# Central Bank of Nigeria 



## Purchasing Managers' Index (PMI) Survey Report

Statistics Department
September 2017

## PURCHASING MANAGERS' INDEX (PMI) SEPTEMBER 2017 REPORT

### 1.0 Introduction

The September 2017 PMI was conducted by the Statistics Department of the Central Bank of Nigeria during the period September 11-15, 2017. The respondents were purchasing and supply executives of manufacturing and non-manufacturing organizations in 13 locations in Nigeria (2 states in each geopolitical zone and the Federal Capital Territory, Fig. 1). A total of 1,625 responses were received from a sample of 1,950 respondents, representing a response rate of 83.3 per cent.

The Bank makes no representation regarding the individual companies, other than the data they 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 one-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 onehalf 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: production level, new orders, supplier delivery time, employment level and raw materials inventory, 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: business activity, new orders, employment level and 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

Production level, new orders, supplier delivery time, employment level and raw material inventories growing at a faster
 rate in September 2017

The Manufacturing PMI stood at 55.3 index points in September 2017, indicating expansion in the manufacturing sector for the sixth consecutive month (Fig. 3 and Table 1). Fourteen of the sixteen subsectors reported growth in the review month in the following order: appliances \& components; electrical equipment; chemical \& pharmaceutical products; nonmetallic mineral products; printing \& related support activities; plastics \& rubber products; food, beverage \& tobacco products; furniture \& related products; transportation equipment; cement; paper products; computer \& electronic products; textile, apparel, leather \& footwear and fabricated metal products. The primary metal and petroleum \& coal products subsectors contracted in the review month.


Fig. 3: Trend of Manufacturing PMI

### 2.1 Production Level

The production level index for the manufacturing sector grew for the seventh consecutive month in September 2017. At 58.8 points, the index indicated an increase in production at a faster rate, when compared to its level in the preceding month. Thirteen of the sixteen manufacturing subsectors recorded increase, while three subsectors declined during the review month (Fig. 4 and Table 2).

### 2.2 New Orders

At 53.5 points, the new orders index grew for the sixth consecutive month. Ten subsectors reported growth, while six subsectors contracted in the month of September, 2017 (Fig. 5 and Table 3).

### 2.3 Supplier Delivery Time

The supplier delivery time index for the manufacturing sector, at 55.4 points in September 2017, rose for the fourth consecutive month. Twelve subsectors recorded improved suppliers' delivery time, two remained unchanged while two subsectors recorded delayed delivery time (Fig. 6 and Table 4).


Fig. 4: Trend of production index


Fig. 5: Trend of new orders index


Fig. 6: Trend of supplier delivery time index

### 2.4 Employment Level

The employment level index in September 2017 stood at 52.8 points, indicating growth in employment level for the fifth consecutive month. Of the sixteen subsectors, six recorded growth, four remained unchanged while the other six subsectors recorded decline in employment level (Fig. 7 and Table 5).

### 2.5 Raw Materials Inventories

At 56.4 points, raw materials inventories index grew for the sixth consecutive month, and at a faster rate when compared to its level in August 2017. Twelve of the sixteen subsectors recorded growth, one remained unchanged and the remaining three subsectors recorded decline in inventories (Fig. 8 and Table 6).

### 3.0 Non-Manufacturing PMI Report

Business activity, new orders, employment level and inventory growing at a faster rate in September 2017


Fig 7: Trend of manufacturing employment



The composite PMI for the non-manufacturing sector stood at 54.9 points in September 2017, indicating growth in Non-manufacturing PMI for the fifth consecutive month. Of the eighteen nonmanufacturing subsectors, fifteen recorded growth in the following order: utilities; agriculture; health care \& social assistance; finance \& insurance; transportation \& warehousing; electricity, gas, steam \& air conditioning supply; repair, maintenance/washing of motor vehicles; public administration; wholesale/retail trade; water supply, sewage \& waste management; educational services; arts, entertainment \& recreation; information \& communication; accommodation \& food services; real estate rental \& leasing. The construction; management of companies; and professional, scientific \& technical services sub sectors recorded contraction in the review period (Fig. 10 and Table 7).

### 3.1 Business Activity

The business activity index rose marginally to 56.8 points in September 2017, indicating growth for the sixth consecutive month. The index grew at a faster rate, when compared to its level in the preceding month. Fourteen subsectors recorded growth in business activity, two remained unchanged and two declined in the review month (Fig 11 and Table 8).



Fig. 11: Trend of business activities index

### 3.2 New Orders

New orders index at 55.4 points grew in September 2017 for the sixth consecutive month. Of the eighteen subsectors, thirteen reported growth, three remained unchanged while two recorded declines (Fig. 12 and Table 9).

### 3.3 Employment Level

The employment level Index for the nonmanufacturing sector stood at 54.7 points, indicating growth in employment for the fifth consecutive month. Fifteen subsectors recorded growth in the review month, while the remaining three subsectors declined (Fig. 13 and Table 10).

### 3.4 Non-manufacturing Inventory

At 52.9 points, non-manufacturing inventory index grew for the fifth consecutive month, indicating growth in inventories in the review period. Twelve subsectors recorded higher inventory, three remained unchanged, while three subsectors recorded lower inventory in September, 2017 (Fig. 14 and Table 11).


Fig. 12: Trend of new orders index


Fig. 13: Trend of non-manufacturing employment


Fig. 14: Trend of non-manufacturing inventory index

## APPENDICES

Table 1: Manufacturing at a Glance

| Index | Series <br> Index* <br> August | Series <br> Index* September | Change | Direction | Rate of Change | Trend** <br> (Months) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Composite PMI \1 | 53.6 | 55.3 | 1.7 | Growing | Faster | 6 |
| Production level | 57.4 | 58.8 | 1.4 | Growing | Faster | 7 |
| New orders | 52.3 | 53.5 | 1.2 | Growing | Faster | 6 |
| Supplier delivery time | 52.0 | 55.4 | 3.4 | Growing | Faster | 4 |
| Employment level | 51.5 | 52.8 | 1.3 | Growing | Faster | 5 |
| Raw materials/WIP Inventory | 54.9 | 56.4 | 1.5 | Growing | Faster | 6 |
| New Export Orders | 36.7 | 30.4 | -6.3 | Declining | Faster | 31 |
| Output Prices | 58.8 | 58.2 | -0.6 | Growing | Slower | 21 |
| Input Prices | 64.9 | 65.7 | 0.8 | Growing | Faster | 39 |
| Quantity of Purchases | 49.0 | 49.4 | 0.4 | Declining | Slower | 6 |
| Outstanding Business/Backlog of Work | 47.9 | 51.9 | 4.0 | Growing | From Contraction | 1 |
| Stock of Finished Goods | 51.6 | 50.4 | -1.2 | Growing | Slower | 2 |
| Manufacturing Sub-Sectors |  |  |  |  |  |  |
| Appliances \& components | 61.0 | 73.0 | 12.0 | Growing | Faster | 10 |
| Cement | 51.2 | 54.1 | 2.9 | Growing | Faster | 3 |
| Chemical \& pharmaceutical products | 59.9 | 61.6 | 1.7 | Growing | Faster | 3 |
| Computer \& electronic products | 69.2 | 52.5 | -16.7 | Growing | Slower | 4 |
| Electrical equipment | 55.5 | 62.7 | 7.2 | Growing | Faster | 6 |
| Fabricated metal products | 48.8 | 50.4 | 1.6 | Growing | From Contraction | 1 |
| Food, beverage \& tobacco products | 53.2 | 56.8 | 3.6 | Growing | Faster | 12 |
| Furniture \& related products | 51.9 | 55.5 | 3.6 | Growing | Faster | 2 |
| Nonmetallic mineral products | 54.1 | 59.8 | 5.7 | Growing | Faster | 2 |
| Paper products | 54.6 | 53.7 | -0.9 | Growing | Slower | 5 |
| Petroleum \& coal products | 47.7 | 45.6 | -2.1 | Declining | Faster | 3 |
| Plastics \& rubber products | 50.2 | 58.6 | 8.4 | Growing | Faster | 2 |
| Primary metal | 42.7 | 42.7 | 0.0 | Declining | Flat | 2 |
| Printing \& related support activities | 55.3 | 58.8 | 3.5 | Growing | Faster | 3 |
| Textile, apparel, leather \& footwear | 56.5 | 51.4 | -5.1 | Growing | Slower | 7 |
| Transportation equipment | 17.5 | 55.0 | 37.5 | Growing | From Contraction | 1 |

$\backslash 1$ 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> August | Series <br> Index <br> September | Change | Direction | Rate of Change | Trend (Months) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| PRODUCTION PMI | 57.4 | 58.8 | 1.4 | Growing | Faster | 7 |
| Appliances \& components | 80.0 | 70.0 | -10.0 | Growing | Slower | 9 |
| Cement | 58.3 | 60.0 | 1.7 | Growing | Faster | 7 |
| Chemical \& pharmaceutical products | 66.3 | 66.3 | 0.0 | Growing | Flat | 3 |
| Computer \& electronic products | 75.0 | 58.3 | -16.7 | Growing | Slower | 7 |
| Electrical equipment | 60.7 | 71.4 | 10.7 | Growing | Faster | 6 |
| Fabricated metal products | 52.1 | 48.9 | -3.2 | Declining | From Expansion | 1 |
| Food, beverage \& tobacco products | 56.4 | 57.9 | 1.5 | Growing | Faster | 12 |
| Furniture \& related products | 57.8 | 62.7 | 4.8 | Growing | Faster | 7 |
| Nonmetallic mineral products | 62.5 | 65.3 | 2.8 | Growing | Faster | 3 |
| Paper products | 50.0 | 53.8 | 3.8 | Growing | From No Change | 1 |
| Petroleum \& coal products | 37.5 | 41.7 | 4.2 | Declining | Slower | 3 |
| Plastics \& rubber products | 48.2 | 64.3 | 16.1 | Growing | From Contraction | 1 |
| Primary metal | 40.9 | 31.8 | -9.1 | Declining | Faster | 2 |
| Printing \& related support activities | 55.3 | 60.7 | 5.3 | Growing | Faster | 6 |
| Textile, apparel, leather \& footwear | 63.1 | 60.1 | -3.0 | Growing | Slower | 7 |
| Transportation equipment | 0.0 | 100.0 | 100.0 | Growing | From Contraction | 1 |

Table 3: New Orders at a Glance

| Index | Series <br> Index <br> August | Series <br> Index <br> September | Change | Direction | Rate of Change | Trend (Months) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| NEW ORDERS PMI | 52.3 | 53.5 | 1.2 | Growing | Faster | 6 |
| Appliances \& components | 40.0 | 100.0 | 60.0 | Growing | From Contraction | 1 |
| Cement | 45.0 | 51.7 | 6.7 | Growing | From Contraction | 1 |
| Chemical \& pharmaceutical products | 58.7 | 63.5 | 4.8 | Growing | Faster | 3 |
| Computer \& electronic products | 75.0 | 58.3 | -16.7 | Growing | Slower | 2 |
| Electrical equipment | 46.4 | 67.9 | 21.5 | Growing | From Contraction | 1 |
| Fabricated metal products | 45.3 | 47.9 | 2.6 | Declining | Slower | 3 |
| Food, beverage \& tobacco products | 53.5 | 62.4 | 8.9 | Growing | Faster | 12 |
| Furniture \& related products | 50.0 | 51.8 | 1.8 | Growing | From No Change | 1 |
| Nonmetallic mineral products | 45.8 | 55.6 | 9.8 | Growing | From Contraction | 1 |
| Paper products | 53.8 | 48.1 | -5.7 | Declining | From Expansion | 1 |
| Petroleum \& coal products | 45.8 | 37.5 | -8.3 | Declining | Faster | 3 |
| Plastics \& rubber products | 48.2 | 53.6 | 5.4 | Growing | From Contraction | 1 |
| Primary metal | 36.4 | 40.9 | 4.5 | Declining | Slower | 2 |
| Printing \& related support activities | 59.3 | 53.3 | -6.0 | Growing | Slower | 3 |
| Textile, apparel, leather \& footwear | 58.1 | 46.5 | -11.6 | Declining | From Expansion | 1 |
| Transportation equipment | 0.0 | 0.0 | 0.0 | Declining | Flat | 3 |

Table 4: Supplier Delivery Time at a Glance

|  | Series <br> Index <br> August | Series <br> Index <br> September |  |  | Rate <br> of | Trend <br> Change |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| (Months) |  |  |  |  |  |  |

Table 5: Employment Level at a Glance

|  | Series <br> Index | Series <br> Index |  |  | Rate |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Index | August | September | Change | Direction | Change | Trend <br> (Months) |
| EMPLOYMENT LEVEL PMI | 51.5 | 52.8 | 1.3 | Growing | Faster | 5 |
| Appliances \& components | 50.0 | 40.0 | -10.0 | Declining | From No Change | 1 |
| Cement | 48.3 | 50.0 | 1.7 | No Change | From Contraction | 1 |
| Chemical \& pharmaceutical products | 59.6 | 55.8 | -3.8 | Growing | Slower | 3 |
| Computer \& electronic products | 58.3 | 41.7 | -16.6 | Declining | From Expansion | 1 |
| Electrical equipment | 50.0 | 50.0 | 0.0 | No Change | Flat | 3 |
| Fabricated metal products | 42.6 | 49.5 | 6.9 | Declining | Slower | 2 |
| Food, beverage \& tobacco products | 51.0 | 49.5 | -1.5 | Declining | From Expansion | 1 |
| Furniture \& related products | 54.2 | 50.0 | -4.2 | No Change | From Expansion | 1 |
| Nonmetallic mineral products | 48.6 | 66.7 | 18.1 | Growing | From Contraction | 1 |
| Paper products | 53.8 | 57.7 | 3.9 | Growing | Faster | 5 |
| Petroleum \& coal products | 50.0 | 41.7 | -8.3 | Declining | From No Change | 1 |
| Plastics \& rubber products | 50.0 | 57.1 | 7.1 | Growing | From No Change | 1 |
| Primary metal | 45.5 | 59.1 | 13.6 | Growing | From Contraction | 1 |
| Printing \& related support activities | 56.7 | 64.0 | 7.3 | Growing | Faster | 2 |
| Textile, apparel, leather \& footwear | 52.5 | 48.0 | -4.5 | Declining | From Expansion | 1 |
| Transportation equipment | 0.0 | 50.0 | 50.0 | No Change | From Contraction | 1 |

Table 6: Raw Materials Inventory at a Glance

|  | Series <br> Index <br> August | Series <br> Index <br> September |  |  | Rate <br> of | Trend <br> Change |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| (Months) |  |  |  |  |  |  |

Table 7: Non-Manufacturing at a Glance

| $\begin{array}{lllll}\text { Index } & \begin{array}{c}\text { Series } \\ \text { Index } \\ \text { August }\end{array} & \begin{array}{c}\text { Series } \\ \text { Index } \\ \text { September }\end{array} & \text { Change } & \text { Direction }\end{array}$ | $\begin{array}{c}\text { Rate } \\ \text { of } \\ \text { Change }\end{array}$ |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Trend |  |
| (Months) |  |$]$

$\backslash 1$ The composite PMI is a weighted 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> August | Series <br> Index September | Change | Direction | Rate of Change | Trend (Months) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| BUSINESS ACTIVITY PMI | 56.1 | 56.8 | 0.7 | Growing | Faster | 6 |
| Accommodation \& food services | 56.8 | 52.2 | -4.6 | Growing | Slower | 5 |
| Agriculture | 60.3 | 59.2 | -1.1 | Growing | Slower | 16 |
| Arts, entertainment \& recreation | 44.3 | 62.9 | 18.6 | Growing | From Contraction | 1 |
| Construction | 51.3 | 50.0 | -1.3 | No Change | From Expansion | 1 |
| Educational services | 50.0 | 52.4 | 2.4 | Growing | From No Change | 1 |
| Electricity, gas, steam \& air conditioning supply | 62.0 | 60.2 | -1.8 | Growing | Slower | 7 |
| Finance \& insurance | 60.8 | 62.8 | 2.0 | Growing | Faster | 6 |
| Health care \& social assistance | 65.6 | 61.1 | -4.5 | Growing | Slower | 7 |
| Information \& communication | 62.5 | 53.4 | -9.1 | Growing | Slower | 6 |
| Management of companies | 50.0 | 30.0 | -20.0 | Declining | From No Change | 1 |
| Professional, scientific, \& technical services | 46.5 | 50.0 | 3.5 | No Change | From Contraction | 1 |
| Public administration | 59.1 | 44.4 | -14.7 | Declining | From Expansion | 1 |
| Real estate rental \& leasing | 42.1 | 55.5 | 13.4 | Growing | From Contraction | 1 |
| Repair, maintenance/washing of motor vehicles | 53.3 | 58.1 | 4.8 | Growing | Faster | 6 |
| Transportation \& warehousing | 63.8 | 62.2 | -1.6 | Growing | Slower | 6 |
| Utilities | 65.0 | 81.6 | 16.6 | Growing | Faster | 6 |
| Water supply, sewage \& waste management | 50.0 | 60.0 | 10.0 | Growing | From No Change | 1 |
| Wholesale/Retail trade | 56.6 | 55.1 | -1.5 | Growing | Slower | 5 |

Table 9: New Orders at a Glance

| Index | Series <br> Index <br> August | Series <br> Index <br> September |  |  | Rate <br> of | Trend <br> (Months) |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| NEW ORDERS PMI | 53.5 | 55.4 | 1.9 | Growing | Faster | 6 |
| Accommodation \& food services | 54.2 | 50.0 | -4.2 | No Change | From Expansion | 1 |
| Agriculture | 58.1 | 63.1 | 5.0 | Growing | Faster | 3 |
| Arts, entertainment \& recreation | 47.1 | 54.3 | 7.2 | Growing | From Contraction | 1 |
| Construction | 41.3 | 46.9 | 5.6 | Declining | Slower | 28 |
| Educational services | 48.8 | 52.4 | 3.6 | Growing | From Contraction | 1 |
| Electricity, gas, steam \& air conditioning supply | 58.7 | 62.2 | 3.5 | Growing | Faster | 7 |
| Finance \& insurance | 63.7 | 53.2 | -10.5 | Growing | Slower | 7 |
| Health care \& social assistance | 58.8 | 59.7 | 0.9 | Growing | Faster | 4 |
| Information \& communication | 56.7 | 54.3 | -2.4 | Growing | Slower | 6 |
| Management of companies | 45.5 | 50.0 | 4.5 | No Change | From Contraction | 1 |
| Professional, scientific, \& technical services | 50.9 | 50.0 | -0.9 | No Change | From Expansion | 1 |
| Public administration | 54.5 | 61.1 | 6.6 | Growing | Faster | 3 |
| Real estate rental \& leasing | 38.9 | 47.3 | 8.4 | Declining | Slower | 2 |
| Repair, maintenance/washing of motor vehicles | 54.2 | 55.1 | 0.9 | Growing | Faster | 4 |
| Transportation \& warehousing | 54.3 | 60.0 | 5.7 | Growing | Faster | 7 |
| Utilities | 75.0 | 78.9 | 3.9 | Growing | Faster | 6 |
| Water supply, sewage \& waste management | 50.0 | 52.5 | 2.5 | Growing | From No Change | 1 |
| Wholesale/Retail trade | 53.0 | 56.2 | 3.2 | Growing | Faster | 4 |

Table 10: Employment at a Glance

|  | Series <br> Index <br> August | Series <br> Index <br> September |  |  | Rate | Change |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | (irection | of |
| :---: |
| Change |$\quad$| Trend |
| :--- |
| (Months) |

Table 11: Inventory at a Glance

| Index | Series <br> Index <br> August | Series Index September | Change | Direction | Rate of Change | Trend (Months) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| INVENTORY PMI | 52.3 | 52.9 | 0.6 | Growing | Faster | 5 |
| Accommodation \& food services | 56.3 | 51.7 | -4.6 | Growing | Slower | 2 |
| Agriculture | 57.4 | 55.4 | -2.0 | Growing | Slower | 6 |
| Arts, entertainment \& recreation | 55.7 | 44.3 | -11.4 | Declining | From Expansion | 1 |
| Construction | 42.3 | 34.4 | -7.9 | Declining | Faster | 3 |
| Educational services | 48.8 | 57.3 | 8.5 | Growing | From Contraction | 1 |
| Electricity, gas, steam \& air conditioning supply | 52.2 | 50.0 | -2.2 | No Change | From Expansion | 1 |
| Finance \& insurance | 53.1 | 60.0 | 6.9 | Growing | Faster | 4 |
| Health care \& social assistance | 56.3 | 52.8 | -3.5 | Growing | Slower | 5 |
| Information \& communication | 58.8 | 55.2 | -3.6 | Growing | Slower | 3 |
| Management of companies | 50.0 | 70.0 | 20.0 | Growing | From No Change | 1 |
| Professional, scientific, \& technical services | 47.3 | 46.5 | -0.8 | Declining | Faster | 2 |
| Public administration | 59.1 | 72.2 | 13.1 | Growing | Faster | 3 |
| Real estate rental \& leasing | 44.4 | 50.0 | 5.6 | No Change | From Contraction | 1 |
| Repair, maintenance/washing of motor vehicles | 53.4 | 56.6 | 3.2 | Growing | Faster | 3 |
| Transportation \& warehousing | 47.8 | 52.2 | 4.4 | Growing | From Contraction | 1 |
| Utilities | 50.0 | 55.3 | 5.3 | Growing | From No Change | 1 |
| Water supply, sewage \& waste management | 62.5 | 50.0 | -12.5 | No Change | From Expansion | 1 |
| Wholesale/Retail trade | 50.3 | 55.1 | 4.8 | Growing | Faster | 2 |

Table 12: Manufacturing PMI Data Series

|  | $\begin{aligned} & \frac{\mu}{\bar{n}} \\ & 0 \\ & \sum_{0}^{0} \\ & \sum_{0} \\ & \hline \end{aligned}$ |  | $\begin{aligned} & \frac{n}{2} \\ & \frac{0}{0} \\ & 0 \\ & 3 \\ & 2 \\ & 2 \end{aligned}$ |  |  |  |  | $\begin{aligned} & \text { U } \\ & \text { 흔 } \\ & \text { H } \\ & \text { 2 } \\ & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & \text { U } \\ & \text { 늘 } \\ & \text { H } \\ & \text { 을 } \end{aligned}$ |  |  | Stock of Finished Goods |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 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 |

Table 13: Non-Manufacturing PMI Data Series

|  |  |  | $\begin{aligned} & \frac{n}{0} \\ & \stackrel{0}{0} 0 \\ & \frac{0}{0} \\ & \frac{0}{2} \end{aligned}$ |  | $\begin{aligned} & \text { Z } \\ & 0 \\ & \text { H } \\ & \text { D } \\ & \underline{D} \end{aligned}$ |  |  |  | $\begin{aligned} & \stackrel{n}{t} \\ & 0 \\ & \underline{\underline{0}} \\ & \hline \end{aligned}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 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 |

