# Central Bank of Nigeria 



Purchasing Managers' Index (PMI) Survey Report

Statistics Department
April 2018

## PURCHASING MANAGERS' INDEX (PMI) APRIL 2018 REPORT

### 1.0 Introduction

The April 2018 PMI survey was conducted by the Statistics Department of the Central Bank of Nigeria during the period April $12-23,2018$. The respondents were purchasing and supply executives of manufacturing and non-manufacturing organizations in 31 locations in Nigeria (Fig. 1). The Bank makes no representation regarding the individual companies, other than the information they have provided. The data contained herein further provides input for policy decisions.


Fig. 1: Map of Nigeria with $\star$ showing the survey locations

### 1.1 Data and Method of Presentation

The Manufacturing and Non-Manufacturing PMI Report on businesses is based on survey responses, indicating the changes in the level of business activities in the current month compared with the preceding month. For each of the indicators measured, this report shows the diffusion index of the responses. The diffusion index is computed as the percentage of responses with positive change plus half of the percentage of those reporting no change, except for supplier delivery time, which is computed as the percentage of responses with negative change plus half of the percentage of those reporting no change. The composite PMI for the manufacturing sector is computed as the weighted average of five diffusion indices, namely: production level, level of new orders, suppliers' delivery time, employment level and raw materials inventory/work in progress, with assigned weights of $25 \%, 30 \%, 15 \%, 10 \%$ and $20 \%$, respectively. The composite PMI for the
non-manufacturing sector is computed from four diffusion indices, namely: business activity, level of new orders, employment level and raw materials inventory, with equal weights of $25 \%$ each.

A composite PMI above 50 points indicates that the manufacturing/non-manufacturing economy is generally expanding, 50 points indicates no change and below 50 points indicates that it is generally contracting. The subsectors reporting growth are listed in the order of highest to lowest growth, while those reporting contraction are listed in the order of the highest to the lowest contraction.

### 2.0 Manufacturing PMI Report

## Supplier delivery time, employment

 level and inventories growing at a faster rate; production level and new orders grew at a slower rate in April 2018

The Manufacturing PMI in the month of April stood at 56.9 index points, indicating expansion in the manufacturing sector for the thirteenth consecutive month. (Fig. 3 and Table 1). The index grew at a faster rate when compared to the index in the previous month. Of the 15 subsectors surveyed, 12 reported growth in the review month in the following order : Petroleum \& coal products, Electrical equipment, Appliances \& components, Printing \& related support activities, Textile apparel leather \& footwear, Fabricated metal products, Chemical \& pharmaceutical products, Food, beverage \& tobacco products, Paper products, Furniture \& related products, Plastics \& rubber products, Transportation equipment. The Cement sub-sector remained unchanged, while the Non-metallic minerals and Primary metal subsectors declined in the review month.


Fig. 3: Trend of Manufacturing PMI

### 2.1 Production Level

At 58.6 points, the production level index for the manufacturing sector grew for the fourteenth consecutive month in April 2018. The index indicated a slower growth in the current month, when compared to its level in the preceding month. Twelve (12) of the Fifteen (15) manufacturing subsectors recorded increase in production level, One (1) remained unchanged, while the remaining Two (2) recorded declines in production level during the review month (Fig. 4 and Table 2).

### 2.2 New Orders

At 55.8 points, new orders index grew for the thirteenth consecutive month, indicating increase in new orders in April 2018. Seven subsectors reported growth, 4 remained unchanged while 4 contracted in the review month (Fig. 5 and Table 3).

### 2.3 Supplier Delivery Time

The manufacturing supplier delivery time index stood at 57.4 points in April 2018, indicating faster supplier delivery time for the eleventh consecutive month. Eleven subsectors recorded improved suppliers' delivery time, 3 remained unchanged while 1 subsector recorded delayed delivery time (Fig. 6 and Table 4).



Fig. 5: Trend of new orders index


Fig. 6: Trend of supplier delivery time index

### 2.4 Employment Level

The employment level index in April 2018 stood at 55.0 points, indicating growth in employment level for the twelfth consecutive month. Of the 15 subsectors, 9 subsectors increased their employment level, 3 remained unchanged while 3 reduced their employment level in the review month (Fig. 7 and Table 5).

### 2.5 Raw material Inventories

The Manufacturing sector inventories index grew for the thirteenth consecutive month in April 2018. At 59.5 points, the index grew at a faster rate when compared to its level in the previous month. Eleven of the 15 subsectors recorded growth, 2 remained unchanged while 2 recorded decline in raw material inventories (Fig. 8 and Table 6).


Fig 7: Trend of manufacturing employment index


Fig. 8: Trend of raw material inventory index


Fig. 9: Non-Manufacturing PMI at a glance

The composite PMI for the non-manufacturing sector stood at 57.5 points in April 2018, indicating expansion in the Non-manufacturing PMI for the twelfth consecutive month. Fifteen (15) of the Eighteen (18) subsectors recorded growth in the following order: Arts, entertainment \& recreation; Finance \& insurance; Public administration; Utilities; Educational services; Agriculture; Health care \& social assistance; Information \& communication; Water supply, sewage \& waste management; Repair, maintenance/washing of motor vehicles; Professional, scientific, \& technical services; wholesale/retail trade; Accommodation \& food services; Construction; and Real estate rental \& leasing. The management of companies subsector remained unchanged, while the Transportation \& warehousing; and the Electricity, gas, steam \& air conditioning supply subsectors recorded contraction in the reviewed period (Fig. 10 and Table 7).


### 3.1 Business Activity

At 58.8 points, the business activity index grew for the thirteenth consecutive month, indicating expansion in business activity in April 2018. The index grew at a faster rate when compared to its level in the previous month. Twelve subsectors recorded growth in business activity, 5 remained unchanged while 1 declined in the review month (Table 8).


Fig. 11: Trend of business activities index

### 3.2 New Orders

At 56.4 points, new orders index grew for the thirteenth consecutive month in April 2018. Of the 18 subsectors, 12 reported growth, 3 remained unchanged while 3 recorded declines (Table 9).

### 3.3 Employment Level

The employment level Index for the nonmanufacturing sector stood at 55.3 points, indicating growth in employment for the twelfth consecutive month. Fourteen subsectors recorded growth in the review month, 2 remained unchanged while 2 recorded declines (Table 10).



Fig. 13: Trend of non-manufacturing employment index


Fig. 14: Trend of non-manufacturing inventory index

## APPENDICES

Table 1: Manufacturing at a Glance

| Index | $\begin{array}{c}\text { Series } \\ \text { Index* } \\ \text { March }\end{array}$ | $\begin{array}{c}\text { Series } \\ \text { Index* } \\ \text { April }\end{array}$ | Difference | Direction | $\begin{array}{c}\text { Rate } \\ \text { of } \\ \text { Change }\end{array}$ |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Composite PMI $\backslash 1$ | 56.7 | 56.9 | 0.2 | Growing | Faster |
| (Months) |  |  |  |  |  |$]$| Trend |
| :--- |
| Production level |
| New orders |

$\backslash 1$ The composite PMI is a weighted average of the following diffusion indices: production level, new orders, supplier deliveries, employment level and inventories. The weights assigned to these variables are $25 \%, 30 \%, 15 \%, 10 \%$ and $20 \%$ respectively.
*The series index is a diffusion index defined as a weighted percentage of high, same and low with $1.0,0.5$ and 0.0 as weights respectively.
** Number of month moving in current direction
Table 2: Production at a Glance

| Index | Series <br> Index <br> March | Series <br> Index <br> March | Difference | Direction | Rate <br> of <br> Change | Trend <br> (Months) |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| PRODUCTION PMI | 59.1 | 58.6 | -0.5 | Growing | Slower | 14 |
| Appliances \& components | 0.0 | 100.0 | 100.0 | Growing | From Contraction | 1 |
| Cement | 87.5 | 50.0 | -37.5 | No Change | From Expansion | 1 |
| Chemical \& pharmaceutical products | 60.0 | 53.1 | -6.9 | Growing | Slower | 3 |
| Electrical equipment | 87.5 | 70.0 | -17.5 | Growing | Slower | 3 |
| Fabricated metal products | 58.3 | 60.5 | 2.2 | Growing | Faster | 2 |
| Food, beverage \& tobacco products | 68.5 | 56.8 | -11.7 | Growing | Slower | 19 |
| Furniture \& related products | 46.2 | 65.0 | 18.8 | Growing | From Contraction | 1 |
| Nonmetallic mineral products | 33.3 | 25.0 | -8.3 | Declining | Faster | 2 |
| Paper products | 41.7 | 57.1 | 15.4 | Growing | From Contraction | 1 |
| Petroleum \& coal products | 50.0 | 90.0 | 40.0 | Growing | From No Change | 1 |
| Plastics \& rubber products | 50.0 | 57.7 | 7.7 | Growing | From No Change | 1 |
| Primary metal | 66.7 | 40.0 | -26.7 | Declining | From Expansion | 1 |
| Printing \& related support activities | 33.3 | 72.2 | 38.9 | Growing | From Contraction | 1 |
| Textile, apparel, leather \& footwear | 50.0 | 65.4 | 15.4 | Growing | From No Change | 1 |
| Transportation equipment | 87.5 | 62.5 | -25.0 | Growing | Slower | 2 |

Table 3: New Orders at a Glance

| Index | Series <br> Index <br> March | Series <br> Index <br> April | Difference | Direction | Rate <br> of <br> Change | Trend <br> (Months) |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| NEW ORDERS PMI | 56.1 | 55.8 | -0.3 | Growing | Slower | 13 |
| Appliances \& components | 0.0 | 75.0 | 75.0 | Growing | From Contraction | 1 |
| Cement | 50.0 | 50.0 | 0.0 | No Changt | Flat | 2 |
| Chemical \& pharmaceutical products | 61.7 | 59.4 | -2.3 | Growing | Slower | 2 |
| Electrical equipment | 100.0 | 70.0 | -30.0 | Growing | Slower | 3 |
| Fabricated metal products | 55.6 | 60.5 | 4.9 | Growing | Faster | 2 |
| Food, beverage \& tobacco products | 60.5 | 59.3 | -1.2 | Growing | Slower | 19 |
| Furniture \& related products | 46.2 | 50.0 | 3.8 | No Changt From Contraction | 1 |  |
| Nonmetallic mineral products | 50.0 | 25.0 | -25.0 | Declining From No Change | 1 |  |
| Paper products | 66.7 | 50.0 | -16.7 | No Changt From Expansion | 1 |  |
| Petroleum \& coal products | 50.0 | 80.0 | 30.0 | Growing | From No Change | 1 |
| Plastics \& rubber products | 43.8 | 46.2 | 2.4 | Declining | Slower | 2 |
| Primary metal | 50.0 | 40.0 | -10.0 | Declining | From No Change | 1 |
| Printing \& related support activities | 55.6 | 50.0 | -5.6 | No Changt | From Expansion | 1 |
| Textile, apparel, leather \& footwear | 50.0 | 53.8 | 3.8 | Growing | From No Change | 1 |
| Transportation equipment | 25.0 | 37.5 | 12.5 | Declining | Slower | 2 |

Table 4: Supplier Delivery Time at a Glance

| Index | Series <br> Index <br> March | Series <br> Index <br> April | Difference | Direction | Rate <br> of <br> Change | Trend <br> (Months) |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| SUPPLIER DELIVERY TIME PMI | 56.6 | 57.4 | 0.8 | Growing | Faster | 11 |
| Appliances \& components | 0.0 | 50.0 | 50.0 | No Change From Contraction | 1 |  |
| Cement | 50.0 | 100.0 | 50.0 | Growing | From No Change | 1 |
| Chemical \& pharmaceutical products | 51.7 | 54.7 | 3.0 | Growing | Faster | 5 |
| Electrical equipment | 37.5 | 50.0 | 12.5 | No Change From Contraction | 1 |  |
| Fabricated metal products | 58.3 | 52.8 | -5.5 | Growing | Slower | 2 |
| Food, beverage \& tobacco products | 54.0 | 55.1 | 1.1 | Growing | Faster | 8 |
| Furniture \& related products | 42.3 | 55.0 | 12.7 | Growing | From Contraction | 1 |
| Nonmetallic mineral products | 66.7 | 41.7 | -25.0 | Declining | From Expansion | 1 |
| Paper products | 66.7 | 50.0 | -16.7 | No Change | From Expansion | 1 |
| Petroleum \& coal products | 90.0 | 70.0 | -20.0 | Growing | Slower | 2 |
| Plastics \& rubber products | 65.6 | 61.5 | -4.1 | Growing | Slower | 2 |
| Primary metal | 41.7 | 60.0 | 18.3 | Growing | From Contraction | 1 |
| Printing \& related support activities | 66.7 | 77.8 | 11.1 | Growing | Faster | 3 |
| Textile, apparel, leather \& footwear | 60.7 | 65.4 | 4.7 | Growing | Faster | 8 |
| Transportation equipment | 75.0 | 62.5 | -12.5 | Growing | Slower | 3 |

Table 5: Employment Level at a Glance

| Index | Series <br> Index <br> March | Series <br> Index <br> April | Difference | Direction | Rate <br> of <br> Change | Trend <br> (Months) |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| EMPLOYMENT LEVEL PMI | 53.3 | 55.0 | 1.7 | Growing | Faster | 12 |
| Appliances \& components | 0.0 | 25.0 | 25.0 | Declining | Slower | 1 |
| Cement | 75.0 | 25.0 | -50.0 | Declining | From Expansion | 1 |
| Chemical \& pharmaceutical products | 65.0 | 59.4 | -5.6 | Growing | Slower | 3 |
| Electrical equipment | 75.0 | 80.0 | 5.0 | Growing | Faster | 2 |
| Fabricated metal products | 55.6 | 57.9 | 2.3 | Growing | Faster | 2 |
| Food, beverage \& tobacco products | 51.6 | 46.6 | -5.0 | Declining | From Expansion | 1 |
| Furniture \& related products | 42.3 | 50.0 | 7.7 | No Change | From Contraction | 1 |
| Nonmetallic mineral products | 50.0 | 50.0 | 0.0 | No Change | Flat | 2 |
| Paper products | 41.7 | 64.3 | 22.6 | Growing | From Contraction | 1 |
| Petroleum \& coal products | 70.0 | 70.0 | 0.0 | Growing | Flat | 2 |
| Plastics \& rubber products | 56.3 | 57.7 | 1.4 | Growing | Faster | 8 |
| Primary metal | 50.0 | 60.0 | 10.0 | Growing | From No Change | 1 |
| Printing \& related support activities | 38.9 | 66.7 | 27.8 | Growing | From Contraction | 1 |
| Textile, apparel, leather \& footwear | 46.4 | 61.5 | 15.1 | Growing | From Contraction | 1 |
| Transportation equipment | 25.0 | 50.0 | 25.0 | No Change | From Contraction | 1 |

Table 6: Raw Materials Inventory at a Glance

| Index | Series <br> Index <br> March | Series <br> Index <br> April | Difference | Direction | Rate <br> of <br> Change | Trend <br> (Months) |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| RAW MATERIALS INVENTORY PMI | 59.4 | 59.5 | 0.1 | Growing | Faster | 13 |
| Appliances \& components | 0.0 | 50.0 | 50.0 | No Change From Contraction | 1 |  |
| Cement | 100.0 | 25.0 | -75.0 | Declining | From Expansion | 1 |
| Chemical \& pharmaceutical products | 55.0 | 62.5 | 7.5 | Growing | Faster | 3 |
| Electrical equipment | 100.0 | 80.0 | -20.0 | Growing | Slower | 5 |
| Fabricated metal products | 50.0 | 57.9 | 7.9 | Growing | From No Change | 1 |
| Food, beverage \& tobacco products | 66.1 | 61.2 | -4.9 | Growing | Slower | 19 |
| Furniture \& related products | 65.4 | 55.0 | -10.4 | Growing | Slower | 2 |
| Nonmetallic mineral products | 33.3 | 50.0 | 16.7 | No Change From Contraction | 1 |  |
| Paper products | 50.0 | 57.1 | 7.1 | Growing | From No Change | 1 |
| Petroleum \& coal products | 60.0 | 80.0 | 20.0 | Growing | Faster | 3 |
| Plastics \& rubber products | 56.3 | 57.7 | 1.4 | Growing | Faster | 4 |
| Primary metal | 33.3 | 40.0 | 6.7 | Declining | Slower | 2 |
| Printing \& related support activities | 44.4 | 61.1 | 16.7 | Growing | From Contraction | 1 |
| Textile, apparel, leather \& footwear | 53.6 | 53.8 | 0.2 | Growing | Faster | 7 |
| Transportation equipment | 75.0 | 62.5 | -12.5 | Growing | Slower | 2 |

Table 7: Non-Manufacturing at a Glance

| Index | Series <br> Index <br> March | Series <br> Index <br> April | Difference | Direction | Rate of Change | Trend (Months) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Composite PMI \1 | 57.2 | 57.5 | 0.3 | Growing | Faster | 12 |
| Business Activity | 58.7 | 58.8 | 0.1 | Growing | Faster | 13 |
| Level of new orders/customers/incoming business | 55.8 | 56.4 | 0.6 | Growing | Faster | 13 |
| Level of employment | 55.1 | 55.3 | 0.2 | Growing | Faster | 12 |
| Inventory | 59.2 | 59.5 | 0.3 | Growing | Faster | 12 |
| Average price of Inputs (volume weighted) | 50.3 | 50.3 | 0.0 | Growing | Flat | 30 |
| Level of outstanding business/ Backlog of work | 42.9 | 41.5 | -1.4 | Declining | Faster | 46 |
| New Exports orders | 39.0 | 34.2 | -4.8 | Declining | Faster | 46 |
| Imports | 38.5 | 34.9 | -3.6 | Declining | Faster | 46 |
| Inventory (sentiments) | 44.1 | 45.0 | 0.9 | Declining | Slower | 46 |
| Non-manufacturing sub-sectors |  |  |  |  |  |  |
| Accommodation \& food services | 52.7 | 53.8 | 1.1 | Growing | Faster | 2 |
| Agriculture | 62.2 | 59.8 | -2.4 | Growing | Slower | 23 |
| Arts, Entertainment \& Recreation | 0.0 | 66.3 | 66.3 | Growing | From Contraction | 1 |
| Construction | 49.7 | 53.5 | 3.8 | Growing | From Contraction | 1 |
| Educational services | 59.5 | 62.3 | 2.8 | Growing | Faster | 17 |
| Electricity, gas, steam \& air conditioning supply | 62.1 | 48.4 | -13.7 | Declining | From Expansion | 1 |
| Finance \& insurance | 67.0 | 64.8 | -2.2 | Growing | Slower | 14 |
| Health care \& social assistance | 52.9 | 58.8 | 5.9 | Growing | Faster | 12 |
| Information \& communication | 54.2 | 57.8 | 3.6 | Growing | Faster | 13 |
| Management of companies | 62.5 | 50.0 | -12.5 | No Change | From Expansion | 1 |
| Professional, scientific, \& technical services | 61.9 | 55.9 | -6.0 | Growing | Slower | 5 |
| Public administration | 87.5 | 62.5 | -25.0 | Growing | Slower | 2 |
| Real estate rental \& leasing | 54.2 | 50.7 | -3.5 | Growing | Slower | 2 |
| Repair, Maintenance/Washing Of Motor Vehicles... | 0.0 | 56.3 | 56.3 | Growing | From Contraction | 1 |
| Transportation \& warehousing | 49.0 | 47.0 | -2.0 | Declining | Faster | 3 |
| Utilities | 70.3 | 62.5 | -7.8 | Growing | Slower | 13 |
| Water supply, sewage \& waste management | 60.4 | 57.8 | -2.6 | Growing | Slower | 2 |
| Wholesale/Retail trade | 57.3 | 55.7 | -1.6 | Growing | Slower | 11 |

$\backslash 1$ The composite PMI is a simple average of the following diffusion (series) indices: business activity, new orders, employment level and inventories

## Table 8: Business activity at a Glance

| Index | Series <br> Index <br> March | Series <br> Index <br> April | Difference | Direction | Rate <br> of | Trend <br> (Months) |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Change |  |  |  |  |  |  |

Table 9: New Orders at a Glance

| Index | Series <br> Index <br> March | Series <br> Index <br> April | Difference | Direction | Rate <br> of <br> Change | Trend <br> (Months) |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| NEW ORDERS PMI | 55.8 | 56.4 | 0.6 | Growing | Faster |  |
| Accommodation \& food services | 52.5 | 52.3 | -0.2 | Growing | Slower |  |
| Agriculture | 62.5 | 50.0 | -12.5 | No Change | From Expansion | 12 |
| Arts, Entertainment \& Recreation | 0.0 | 65.0 | 65.0 | Growing | From Contraction | 1 |
| Construction | 50.0 | 54.7 | 4.7 | Growing | From No Change | 1 |
| Educational services | 58.0 | 67.5 | 9.5 | Growing | Faster |  |

Table 10: Employment at a Glance

| Index | $\begin{array}{c}\text { Series } \\ \text { Index } \\ \text { March }\end{array}$ | $\begin{array}{c}\text { Series } \\ \text { Index } \\ \text { April }\end{array}$ | Difference | Direction | $\begin{array}{c}\text { Rate } \\ \text { of }\end{array}$ |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Change |  |  |  |  |  |\(\left.\quad \begin{array}{c}Trend <br>

(Months)\end{array}\right]\)

## Table 11: Inventory at a Glance

| Index | $\begin{array}{c}\text { Series } \\ \text { Index } \\ \text { March }\end{array}$ | $\begin{array}{c}\text { Series } \\ \text { Index } \\ \text { April }\end{array}$ | Difference |  | Direction | $\begin{array}{c}\text { Rate } \\ \text { of } \\ \text { Change }\end{array}$ |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| (Months) |  |  |  |  |  |  |$]$

Table 12: Manufacturing PMI Data Series

|  | $\begin{aligned} & \text { 山 } \\ & \underline{n} \\ & 0 \\ & \sum_{0}^{0} \\ & \sum_{0} \\ & \hline \end{aligned}$ |  | $\begin{aligned} & \text { n } \\ & \text { di } \\ & 0 \\ & 0 \\ & 3 \\ & 0 \\ & 2 \\ & \hline \end{aligned}$ |  |  |  |  |  | $\begin{aligned} & \text { U } \\ & 0 . \\ & 0 . \\ & H \\ & \vdots \\ & \underline{0} \end{aligned}$ |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Jul '14 | 51.3 | 55.2 | 53.0 | 46.4 | 46.9 | 52.9 | 43.6 | 50.6 | 54.2 | 53.3 | 46.4 | 47.2 |
| Aug '14 | 49.7 | 49.7 | 51.2 | 49.9 | 45.9 | 52.2 | 40.8 | 48.6 | 52.7 | 50.8 | 45.4 | 48.6 |
| Sep '14 | 54.0 | 57.4 | 57.6 | 46.4 | 49.3 | 55.7 | 45.4 | 49.3 | 52.9 | 55.1 | 46.9 | 49.8 |
| Oct '14 | 51.9 | 55.1 | 55.3 | 46.2 | 46.8 | 52.4 | 45.9 | 49.7 | 56.7 | 57.1 | 50.5 | 51.7 |
| Nov '14 | 52.2 | 55.1 | 56.9 | 45.1 | 47.2 | 51.7 | 46.0 | 53.3 | 60.9 | 56.0 | 50.0 | 47.6 |
| Dec '14 | 49.8 | 51.2 | 51.1 | 49.7 | 46.8 | 48.4 | 44.6 | 53.6 | 56.3 | 51.4 | 47.5 | 51.1 |
| Jan '15 | 50.2 | 50.4 | 49.3 | 51.3 | 51.1 | 49.3 | 47.7 | 48.7 | 55.6 | 52.5 | 48.8 | 45.5 |
| Feb '15 | 53.0 | 57.4 | 54.7 | 43.8 | 50.0 | 56.4 | 50.1 | 54.0 | 60.9 | 58.0 | 50.7 | 53.7 |
| Mar '15 | 48.9 | 52.1 | 48.9 | 47.8 | 46.4 | 47.1 | 38.1 | 50.1 | 56.4 | 48.7 | 44.5 | 46.5 |
| Apr '15 | 52.0 | 56.9 | 54.1 | 42.7 | 48.9 | 53.9 | 43.0 | 50.2 | 54.4 | 53.0 | 48.3 | 48.7 |
| May '15 | 49.4 | 53.6 | 49.7 | 44.6 | 48.0 | 48.0 | 36.9 | 51.6 | 59.0 | 50.5 | 44.9 | 45.6 |
| Jun '15 | 49.5 | 51.5 | 50.8 | 42.0 | 48.5 | 53.3 | 40.0 | 49.2 | 56.7 | 53.0 | 45.3 | 49.3 |
| Jul '15 | 47.8 | 49.7 | 46.2 | 43.5 | 48.4 | 52.6 | 40.1 | 47.9 | 55.0 | 51.7 | 45.2 | 45.3 |
| Aug '15 | 48.4 | 51.0 | 50.1 | 43.1 | 44.8 | 52.4 | 37.6 | 49.0 | 53.1 | 50.2 | 43.7 | 46.1 |
| Sep '15 | 50.7 | 54.9 | 52.1 | 46.8 | 47.1 | 49.0 | 40.3 | 47.5 | 52.8 | 51.0 | 42.5 | 43.2 |
| Oct '15 | 49.2 | 52.0 | 49.3 | 42.7 | 48.4 | 53.1 | 39.8 | 49.1 | 53.8 | 48.3 | 45.6 | 46.8 |
| Nov '15 | 51.2 | 55.4 | 52.9 | 47.3 | 45.5 | 52.2 | 38.7 | 46.2 | 52.8 | 51.0 | 46.0 | 46.9 |
| Dec '15 | 51.2 | 55.4 | 52.7 | 45.2 | 47.5 | 52.7 | 38.0 | 48.6 | 56.5 | 54.5 | 45.1 | 46.4 |
| Jan 16 | 47.2 | 49.3 | 46.2 | 48.4 | 46.0 | 45.8 | 38.3 | 52.6 | 56.7 | 49.9 | 44.2 | 46.3 |
| Feb '16 | 45.5 | 45.0 | 43.0 | 52.8 | 45.0 | 44.7 | 39.2 | 53.0 | 57.0 | 42.8 | 38.5 | 44.4 |
| Mar '16 | 45.9 | 46.6 | 43.0 | 50.6 | 45.5 | 47.1 | 37.8 | 56.4 | 60.9 | 41.6 | 41.2 | 43.8 |
| Apr '16 | 43.7 | 42.7 | 41.8 | 52.2 | 42.0 | 43.0 | 36.3 | 63.9 | 67.8 | 43.6 | 42.6 | 41.6 |
| May '16 | 45.8 | 47.9 | 42.7 | 50.2 | 45.7 | 43.9 | 38.7 | 59.6 | 68.4 | 42.7 | 37.0 | 40.1 |
| Jun '16 | 41.9 | 40.2 | 37.0 | 55.6 | 42.2 | 39.4 | 35.3 | 61.4 | 70.0 | 39.0 | 40.2 | 36.0 |
| Jul '16 | 44.1 | 43.0 | 42.4 | 51.7 | 43.8 | 41.4 | 38.5 | 60.8 | 64.2 | 41.6 | 41.9 | 39.0 |
| Aug '16 | 42.1 | 40.5 | 37.5 | 57.4 | 40.4 | 40.0 | 31.2 | 64.1 | 69.8 | 39.9 | 38.3 | 38.3 |
| Sep '16 | 42.5 | 40.9 | 38.7 | 55.6 | 41.2 | 40.9 | 26.3 | 66.5 | 74.0 | 42.8 | 37.1 | 42.4 |
| Oct '16 | 44.1 | 42.3 | 40.3 | 57.7 | 42.2 | 42.9 | 37.3 | 65.2 | 71.8 | 43.5 | 39.2 | 39.9 |
| Nov '16 | 46.0 | 46.9 | 45.1 | 53.2 | 40.6 | 46.1 | 39.6 | 65.7 | 71.2 | 48.1 | 45.2 | 42.0 |
| Dec '16 | 52.0 | 57.6 | 51.8 | 47.9 | 48.6 | 51.6 | 37.2 | 70.4 | 73.2 | 52.7 | 45.3 | 48.5 |
| Jan '17 | 48.2 | 51.3 | 47.9 | 48.5 | 45.3 | 46.3 | 33.1 | 67.9 | 71.4 | 48.4 | 43.6 | 46.9 |
| Feb '17 | 44.6 | 45.2 | 44.0 | 48.7 | 41.7 | 44.8 | 38.4 | 69.9 | 70.9 | 47.7 | 43.2 | 43.9 |
| Mar '17 | 47.7 | 50.8 | 45.6 | 51.3 | 43.6 | 49.1 | 38.5 | 65.0 | 68.3 | 50.1 | 43.6 | 45.1 |
| Apr '17 | 51.1 | 58.5 | 50.1 | 47.5 | 46.6 | 50.6 | 37.7 | 65.1 | 69.2 | 45.1 | 40.0 | 46.4 |
| May '17 | 52.5 | 58.7 | 50.5 | 49.9 | 50.7 | 50.8 | 37.6 | 61.3 | 68.4 | 46.1 | 42.3 | 51.8 |
| June '17 | 52.9 | 58.2 | 51.0 | 50.3 | 51.1 | 52.3 | 32.6 | 62.7 | 66.6 | 46.2 | 43.9 | 49.1 |
| July '17 | 54.1 | 59.3 | 52.7 | 51.3 | 51.8 | 53.6 | 37.5 | 60.4 | 64.1 | 48.0 | 42.1 | 48.5 |
| Aug '17 | 53.6 | 57.4 | 52.3 | 52.0 | 51.5 | 54.9 | 36.7 | 58.8 | 64.9 | 49.0 | 47.9 | 51.6 |
| Sep '17 | 55.3 | 58.8 | 53.5 | 55.4 | 52.8 | 56.4 | 30.4 | 58.2 | 65.7 | 49.4 | 51.9 | 50.4 |
| Oct '17 | 55.0 | 58.4 | 52.8 | 55.5 | 53.1 | 56.5 | 35.5 | 55.4 | 62.7 | 49.6 | 50.8 | 50.0 |
| Nov '17 | 55.9 | 59.3 | 54.3 | 56.0 | 53.7 | 57.1 | 37.6 | 54.0 | 64.3 | 48.1 | 50.0 | 48.8 |
| Dec '17 | 59.3 | 63.2 | 60.0 | 57.4 | 53.9 | 61.1 | 40.2 | 54.3 | 63.4 | 53.6 | 45.7 | 47.4 |
| Jan '18 | 57.3 | 59.6 | 58.3 | 56.8 | 53.3 | 57.7 | 35.1 | 55.0 | 63.3 | 49.1 | 42.9 | 45.4 |
| Feb '18 | 56.3 | 57.8 | 55.6 | 57.0 | 53.9 | 58.1 | 42.0 | 55.9 | 65.4 | 54.3 | 37.6 | 53.3 |
| Mar '18 | 56.7 | 59.1 | 56.1 | 56.6 | 53.3 | 59.4 | 36.4 | 52.1 | 61.1 | 54.1 | 42.1 | 48.7 |
| Apr '18 | 56.9 | 58.6 | 55.8 | 57.4 | 55.0 | 59.5 | 37.6 | 51.3 | 62.4 | 52.9 | 41.4 | 51.1 |

Table 13: Non-Manufacturing PMI Data Series

|  | $\begin{aligned} & \frac{山}{\bar{n}} \\ & 0 \\ & \sum_{0}^{0} \\ & \sum_{a} \end{aligned}$ |  |  |  | $\begin{aligned} & \text { Z } \\ & 00 \\ & \\ & \text { D } \\ & \text { In } \end{aligned}$ |  |  |  | $\begin{aligned} & \pm \\ & \vdots \\ & \underline{0} \\ & \underline{E} \end{aligned}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Jul '14 | 55.0 | 58.9 | 55.9 | 50.2 | 55.2 | 54.0 | 46.2 | 44.0 | 47.3 | 47.8 |
| Aug '14 | 58.9 | 60.6 | 59.8 | 58.3 | 57.0 | 56.1 | 47.0 | 46.1 | 46.4 | 48.1 |
| Sep '14 | 54.7 | 57.1 | 57.5 | 49.9 | 54.3 | 52.8 | 46.2 | 40.7 | 45.2 | 47.6 |
| Oct '14 | 57.3 | 59.6 | 59.4 | 53.9 | 56.4 | 53.3 | 46.4 | 40.8 | 44.9 | 43.8 |
| Nov '14 | 59.6 | 62.5 | 63.6 | 57.9 | 54.6 | 57.3 | 49.6 | 45.2 | 47.5 | 48.1 |
| Dec '14 | 53.8 | 56.2 | 56.0 | 51.4 | 51.5 | 54.5 | 45.6 | 43.6 | 46.5 | 43.8 |
| Jan '15 | 50.6 | 48.8 | 50.4 | 51.2 | 51.9 | 48.8 | 43.2 | 41.1 | 44.3 | 47.0 |
| Feb '15 | 54.0 | 54.2 | 54.7 | 52.5 | 54.5 | 54.1 | 46.0 | 43.0 | 44.6 | 46.1 |
| Mar '15 | 48.6 | 49.7 | 51.1 | 45.6 | 48.0 | 49.8 | 46.5 | 39.9 | 44.2 | 40.2 |
| Apr '15 | 53.7 | 58.2 | 56.8 | 49.1 | 50.8 | 51.5 | 46.6 | 41.1 | 44.5 | 43.0 |
| May '15 | 51.7 | 52.9 | 53.1 | 49.7 | 51.1 | 51.3 | 44.1 | 37.2 | 39.1 | 44.3 |
| Jun '15 | 50.1 | 51.5 | 50.3 | 46.4 | 52.0 | 48.5 | 44.4 | 36.9 | 40.4 | 42.7 |
| Jul '15 | 50.0 | 50.4 | 51.4 | 48.6 | 49.5 | 50.3 | 43.8 | 39.1 | 39.2 | 44.0 |
| Aug '15 | 50.7 | 52.3 | 52.4 | 48.0 | 50.1 | 50.7 | 43.0 | 39.8 | 38.3 | 44.0 |
| Sep '15 | 50.1 | 52.1 | 52.3 | 47.0 | 49.1 | 48.7 | 44.5 | 42.9 | 41.4 | 45.9 |
| Oct '15 | 51.9 | 54.2 | 54.1 | 49.3 | 50.1 | 49.9 | 43.9 | 40.3 | 42.4 | 45.2 |
| Nov '15 | 49.6 | 52.9 | 51.6 | 45.6 | 48.5 | 51.8 | 42.8 | 37.7 | 39.0 | 41.8 |
| Dec '15 | 53.4 | 55.9 | 56.4 | 50.0 | 51.5 | 54.7 | 47.0 | 41.9 | 42.7 | 47.2 |
| Jan 16 | 46.9 | 46.2 | 46.4 | 47.0 | 47.9 | 57.3 | 44.3 | 36.2 | 39.0 | 41.6 |
| Feb '16 | 44.3 | 43.7 | 42.0 | 44.5 | 47.1 | 53.6 | 39.6 | 37.5 | 36.6 | 43.6 |
| Mar '16 | 45.4 | 46.3 | 44.7 | 43.9 | 46.5 | 58.5 | 43.8 | 34.3 | 35.0 | 41.1 |
| Apr '16 | 44.3 | 44.2 | 42.2 | 43.3 | 47.6 | 62.2 | 43.1 | 31.8 | 33.1 | 39.8 |
| May '16 | 44.3 | 44.3 | 41.3 | 44.6 | 46.9 | 62.9 | 38.1 | 33.2 | 35.0 | 40.3 |
| Jun '16 | 42.3 | 40.2 | 39.6 | 42.5 | 47.1 | 60.7 | 39.6 | 33.2 | 34.7 | 38.5 |
| Jul '16 | 43.2 | 42.8 | 42.3 | 41.9 | 45.8 | 60.4 | 38.6 | 30.0 | 32.7 | 38.0 |
| Aug '16 | 43.7 | 43.6 | 42.0 | 41.4 | 47.7 | 60.8 | 39.4 | 32.9 | 34.2 | 39.4 |
| Sep '16 | 41.0 | 39.9 | 40.0 | 40.3 | 43.9 | 63.1 | 39.6 | 28.6 | 30.2 | 37.9 |
| Oct '16 | 43.4 | 43.0 | 42.7 | 41.5 | 46.4 | 65.3 | 40.9 | 32.8 | 33.8 | 38.7 |
| Nov '16 | 42.8 | 43.0 | 42.3 | 40.2 | 45.5 | 66.8 | 42.4 | 30.8 | 34.0 | 41.1 |
| Dec '16 | 47.1 | 48.2 | 46.9 | 43.8 | 49.5 | 64.0 | 41.5 | 33.8 | 35.5 | 41.6 |
| Jan '17 | 49.4 | 50.6 | 49.4 | 45.6 | 52.0 | 65.6 | 43.6 | 32.5 | 36.1 | 45.5 |
| Feb '17 | 44.5 | 45.4 | 44.9 | 42.6 | 44.9 | 65.4 | 42.9 | 33.4 | 34.5 | 38.7 |
| Mar '17 | 47.1 | 49.8 | 46.4 | 44.0 | 48.0 | 62.1 | 42.7 | 33.1 | 34.5 | 40.6 |
| Apr '17 | 49.5 | 53.3 | 50.5 | 45.5 | 48.6 | 63.1 | 41.6 | 29.2 | 33.2 | 41.1 |
| May '17 | 52.7 | 56.2 | 53.2 | 50.2 | 51.4 | 62.7 | 45.3 | 31.6 | 34.1 | 43.6 |
| June '17 | 54.2 | 57.0 | 54.6 | 53.4 | 51.8 | 58.6 | 40.5 | 30.3 | 33.5 | 42.7 |
| July '17 | 54.4 | 56.8 | 55.1 | 54.0 | 51.9 | 58.1 | 42.9 | 32.0 | 36.8 | 41.5 |
| Aug '17 | 54.1 | 56.1 | 53.5 | 54.4 | 52.3 | 54.5 | 42.8 | 34.5 | 34.8 | 42.0 |
| Sep '17 | 54.9 | 56.8 | 55.4 | 54.7 | 52.9 | 56.9 | 42.2 | 31.2 | 35.9 | 44.2 |
| Oct '17 | 55.3 | 57.5 | 55.7 | 54.4 | 53.4 | 56.4 | 41.4 | 29.6 | 35.4 | 38.9 |
| Nov '17 | 57.6 | 59.4 | 58.4 | 54.6 | 58.0 | 55.7 | 43.6 | 28.8 | 33.3 | 40.6 |
| Dec '17 | 62.1 | 67.4 | 62.2 | 55.7 | 62.9 | 56.1 | 44.6 | 34.6 | 39.1 | 40.3 |
| Jan '18 | 58.5 | 61.3 | 58.2 | 55.1 | 59.5 | 56.9 | 41.3 | 31.0 | 35.1 | 42.8 |
| Feb '18 | 56.1 | 55.6 | 53.7 | 55.3 | 59.8 | 52.8 | 41.2 | 34.7 | 39.1 | 40.3 |
| Mar '18 | 57.2 | 58.7 | 55.8 | 55.1 | 59.2 | 50.3 | 42.9 | 39.0 | 38.5 | 44.1 |
| Apr '18 | 57.5 | 58.8 | 56.4 | 55.3 | 59.5 | 50.3 | 41.5 | 34.2 | 34.9 | 45.0 |

