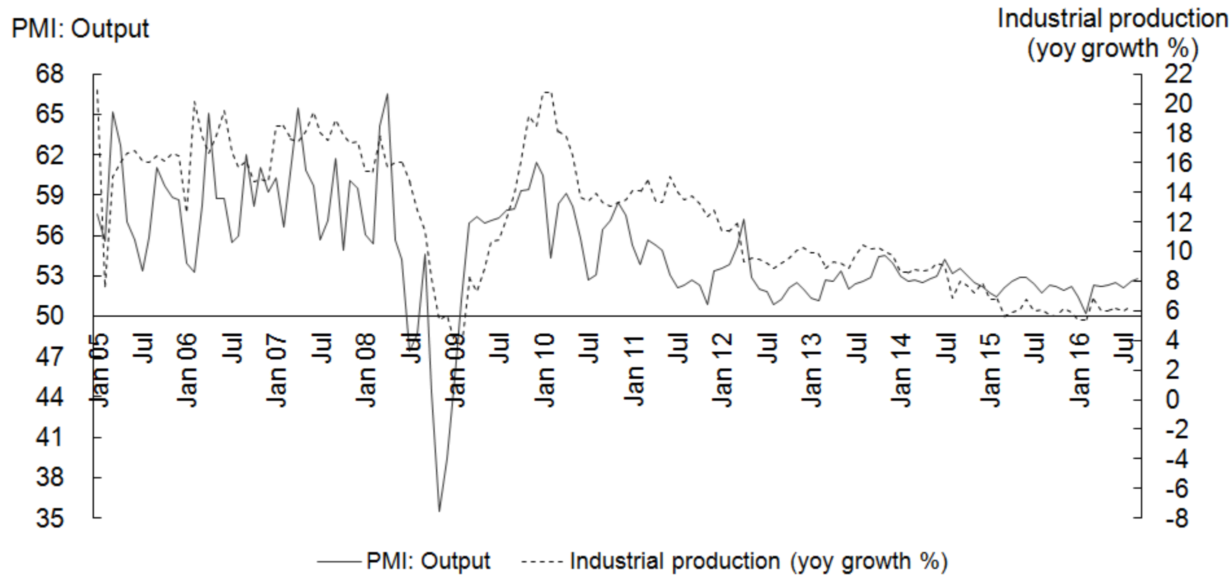
Exhibit 7: Output, new orders and stocks of finished goods, January 2005 to September 2016



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 yoy growth of value-added of industrial output (VAIO). Looking ahead, we expect that the VAIO growth will accelerate to 6.5% yoy in 4Q16, as the output index is trending up. In the coming months, industrial activities will be supported by the positive impact of the government's moves to boost domestic demand and improve the profitability of enterprises. Challenges facing Chinese manufacturers, however, include greater economic uncertainty caused by the Deutsche Bank crisis and the 'Brexit' decision, heavy debt burden, increasing labour and environmental costs, intense competition in the international market, a rise in foreign trade protectionism and weaker luxury spending.

Exhibit 8: Output index and industrial production growth, January 2005 to September 2016



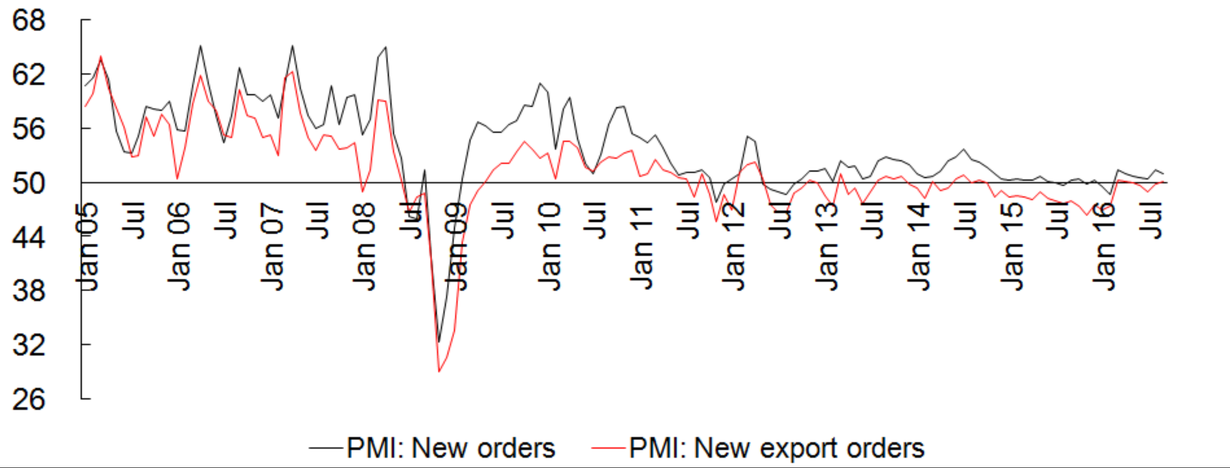
Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

3. New orders index stays high; new export orders index returns to the expansionary zone

The new orders index went up from 50.4 in July to 51.3 in August, before dropping to 50.9 in September, still the second highest level in five months. The index stayed above the critical 50-mark in the past three months, indicating that the total new orders have continued to increase.[1] The new export orders index advanced from 49.0 in July to 49.7 in August. The index rose further to 50.1 in September, returning to the expansionary zone for the first time in five months. The latest reading indicates that the month-on-month growth of new export orders has turned positive, showing signs of improvement in external demand (See exhibit 9)

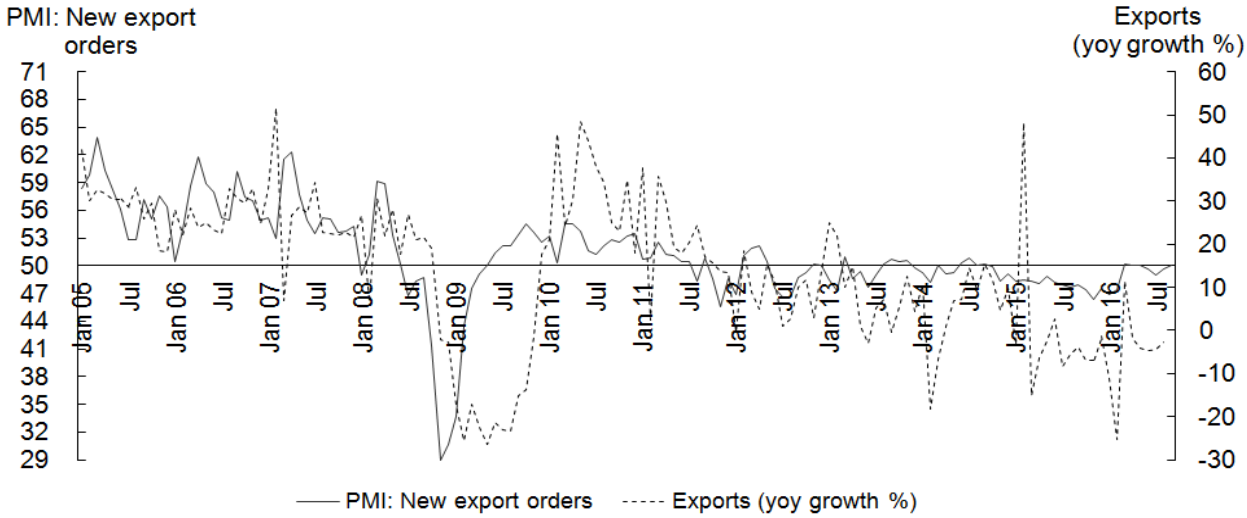
[1] The 'new orders index' covers both domestic and export orders. That is to say, the manufacturers are not asked to differentiate between domestic and export orders when filling in questionnaires.

Exhibit 9: New orders index and new export orders index, January 2005 to September 2016



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

Exhibit 10: New export orders index and export growth, January 2005 to September 2016



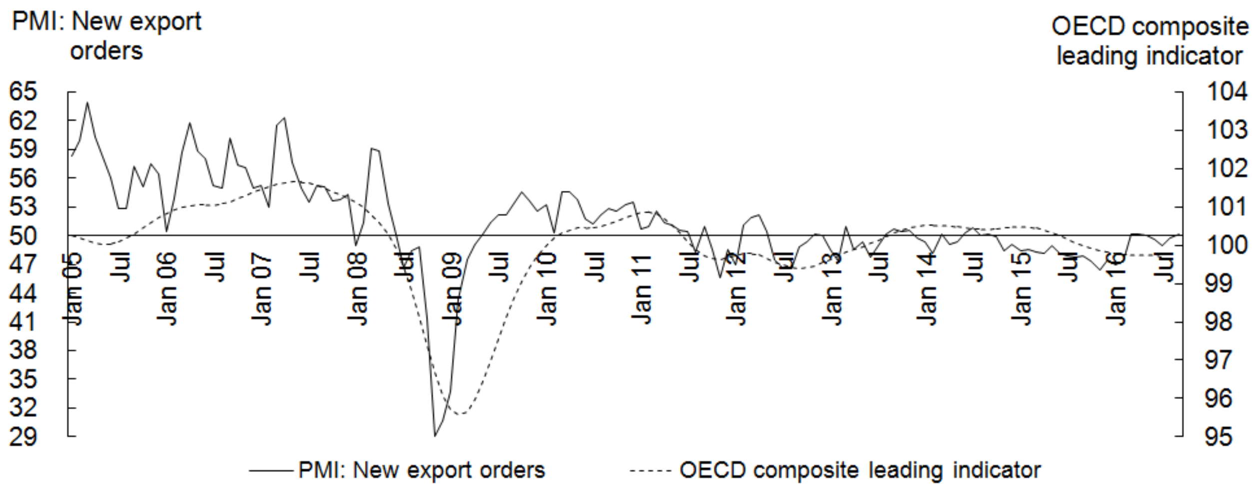
Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics, China Customs

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 September, our confidence for China's export prospects has improved. However, 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 in recent months, suggesting a fragile global recovery. This implies higher uncertainty over China's export outlook. 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.

the year-on-year contraction in China's exports will narrow in 4Q16.

Exhibit 11: New export orders index and OECD composite leading indicator, January 2005 to September 2016



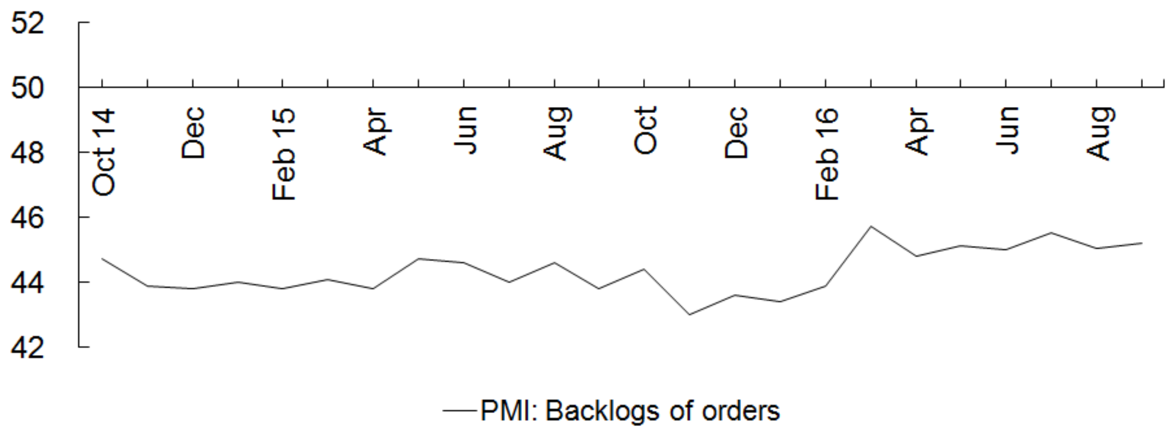
Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics, Organization for Economic Cooperation and Development

4. Backlogs of orders index rebounds in September

The backlogs of orders index dropped from 45.5 in July to 45.0 in August, before going up to 45.2 in September. The index has been in the contractionary zone since April 2012, indicating that backlogs of orders have continued to drop. (See exhibit 12)

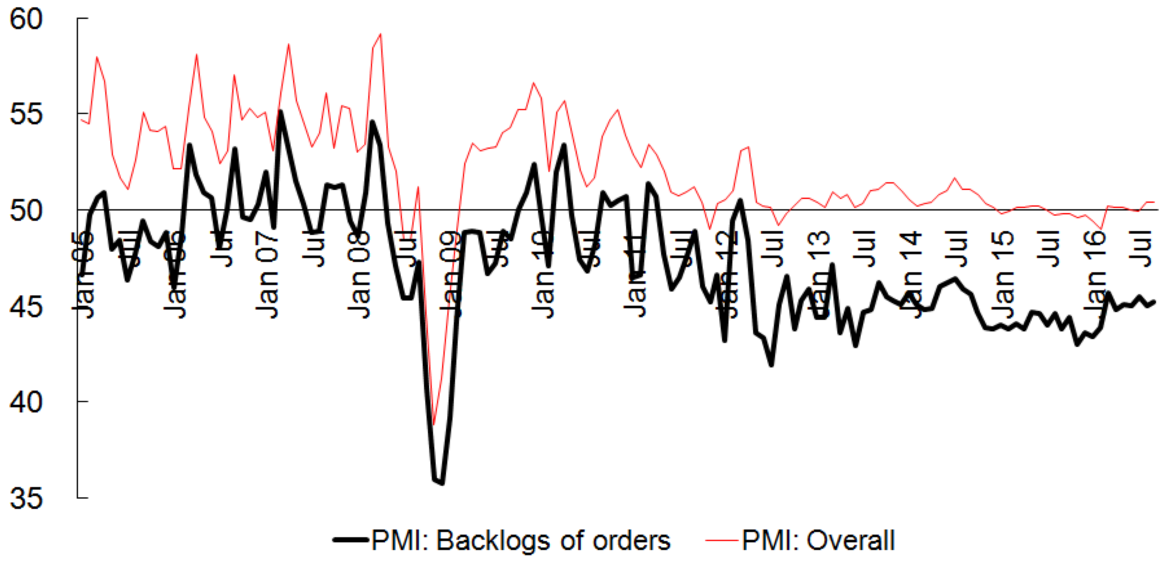
Looking ahead, we expect the index to go up further in the near term, as indicated by the apparently very high correlation between the sub-index and the headline PMI, and the recent rise in the headline PMI. (See exhibit 13)

Exhibit 12: Backlogs of orders index, October 2014 to September 2016



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

Exhibit 13: Backlogs of orders index and headline PMI, January 2005 to September 2016

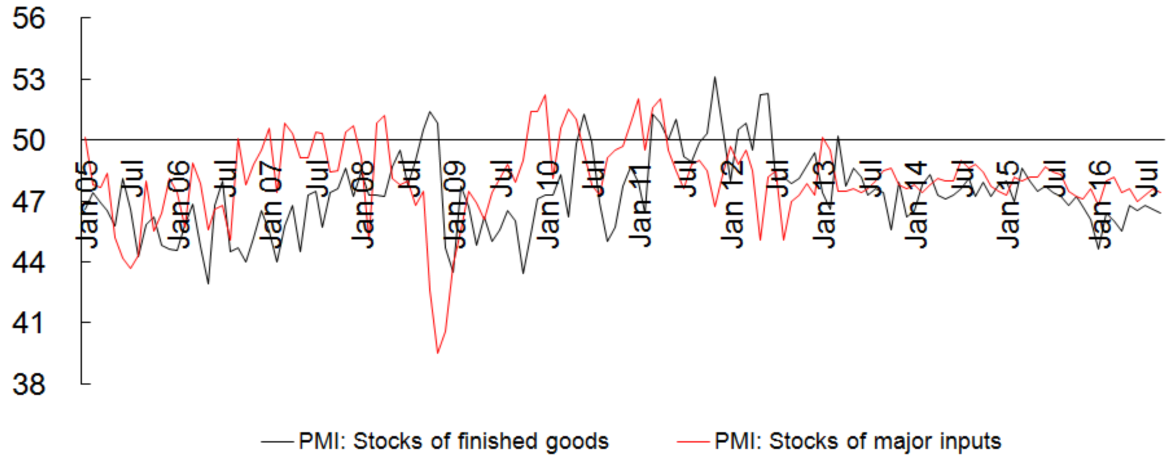


Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

5. Destocking activities continue

The stocks of finished goods index registered 46.8, 46.6 and 46.4 in July, August and September respectively. The stocks of major inputs index stayed between 47.3 and 47.6 throughout July to September. (Exhibit 14) Both indices remained below the critical 50-mark in the past three months, indicating that destocking activities have continued.

Exhibit 14: Stocks of finished goods index and stocks of major inputs index, January 2005 to September 2016



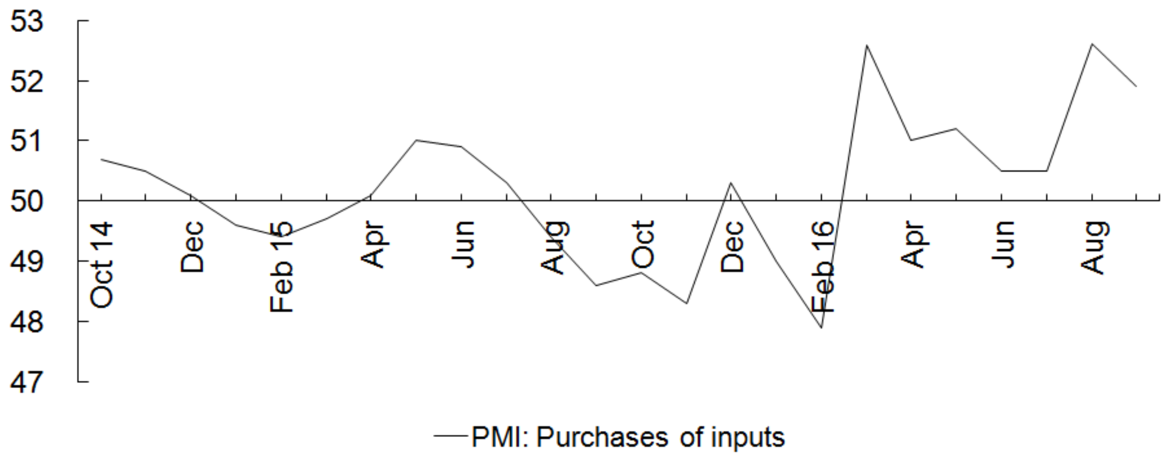
Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

6. Purchasing activities increase at a relatively fast pace

The purchases of inputs index went up from 50.5 in July to 52.6 in August. The index moderated to 51.9 in September, but was still the second highest level in six months. Purchasing activities have increased at a relatively fast pace in recent months. This could be associated with the recent improvement in domestic and export demand. (Exhibit 15)

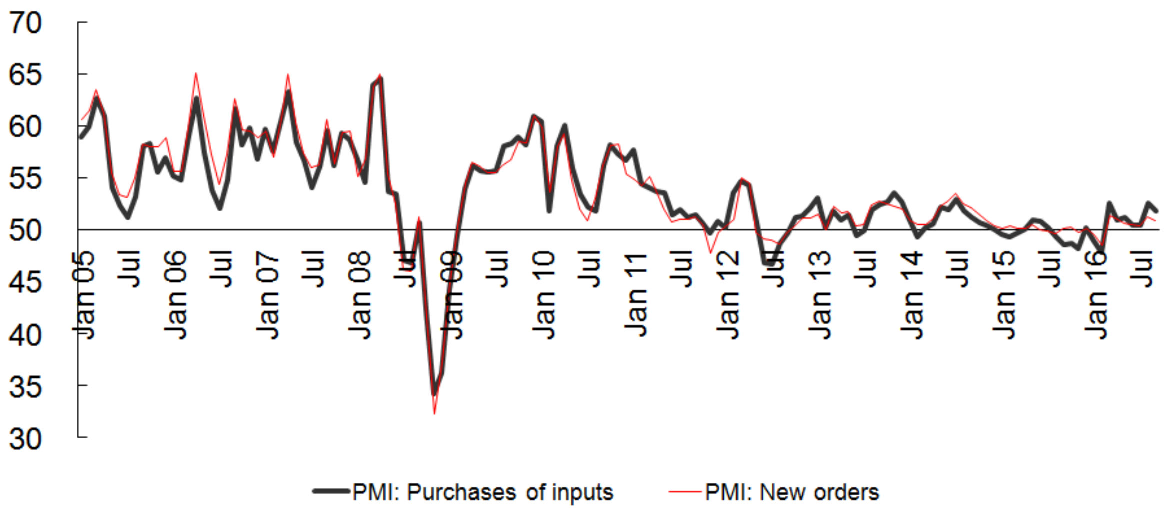
A number of factors affect the purchasing activities of manufacturers, among which the amount of new orders received by manufacturers has been the most important factor. Exhibit 16 plots the purchases of inputs index against the new orders index. The correlation between the two sub-indices is very strong. 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, October 2014 to September 2016



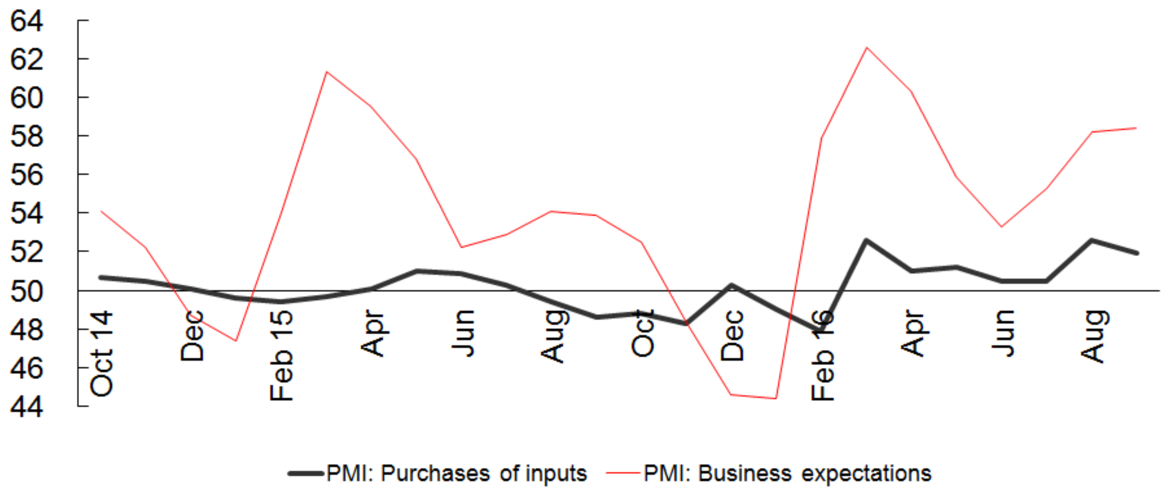
Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

Exhibit 16: Purchases of inputs and new orders, January 2005 to September 2016



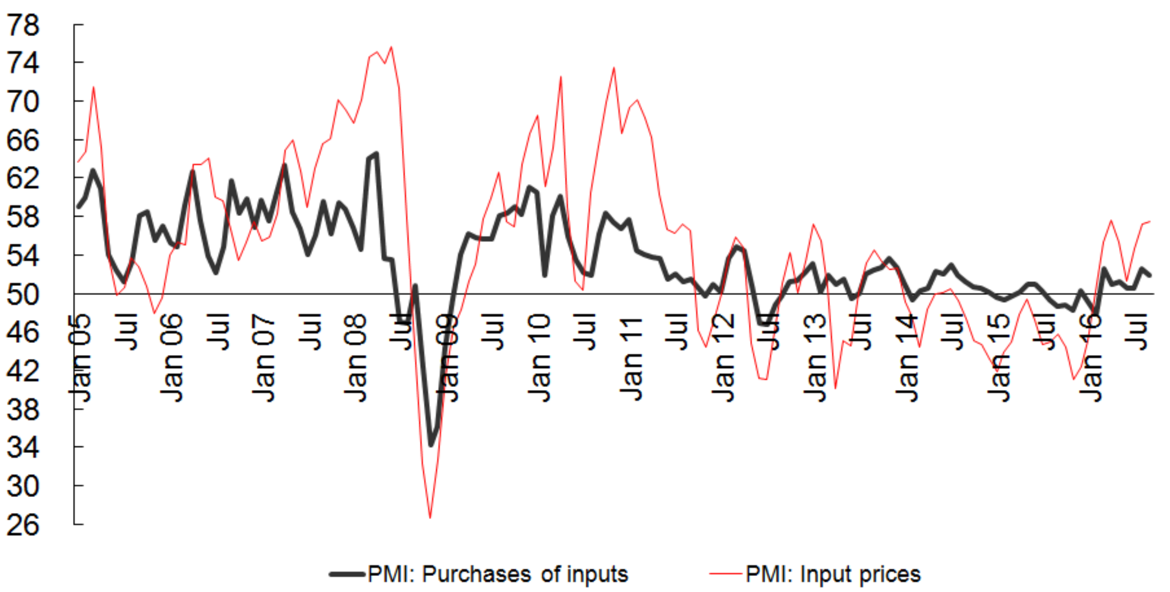
Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

Exhibit 17: Purchases of inputs and business expectations, October 2014 to September 2016



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

Exhibit 18: Purchases of inputs and prices of major inputs, January 2005 to September 2016

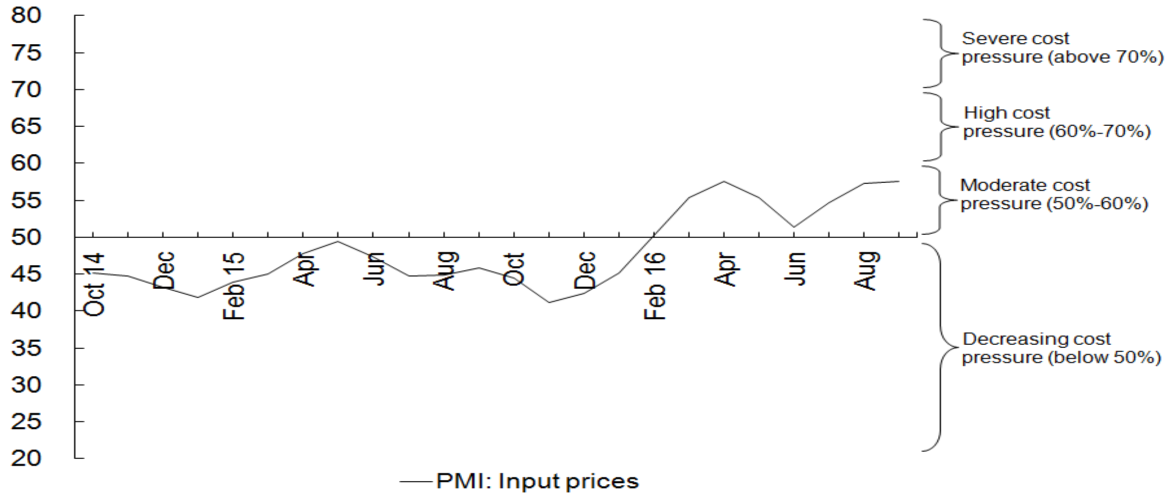


Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

7. Input prices index reaches a five-month high

The input prices index went up from 54.6 in July to 57.2 in August, and further reached 57.5 in September, indicating that prices of production inputs have risen at a faster pace recently. (Exhibit 19) It is noteworthy that the index has been above the critical 50-mark for eight consecutive months, showing a continuous rise in prices of production inputs. Cost pressure on manufacturers has been building up.

Exhibit 19: Input prices index, October 2014 to September 2016



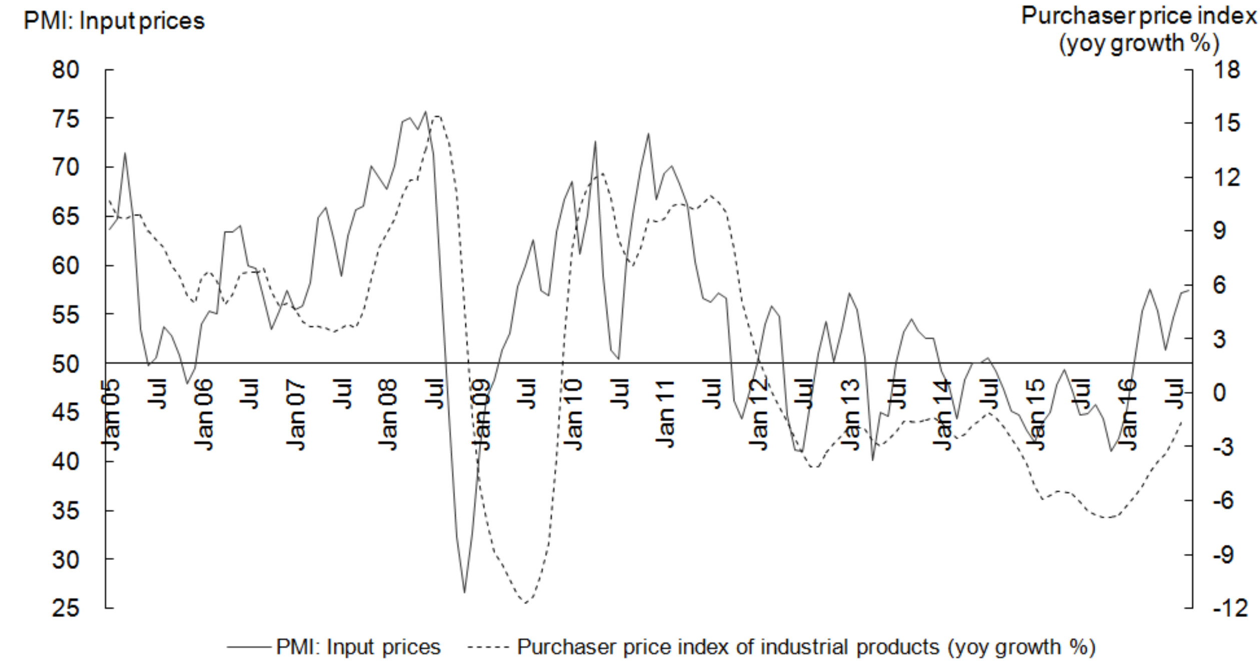
Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

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 yoy growth of the producer price index (PPI)[3] in exhibit 21. Going forward, we expect that the yoy growth rate for the purchaser price index will go up further and the yoy growth rate for the PPI will even return to the positive territory in 4Q16. We also forecast the CPI growth to fluctuate between 1.5% and 2.0% yoy in 4Q16. 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.

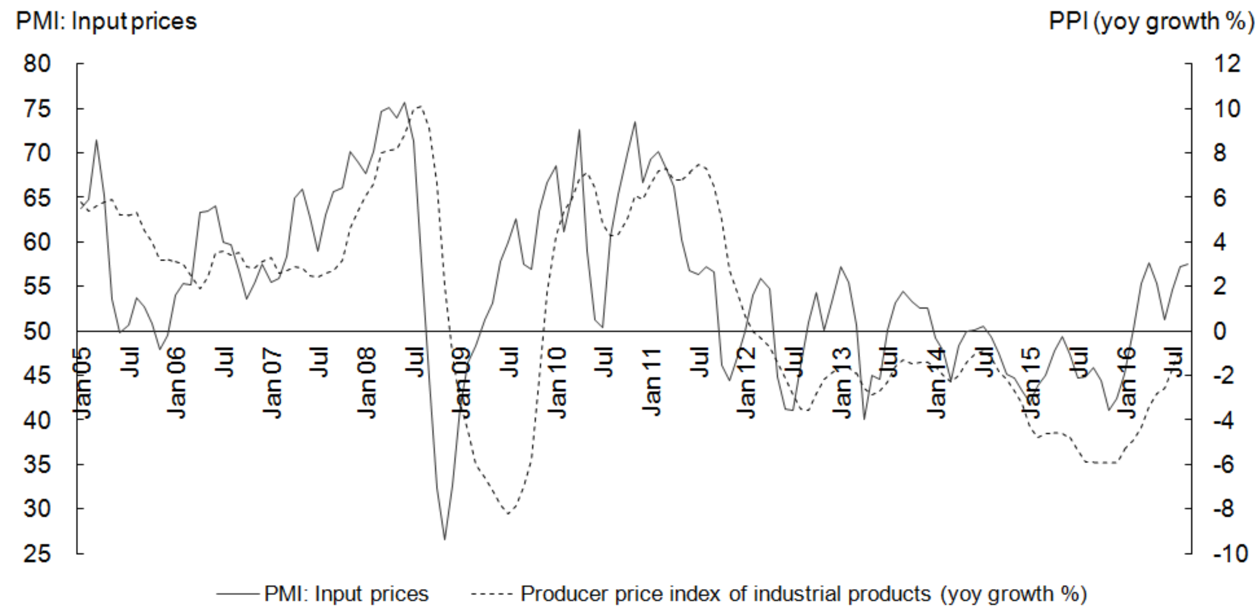
4 The Thomson Reuters/ CoreCommodity CRB Index, which comprises 19 commodities such as crude oil, aluminum, corn, cotton, gold, natural gas, soybeans, etc, has served as one of the most recognized measures of global commodities markets.

Exhibit 20: Input prices index and purchaser price index of industrial products, January 2005 to September 2016



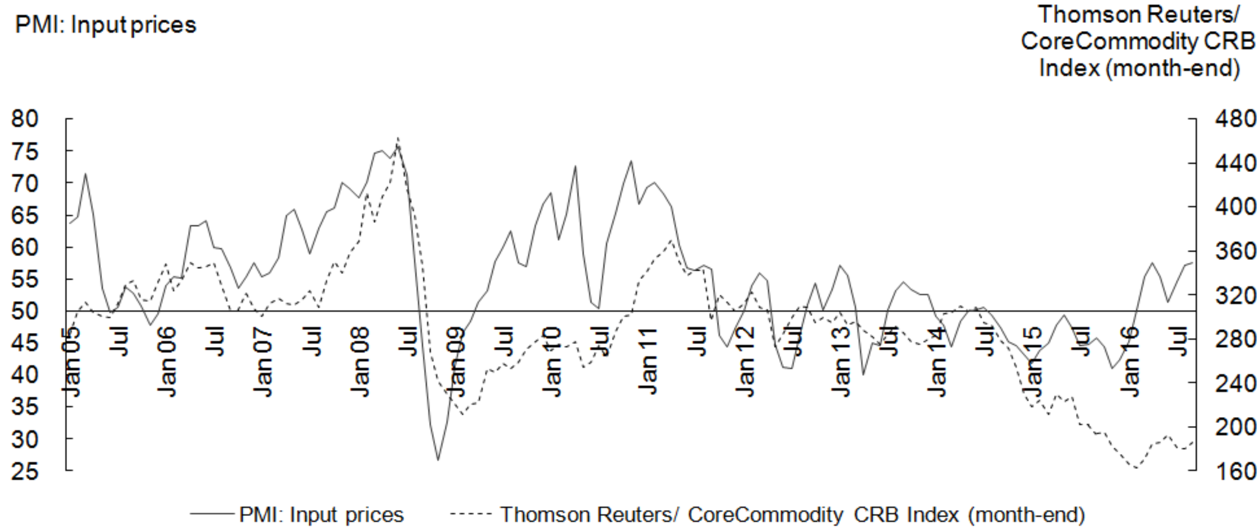
Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

Exhibit 21: Input prices index and producer price index, January 2005 to September 2016



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

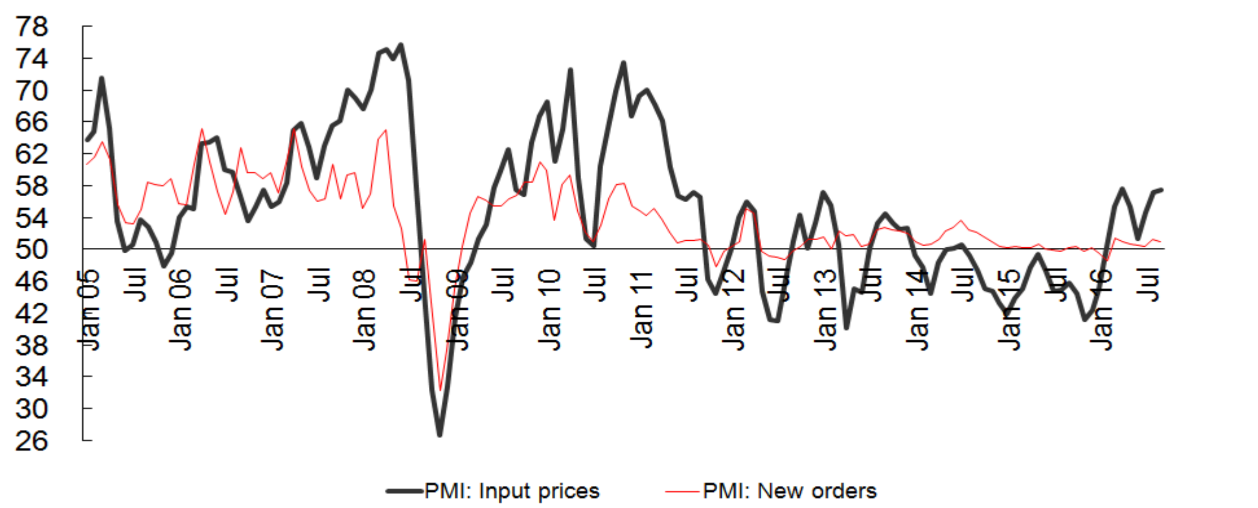
Exhibit 22: Input prices index and Thomson Reuters/ CoreCommodity CRB Index, January 2005 to September 2016



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 lower manufacturers' profit margins in the near future.

Exhibit 23: Input prices and new orders, January 2005 to September 2016

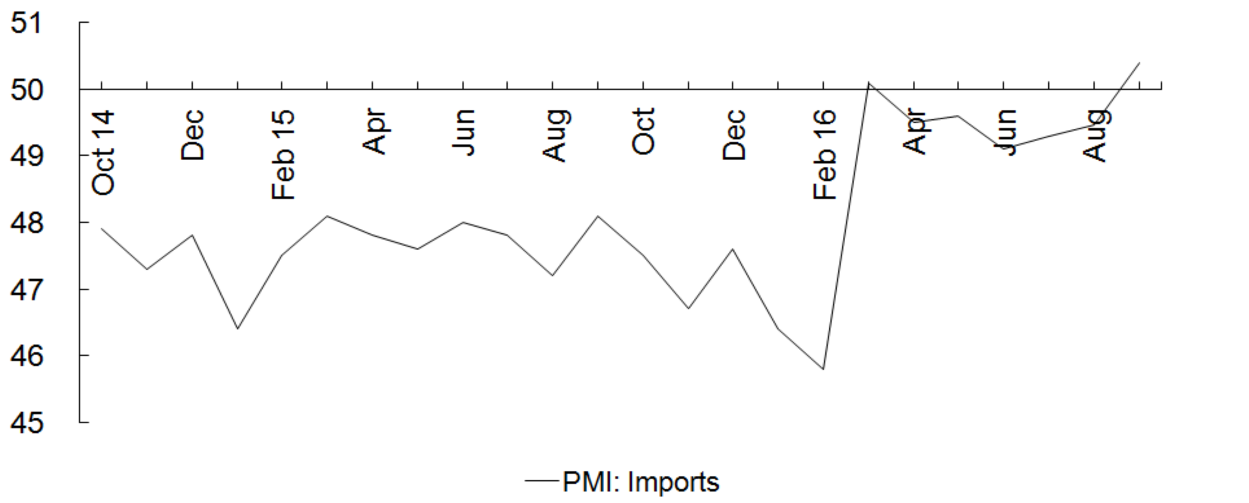


Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

8. Imports index rises above the critical 50-mark

The imports index advanced from 49.3 in July to 49.5 in August. It then went up to 50.4 in September, rising above the critical 50-mark for the first time in six months. The latest index reading shows signs of recovery of the domestic demand for raw materials and parts used in manufacturing. (Exhibit 24)

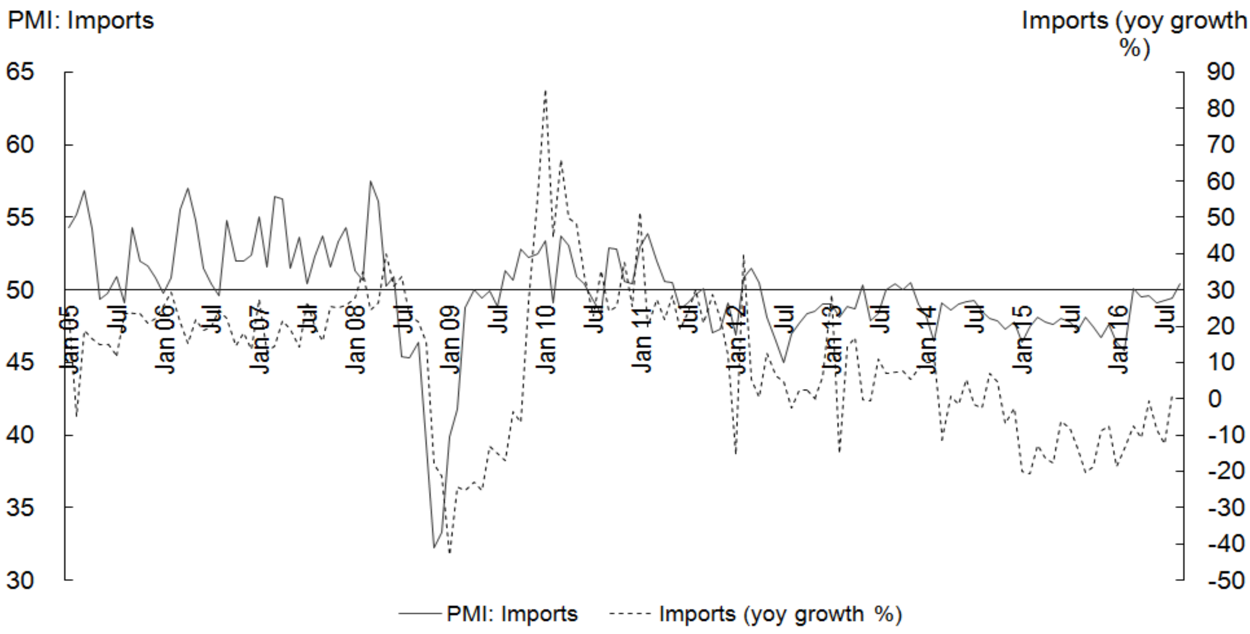
Exhibit 24: Imports index, October 2014 to September 2016



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

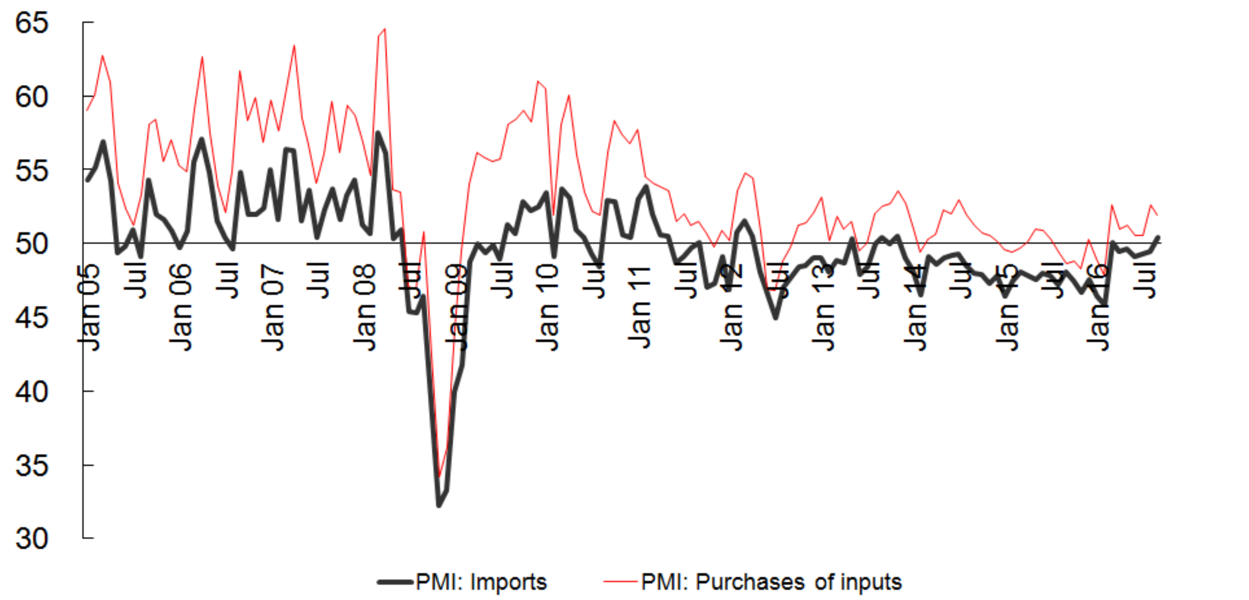
Exhibit 25 shows that the imports index is highly correlated (with some lags) to the import yoy growth rate. We expect imports to show positive growth in 4Q16. Exhibit 26 illustrates the strong association between the imports index and the purchases of inputs index – as Chinese manufacturers purchase 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 27)

Exhibit 25: Imports index and import growth, January 2005 to September 2016



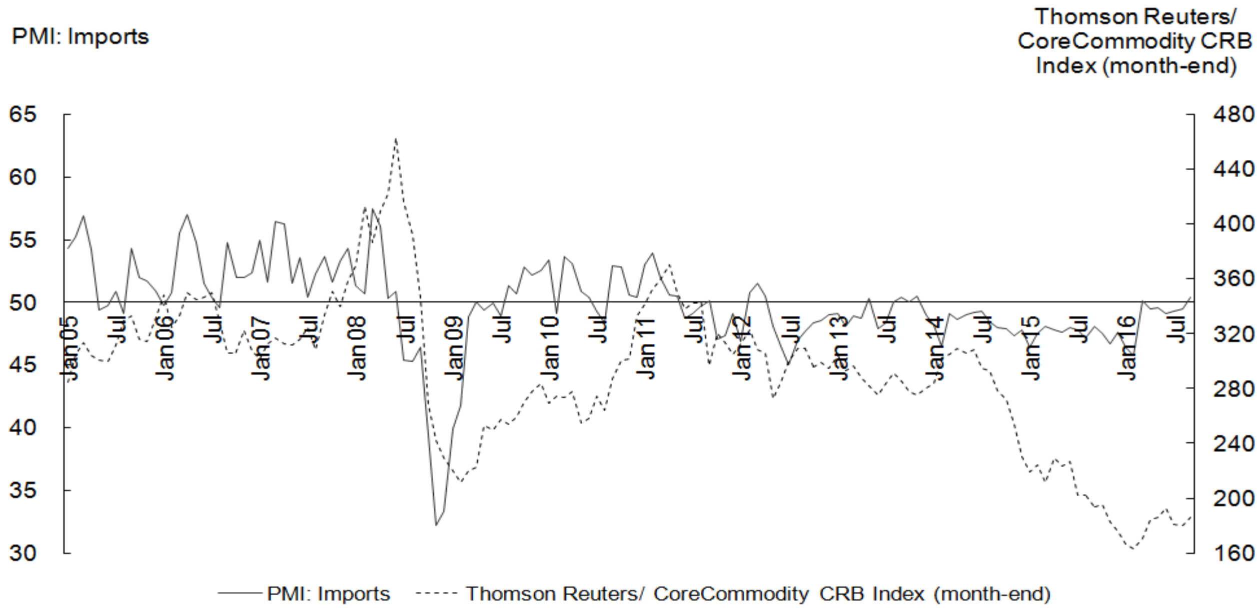
Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics, China Customs

Exhibit 26: Imports and purchases of inputs, January 2005 to September 2016



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

Exhibit 27: Imports index and Thomson Reuters/ CoreCommodity CRB Index, January 2005 to September 2016

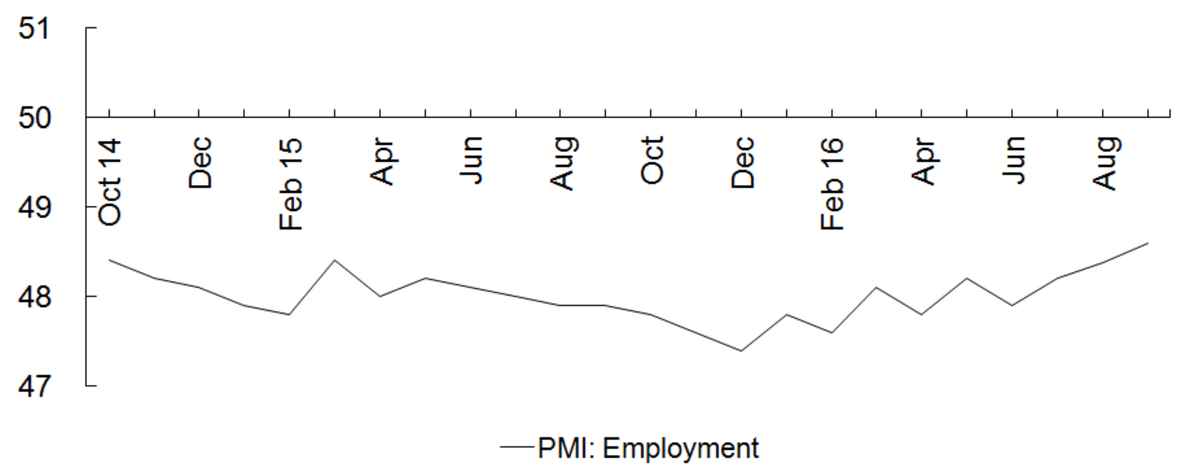


Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics, Thomson Reuters

9. Employment in the manufacturing sector shrinks at a slower pace

The employment index rose from 48.2 in July to 48.4 in August and 48.6 in September, the highest level since July 2014, indicating that employment in the manufacturing sector has shrunk at a slower pace in recent months. (Exhibit 28)

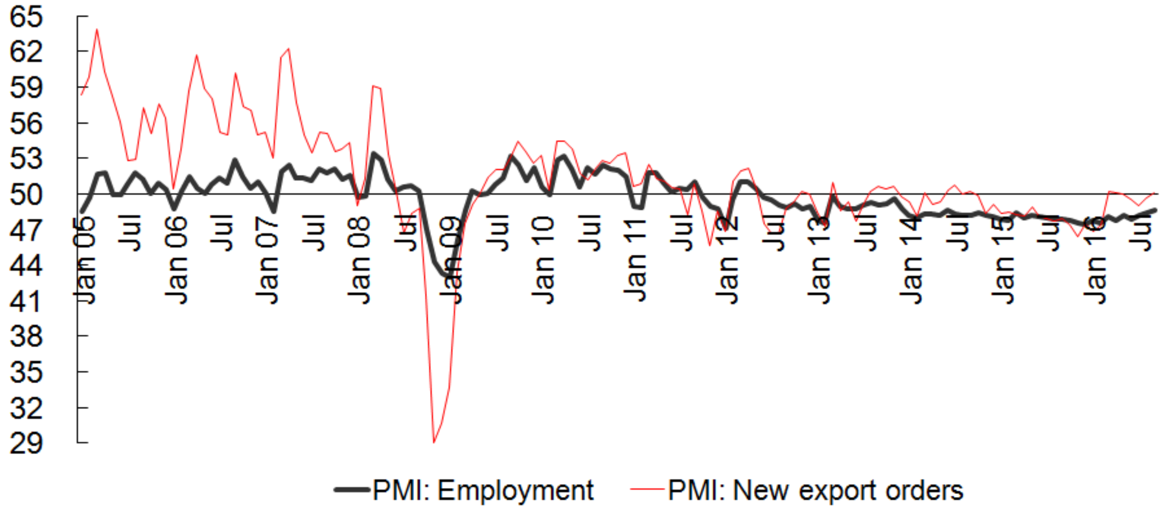
Exhibit 28: Employment index, October 2014 to September 2016



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

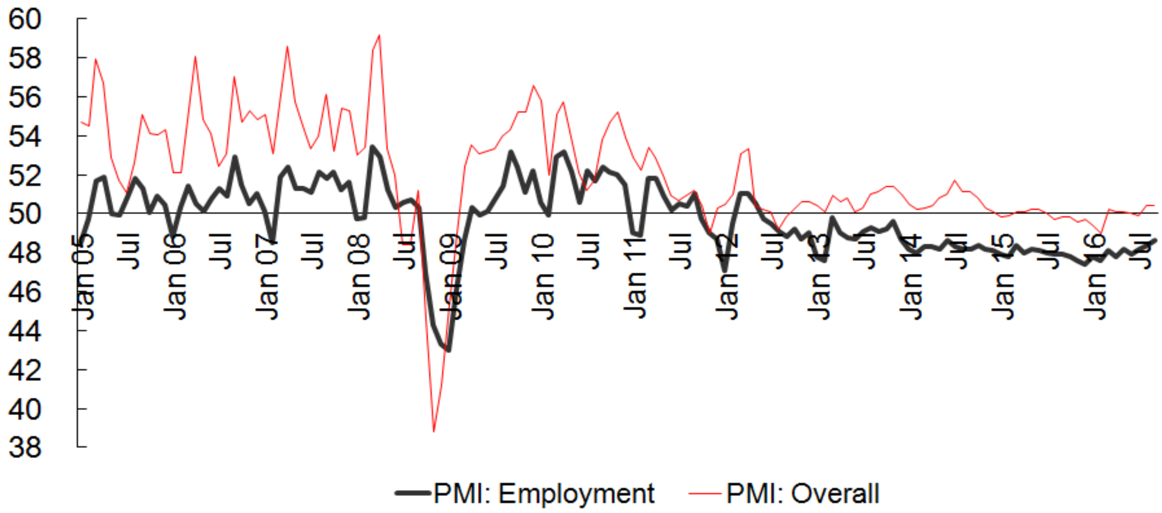
Exhibit 29 proves that the employment in China's manufacturing sector has relied heavily on the export sector. Exhibit 30 and 31 give our readers some ideas about the extent to which the employment situation improves or deteriorates with the manufacturing sector and the overall economy.

Exhibit 29: Employment and new export orders, January 2005 to September 2016



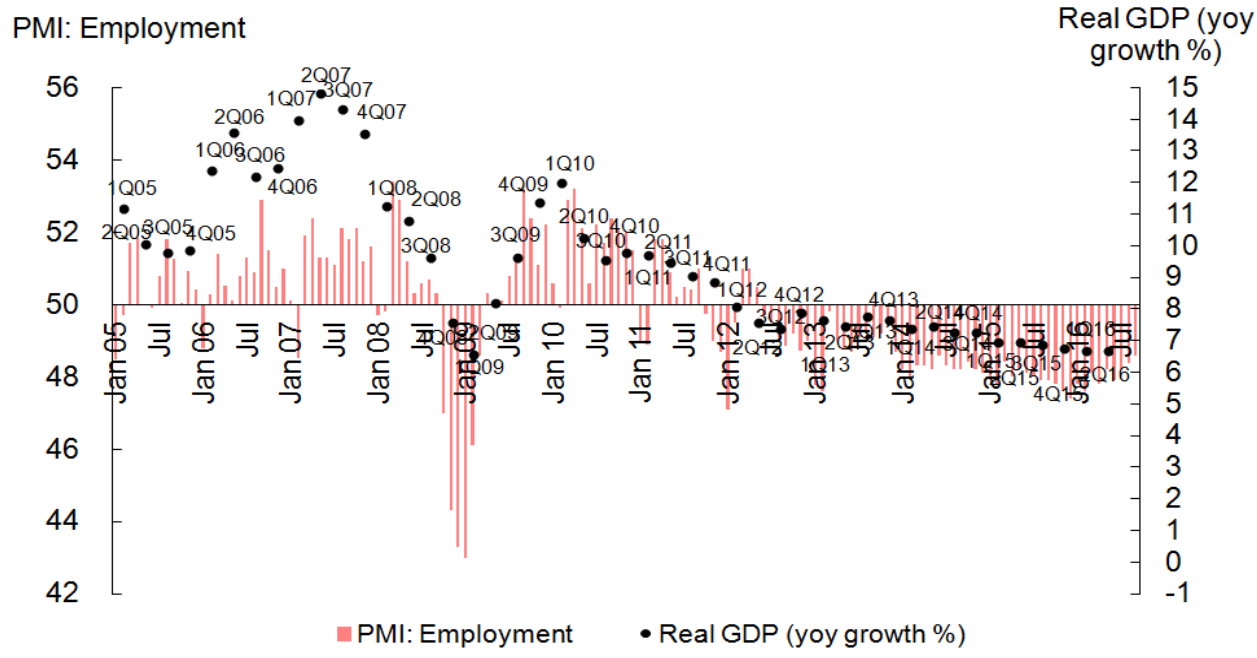
Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

Exhibit 30: Employment index and headline PMI, January 2005 to September 2016



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

Exhibit 31: Employment index and real GDP growth, January 2005 to September 2016

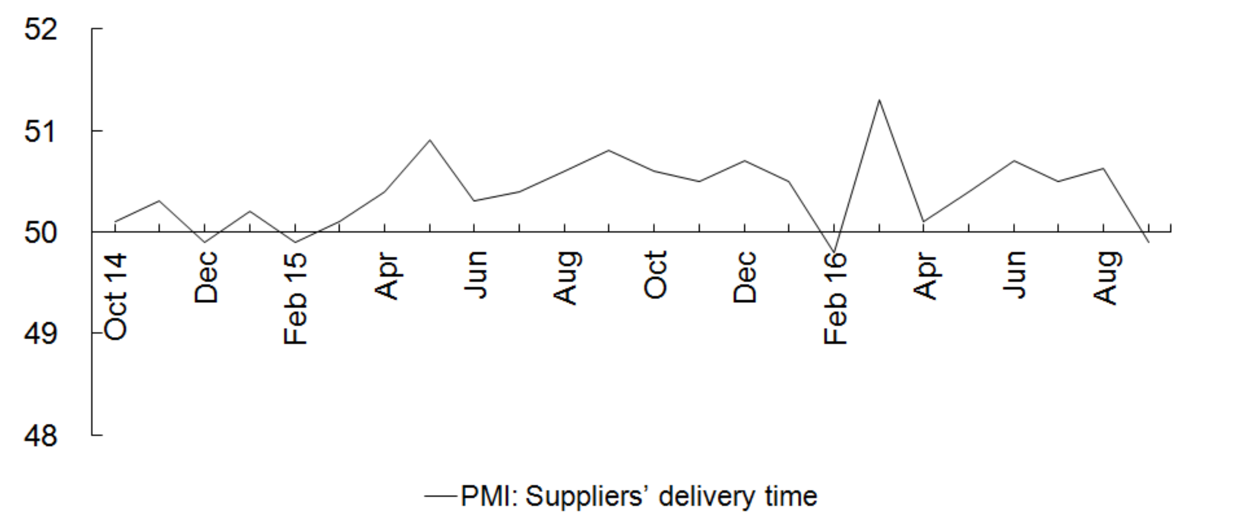


Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

10. Suppliers' delivery decelerates

The suppliers' delivery time index rose slightly from 50.5 in July to 50.6 in August, but then dropped to 49.9 in September. For the first time seven months, the index was below 50 in September, indicating a deceleration in suppliers' delivery. (Exhibit 32)

Exhibit 32: Suppliers' delivery time index, October 2014 to September 2016

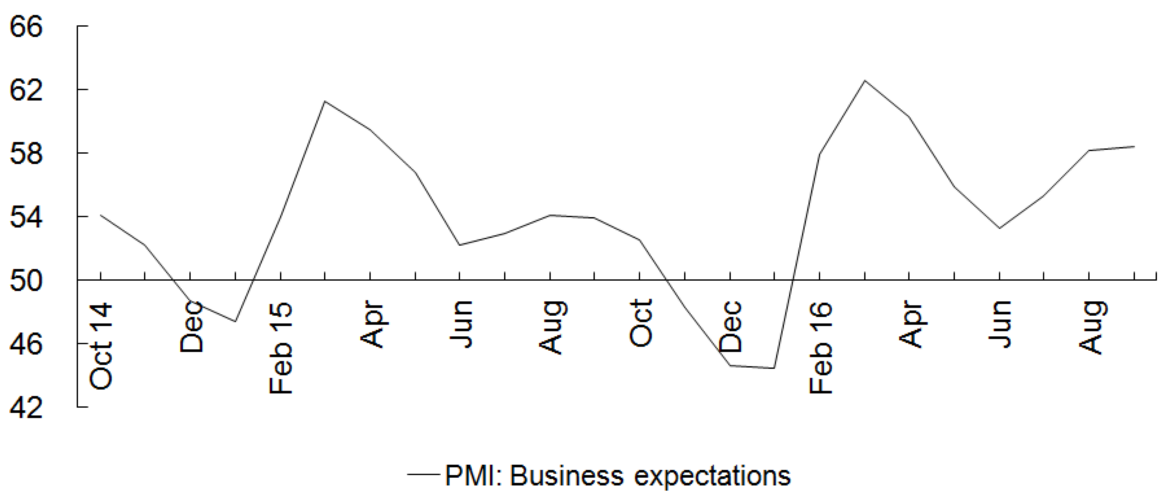


Source: China Federation of Logistics & Purchasing, China National Bureau of Statistics

11. Chinese manufacturers become more optimistic

The business expectations index picked up from 55.3 in July to 58.2 in August, and further climbed to a five-month high of 58.4 in September. Purchasing managers have become more optimistic about the near term outlook for their respective industries. (See exhibit 33)

Exhibit 33: Business expectations index, October 2014 to September 2016



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). The Fung Business Intelligence Centre 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 21 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 12 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, Employment, Suppliers' Delivery Time and Business Expectations. A 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.

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

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