

Central Bank of Nigeria



**Purchasing Managers'
Index (PMI) Survey
Report**

Statistics Department

December 2018

PURCHASING MANAGERS' INDEX (PMI) DECEMBER 2018 REPORT

1.0 Introduction

The December 2018 PMI survey was conducted by the Statistics Department of the Central Bank of Nigeria during the period December 10-14, 2018. The respondents were purchasing and supply executives of manufacturing and non-manufacturing organizations in all 36 states in Nigeria and the Federal Capital Territory (FCT) (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.

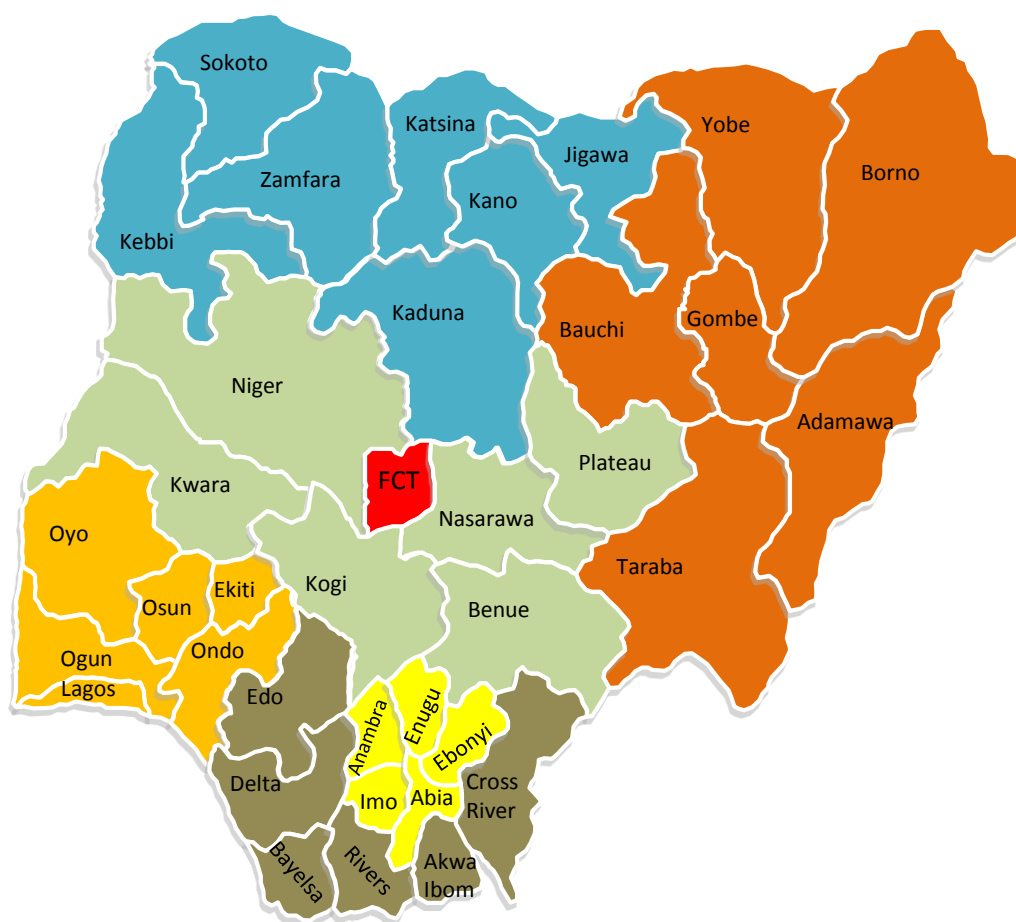


Fig. 1: Map of Nigeria Showing the 36 States and the FCT

1.1 Data and Method of Presentation

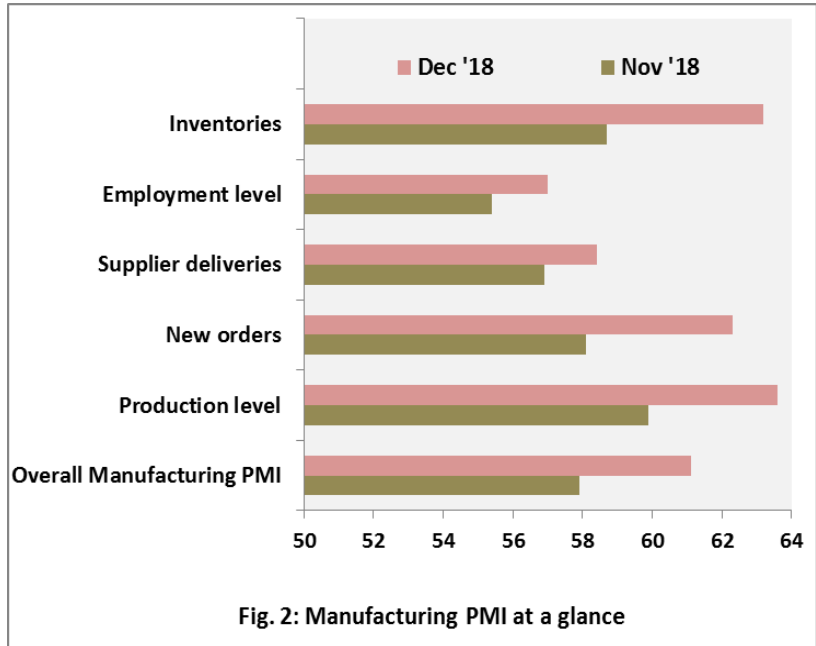
The *Manufacturing and Non-Manufacturing PMI Report* on businesses is based on survey responses, indicating the *changes* in the level of business activities in the *current month* compared with the *preceding month*. For each of the indicators measured, this report shows the diffusion index of the responses. 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.

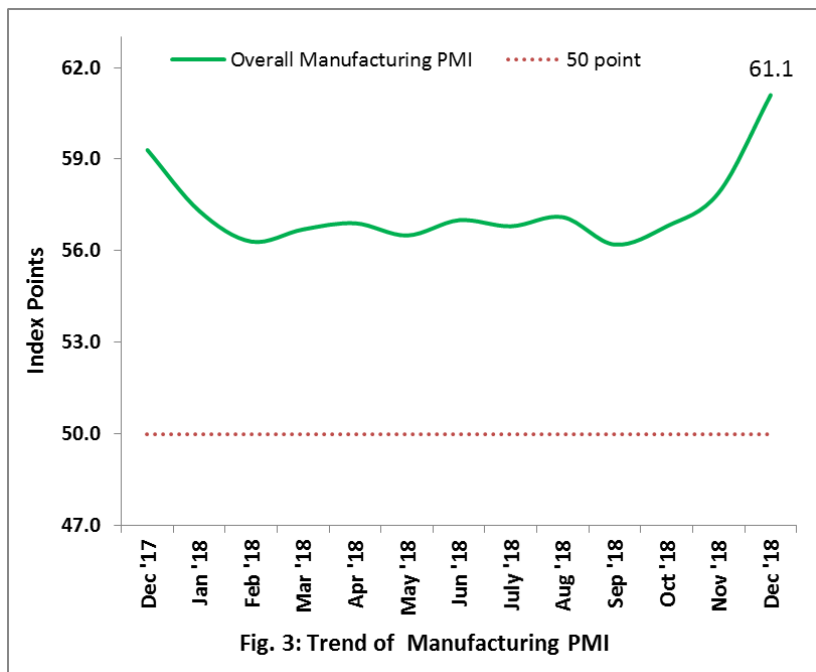
A composite PMI above 50 points indicates that the manufacturing/non-manufacturing economy is generally expanding, 50 points indicates no change and below 50 points indicates that it is generally contracting. The subsectors reporting growth are listed in the order of highest to lowest growth, while those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

2.0 Manufacturing PMI Report

Production level, new orders, supplier delivery time, employment level and inventories grew at a faster rate in December 2018



The *Manufacturing PMI* in the month of December stood at 61.1 index points, indicating expansion in the manufacturing sector for the twenty-first consecutive months (Fig. 3 and Table 1). The index grew at a faster rate when compared to the index in the previous month. Thirteen of the 14 subsectors surveyed reported growth in the review month in the following order: transportation equipment; furniture & related products; printing & related support activities; textile, apparel, leather & footwear; plastics & rubber products; chemical & pharmaceutical products; food, beverage & tobacco products; nonmetallic mineral products; paper products; fabricated metal products; cement; electrical equipment; and petroleum & coal products. The primary metal subsector recorded decline in the review period.



2.1 Production Level

At 63.6 points, the production level index for the manufacturing sector grew for the twenty-second consecutive months in December 2018. The index indicated a faster growth in the current month, when compared to its level in the preceding month. Ten of the 14 manufacturing subsectors recorded increased production level, 3 remained unchanged while 1 recorded decreased production level (Fig. 4 and Table 2).

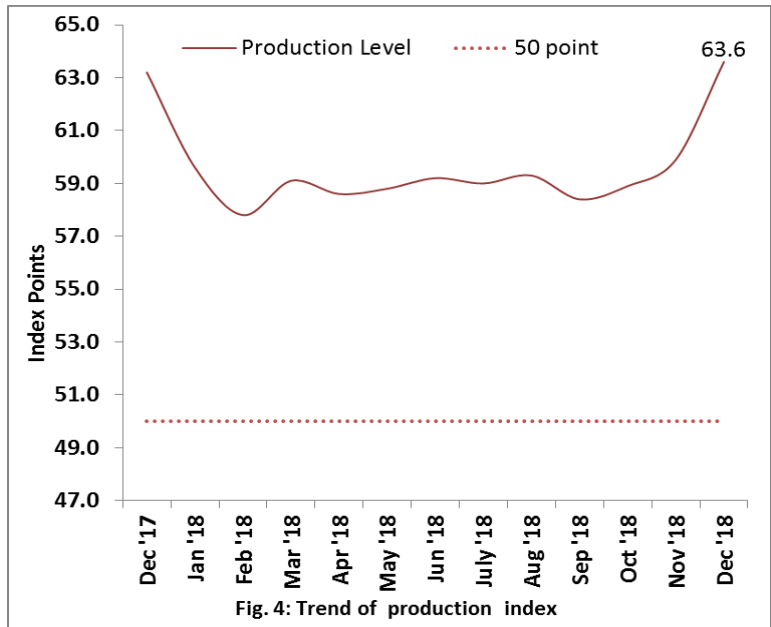


Fig. 4: Trend of production index

2.2 New Orders

At 62.3 points, the new orders index grew for the twenty-first consecutive months, indicating increase in new orders in December 2018. Thirteen subsectors reported growth, while 1 contracted in the review month (Fig. 5 and Table 3).

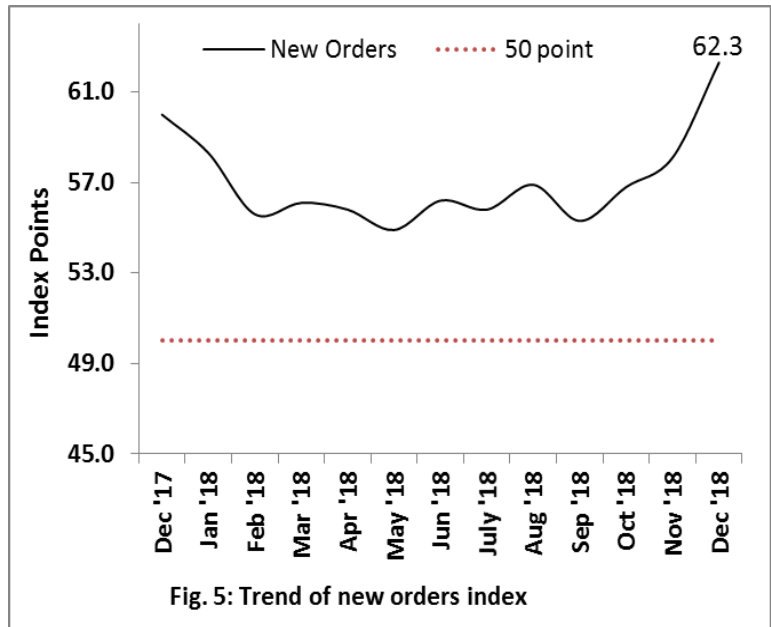


Fig. 5: Trend of new orders index

2.3 Supplier Delivery Time

The manufacturing supplier delivery time index stood at 58.4 points in December 2018, indicating faster supplier delivery time. The index has recorded growth for nineteen consecutive months. Thirteen subsectors recorded improved suppliers' delivery time, while 1 remained unchanged (Fig. 6 and Table 4).

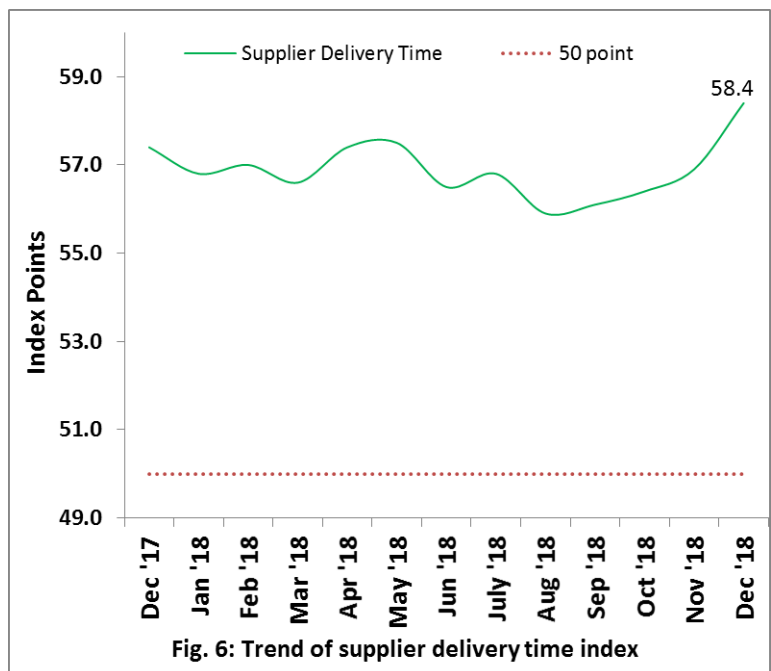
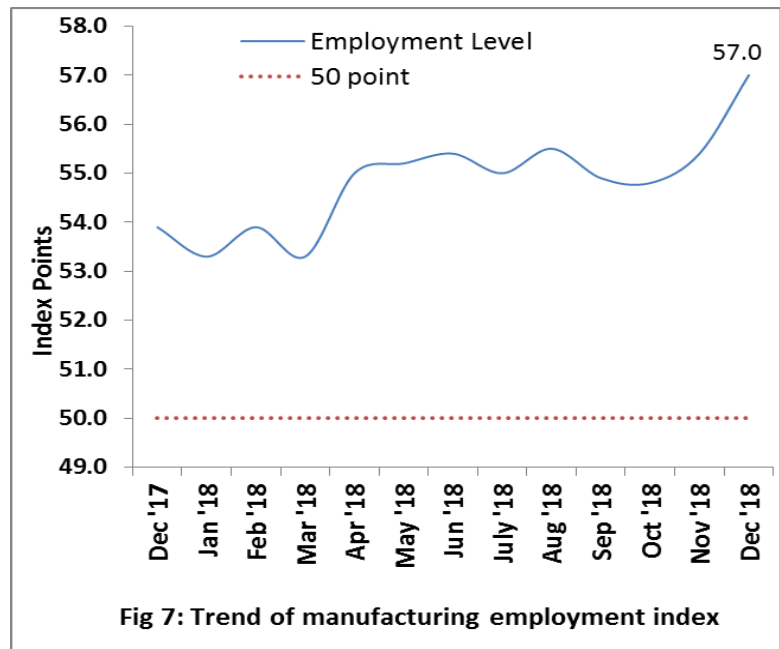


Fig. 6: Trend of supplier delivery time index

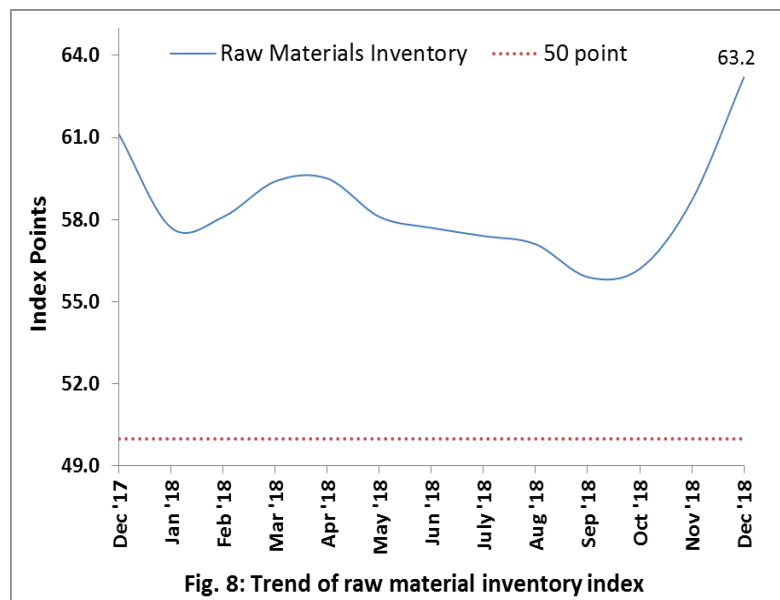
2.4 Employment Level

The employment level index in December 2018 stood at 57.0 points, indicating growth in employment level for the twentieth consecutive months. Of the 14 subsectors, 12 reported increased employment level, while 2 reported unchanged employment level in the review month (Fig. 7 and Table 5).



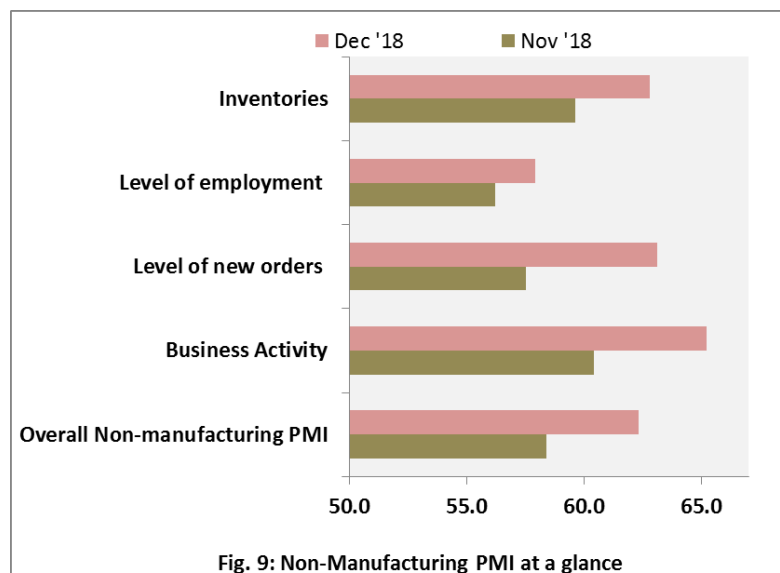
2.5 Raw material Inventories

The Manufacturing sector inventories index grew for the twenty-first consecutive months in December 2018. At 63.2 points, the index grew at a faster rate when compared to its level in the November 2018. Eleven of the 14 subsectors recorded growth, while 3 recorded unchanged raw material inventories in the review month (Fig. 8 and Table 6).



3.0 Non-Manufacturing PMI Report

Business activity, new orders, employment level and inventories grew at a faster rate in December 2018



The *composite PMI* for the *non-manufacturing* sector stood at 62.3 points in December 2018, indicating expansion in the Non-manufacturing PMI for the twentieth consecutive months. The index grew at a faster rate when compared to that in November 2018. All the 17 surveyed subsectors recorded growth in the following order: repair, maintenance/washing

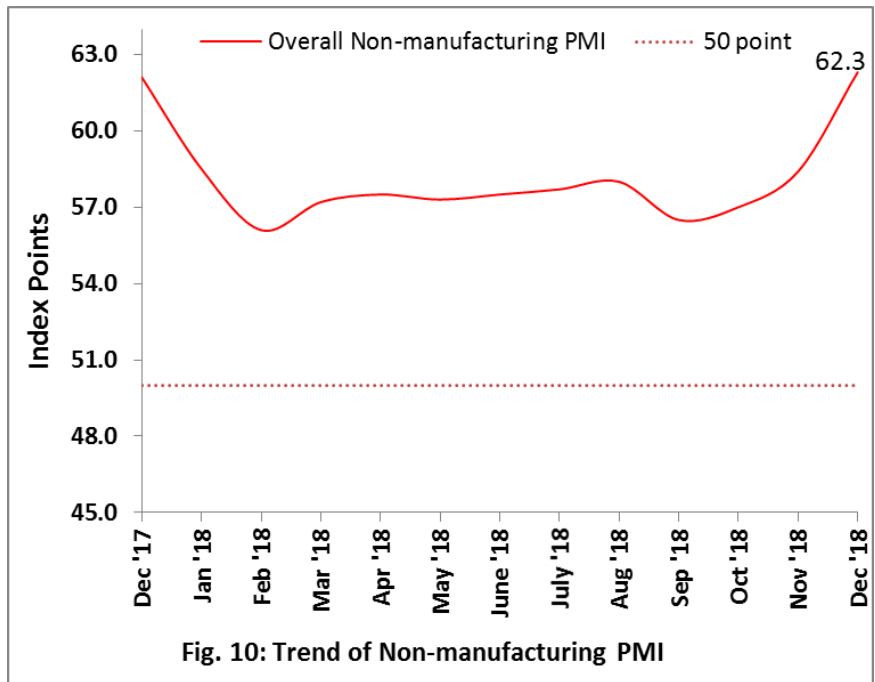


Fig. 10: Trend of Non-manufacturing PMI

of motor vehicles; information & communication; water supply, sewage & waste management; wholesale/retail trade; professional, scientific, & technical services; accommodation & food services; arts, entertainment & recreation; electricity, gas, steam & air conditioning supply; utilities; finance & insurance; agriculture; transportation & warehousing; educational services; construction; real estate rental & leasing; management of companies; health care & social assistance (Fig. 10 and Table 7).

3.1 Business Activity

At 65.2 points, the business activity index grew for the twenty-first consecutive months, indicating expansion in non-manufacturing business activity in December 2018. The index grew at a faster rate when compared to its level in the previous month. All 17 subsectors recorded growth in business activity in the review month (Fig 11 Table 8).

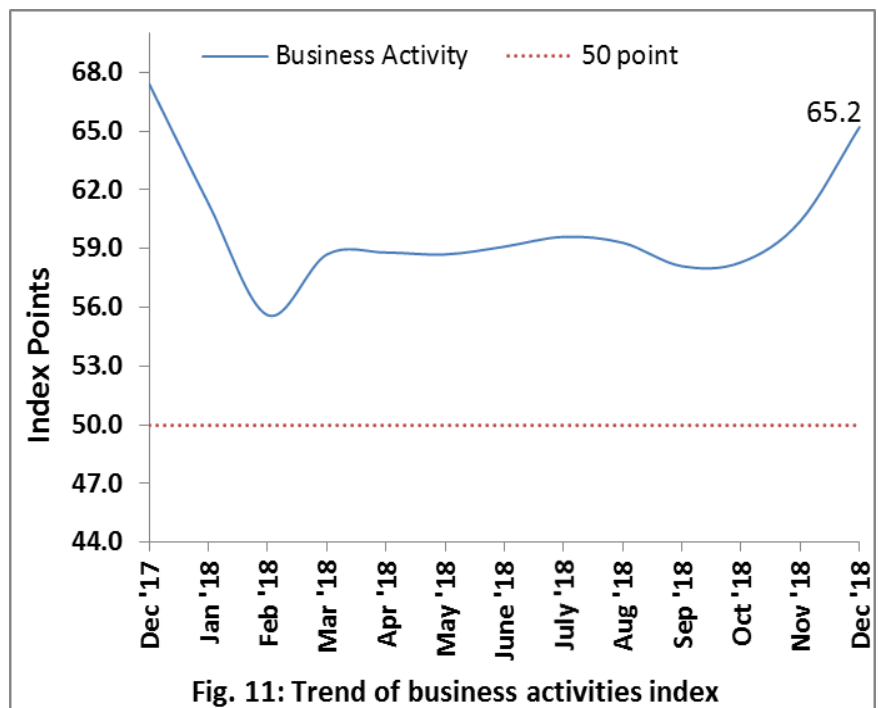
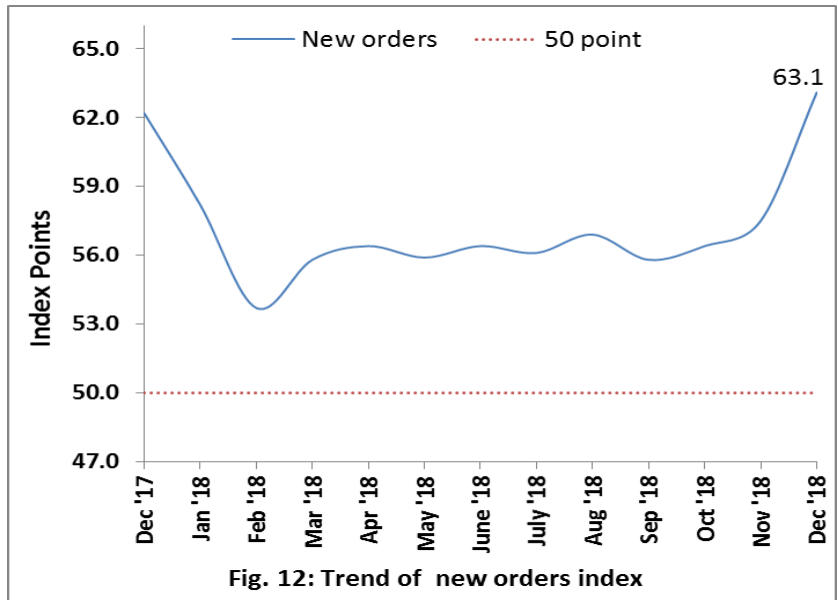


Fig. 11: Trend of business activities index

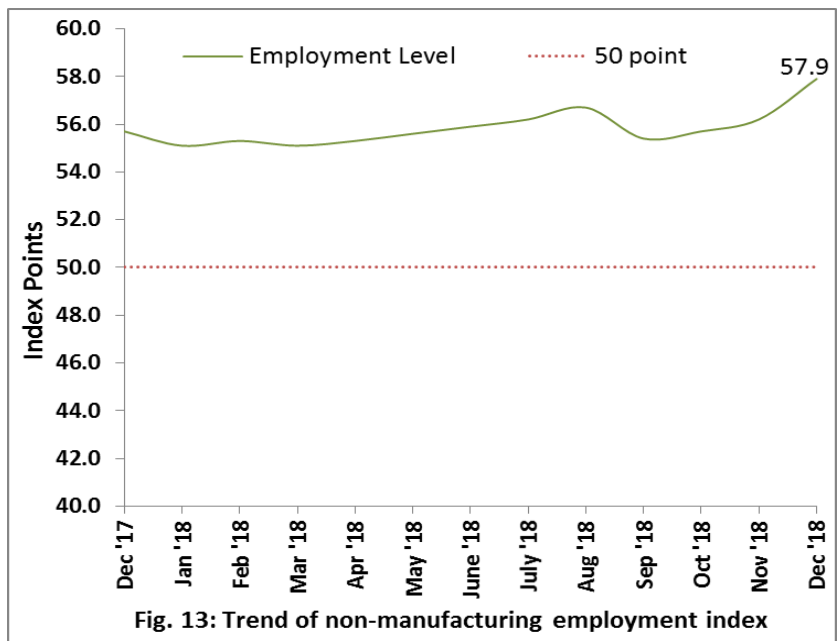
3.2 New Orders

At 63.1 points, new orders index grew for the twenty-first consecutive months in December 2018. All 17 subsectors recorded growth in new orders in the review month (Fig 12 Table 9).



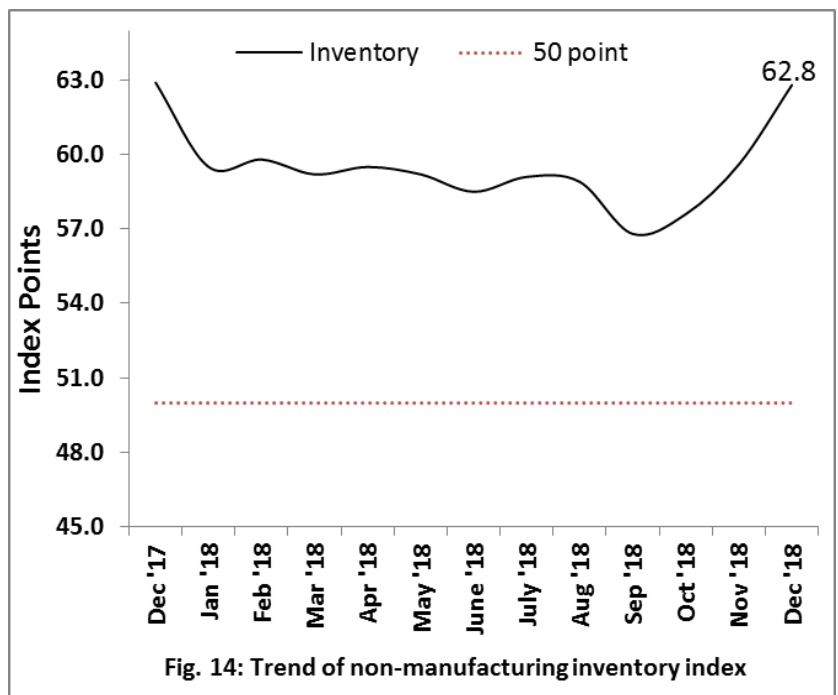
3.3 Employment Level

The employment level Index for the non-manufacturing sector stood at 57.9 points, indicating growth in employment for the twentieth consecutive months. All 17 subsectors recorded growth in employment level in the review month (Fig 13 Table 10).



3.4 Non-manufacturing Inventory

At 62.8 points, non-manufacturing inventory index grew for the twentieth consecutive months, indicating growth in inventories in the review period. Of the seventeen surveyed subsectors, 16 recorded higher inventories, while 1 recorded a decline in December 2018 (Fig 14 Table 11).



APPENDICES

Table 1: Manufacturing at a Glance

Index	Series Index*	Series Index*	Difference	Direction	Rate of Change	Trend** (Months)
	November	December				
Composite PMI \1	57.9	61.1	3.2	Growing	Faster	21
Production level	59.9	63.6	3.7	Growing	Faster	22
New orders	58.1	62.3	4.2	Growing	Faster	21
Supplier delivery time	56.9	58.4	1.5	Growing	Faster	19
Employment level	55.4	57.0	1.6	Growing	Faster	20
Raw materials/WIP Inventory	58.7	63.2	4.5	Growing	Faster	21
New Export Orders	41.2	42.1	0.9	Declining	Slower	46
Output Prices	51.9	51.6	-0.3	Growing	Slower	36
Input Prices	57.8	61.3	3.5	Growing	Faster	54
Quantity of Purchases	52.2	56.1	3.9	Growing	Faster	3
Outstanding Business/Backlog of Work	40.0	41.7	1.7	Declining	Slower	13
Stock of Finished Goods	53.8	50.6	-3.2	Growing	Slower	9
Manufacturing Sub-Sectors						
Cement	60.6	58.0	-2.6	Growing	Slower	3
Chemical & pharmaceutical products	57.1	61.0	3.9	Growing	Faster	11
Electrical equipment	64.6	57.9	-6.7	Growing	Slower	11
Fabricated metal products	55.8	58.3	2.5	Growing	Faster	6
Food, beverage & tobacco products	60.1	60.8	0.7	Growing	Faster	27
Furniture & related products	62.6	66.7	4.1	Growing	Faster	7
Nonmetallic mineral products	55.1	60.3	5.2	Growing	Faster	7
Paper products	59.3	58.9	-0.4	Growing	Slower	3
Petroleum & coal products	56.3	57.5	1.2	Growing	Faster	3
Plastics & rubber products	57.4	61.9	4.5	Growing	Faster	5
Primary metal	50.5	48.1	-2.4	Declining	From Expansion	1
Printing & related support activities	56.9	66.0	9.1	Growing	Faster	9
Textile, apparel, leather & footwear	51.8	65.7	13.9	Growing	Faster	22
Transportation equipment	57.5	70.0	12.5	Growing	Faster	4

\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 Index	Series Index	Difference	Direction	Rate of Change	Trend (Months)
	November	December				
PRODUCTION PMI	59.9	63.6	3.7	Growing	Faster	22
Cement	50.0	60.0	10.0	Growing	From No Change	1
Chemical & pharmaceutical products	64.0	65.2	1.2	Growing	Faster	11
Electrical equipment	64.3	50.0	-14.3	No Change	From Expansion	1
Fabricated metal products	56.3	57.4	1.1	Growing	Faster	6
Food, beverage & tobacco products	61.0	60.6	-0.4	Growing	Slower	27
Furniture & related products	77.6	70.4	-7.2	Growing	Slower	7
Nonmetallic mineral products	57.5	68.2	10.7	Growing	Faster	6
Paper products	54.5	68.2	13.7	Growing	Faster	2
Petroleum & coal products	62.5	50.0	-12.5	No Change	From Expansion	1
Plastics & rubber products	52.0	65.9	13.9	Growing	Faster	5
Primary metal	53.3	41.7	-11.6	Declining	From Expansion	1
Printing & related support activities	54.5	77.8	23.3	Growing	Faster	9
Textile, apparel, leather & footwear	52.3	76.3	24.0	Growing	Faster	9
Transportation equipment	66.7	50.0	-16.7	No Change	From Expansion	1

Table 3: New Orders at a Glance

Index	Series Index November	Series Index December	Difference	Direction	Rate of Change	Trend (Months)
NEW ORDERS PMI	58.1	62.3	4.2	Growing	Faster	21
Cement	75.0	60.0	-15.0	Growing	Slower	3
Chemical & pharmaceutical products	51.2	59.8	8.6	Growing	Faster	10
Electrical equipment	78.6	66.7	-11.9	Growing	Slower	11
Fabricated metal products	53.1	61.8	8.7	Growing	Faster	6
Food, beverage & tobacco products	62.9	64.2	1.3	Growing	Faster	27
Furniture & related products	60.3	74.1	13.8	Growing	Faster	7
Nonmetallic mineral products	55.0	61.4	6.4	Growing	Faster	2
Paper products	72.7	54.5	-18.2	Growing	Slower	3
Petroleum & coal products	37.5	62.5	25.0	Growing	From Contraction	1
Plastics & rubber products	58.0	63.6	5.6	Growing	Faster	2
Primary metal	50.0	41.7	-8.3	Declining	From No Change	1
Printing & related support activities	56.8	58.3	1.5	Growing	Faster	8
Textile, apparel, leather & footwear	54.5	60.5	6.0	Growing	Faster	7
Transportation equipment	33.3	75.0	41.7	Growing	From Contraction	1

Table 4: Supplier Delivery Time at a Glance

Index	Series Index November	Series Index December	Difference	Direction	Rate of Change	Trend (Months)
SUPPLIER DELIVERY TIME PMI	56.9	58.4	1.5	Growing	Faster	19
Cement	62.5	60.0	-2.5	Growing	Slower	5
Chemical & pharmaceutical products	57.0	63.0	6.0	Growing	Faster	6
Electrical equipment	57.1	58.3	1.2	Growing	Faster	2
Fabricated metal products	59.1	55.9	-3.2	Growing	Slower	10
Food, beverage & tobacco products	57.1	56.4	-0.7	Growing	Slower	6
Furniture & related products	43.1	59.3	16.2	Growing	From Contraction	1
Nonmetallic mineral products	60.0	52.3	-7.7	Growing	Slower	8
Paper products	68.2	63.6	-4.6	Growing	Slower	7
Petroleum & coal products	62.5	50.0	-12.5	No Change	From Expansion	1
Plastics & rubber products	58.0	54.5	-3.5	Growing	Slower	7
Primary metal	50.0	62.5	12.5	Growing	From No Change	1
Printing & related support activities	61.4	63.9	2.5	Growing	Faster	3
Textile, apparel, leather & footwear	56.8	60.5	3.7	Growing	Faster	16
Transportation equipment	83.3	100.0	16.7	Growing	Faster	6

Table 5: Employment Level at a Glance

Index	Series Index November	Series Index December	Difference	Direction	Rate of Change	Trend (Months)
EMPLOYMENT LEVEL PMI	55.4	57.0	1.6	Growing	Faster	20
Cement	50.0	50.0	0.0	No Change	Flat	2
Chemical & pharmaceutical products	57.0	56.5	-0.5	Growing	Slower	11
Electrical equipment	50.0	58.3	8.3	Growing	From No Change	1
Fabricated metal products	57.6	51.5	-6.1	Growing	Slower	2
Food, beverage & tobacco products	56.2	57.8	1.6	Growing	Faster	8
Furniture & related products	58.6	53.7	-4.9	Growing	Slower	8
Nonmetallic mineral products	50.0	56.8	6.8	Growing	From No Change	1
Paper products	50.0	54.5	4.5	Growing	From No Change	1
Petroleum & coal products	62.5	62.5	0.0	Growing	Flat	2
Plastics & rubber products	60.0	59.1	-0.9	Growing	Slower	2
Primary metal	50.0	50.0	0.0	No Change	Flat	2
Printing & related support activities	56.8	61.1	4.3	Growing	Faster	3
Textile, apparel, leather & footwear	45.5	63.9	18.4	Growing	From Contraction	1
Transportation equipment	50.0	75.0	25.0	Growing	From No Change	1

Table 6: Raw Materials Inventory at a Glance

Index	Series Index November	Series Index December	Difference	Direction	Rate of Change	Trend (Months)
RAW MATERIALS INVENTORY PMI	58.7	63.2	4.5	Growing	Faster	21
Cement	62.5	60.0	-2.5	Growing	Slower	2
Chemical & pharmaceutical products	58.1	59.8	1.7	Growing	Faster	7
Electrical equipment	64.3	50.0	-14.3	No Change	From Expansion	1
Fabricated metal products	54.5	67.6	13.1	Growing	Faster	3
Food, beverage & tobacco products	62.4	63.3	0.9	Growing	Faster	27
Furniture & related products	69.0	72.2	3.2	Growing	Faster	10
Nonmetallic mineral products	52.5	56.8	4.3	Growing	Faster	3
Paper products	36.4	50.0	13.6	No Change	From Contraction	1
Petroleum & coal products	75.0	62.5	-12.5	Growing	Slower	11
Plastics & rubber products	62.5	63.6	1.1	Growing	Faster	5
Primary metal	46.7	58.3	11.6	Growing	From Contraction	1
Printing & related support activities	56.8	72.2	15.4	Growing	Faster	7
Textile, apparel, leather & footwear	47.7	65.8	18.1	Growing	From Contraction	1
Transportation equipment	83.3	50.0	-33.3	No Change	From Expansion	1

Table 7: Non-Manufacturing at a Glance

Index	Series Index November	Series Index December	Difference	Direction	Rate of Change	Trend (Months)
Composite PMI \1	58.4	62.3	3.9	Growing	Faster	20
Business Activity	60.4	65.2	4.8	Growing	Faster	21
Level of new orders/customers/incoming business	57.5	63.1	5.6	Growing	Faster	21
Employment Level	56.2	57.9	1.7	Growing	Faster	20
Inventory	59.6	62.8	3.2	Growing	Faster	20
Average price of Inputs (volume weighted)	52.6	52.4	-0.2	Growing	Slower	38
Level of outstanding business/ Backlog of work	42.0	42.7	0.7	Declining	Slower	54
New Exports orders	38.7	42.0	3.3	Declining	Slower	54
Imports	39.4	41.3	1.9	Declining	Slower	54
Inventory (sentiments)	45.9	45.8	-0.1	Declining	Faster	54
Non-manufacturing sub-sectors						
Accommodation & food services	55.5	62.5	7.0	Growing	Faster	6
Agriculture	61.5	61.4	-0.1	Growing	Slower	31
Arts, Entertainment & Recreation	62.0	62.5	0.5	Growing	Faster	3
Construction	56.9	59.1	2.2	Growing	Faster	3
Educational services	60.7	59.2	-1.5	Growing	Slower	6
Electricity, gas, steam & air conditioning supply	52.4	62.5	10.1	Growing	Faster	2
Finance & insurance	59.4	62.1	2.7	Growing	Faster	22
Health care & social assistance	56.8	58.1	1.3	Growing	Faster	20
Information & communication	59.7	69.8	10.1	Growing	Faster	21
Management of companies	65.0	58.3	-6.7	Growing	Slower	5
Professional, scientific, & technical services	57.6	63.0	5.4	Growing	Faster	2
Real estate rental & leasing	59.0	58.4	-0.6	Growing	Slower	10
Repair, Maintenance/Washing Of Motor Vehicles...	62.5	75.0	12.5	Growing	Faster	7
Transportation & warehousing	51.2	60.3	9.1	Growing	Faster	2
Utilities	46.3	62.5	16.2	Growing	From Contraction	1
Water supply, sewage & waste management	65.2	69.6	4.4	Growing	Faster	2
Wholesale/Retail trade	60.8	64.4	3.6	Growing	Faster	19

\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 Index November	Series Index December	Difference	Direction	Rate of Change	Trend (Months)
BUSINESS ACTIVITY PMI	60.4	65.2	4.8	Growing	Faster	21
Accommodation & food services	56.5	65.1	8.6	Growing	Faster	6
Agriculture	68.0	54.8	-13.2	Growing	Slower	31
Arts, Entertainment & Recreation	64.6	60.5	-4.1	Growing	Slower	3
Construction	57.5	65.0	7.5	Growing	Faster	2
Educational services	60.6	67.6	7.0	Growing	Faster	16
Electricity, gas, steam & air conditioning supply	45.2	69.2	24.0	Growing	From Contraction	1
Finance & insurance	63.2	67.2	4.0	Growing	Faster	21
Health care & social assistance	56.1	58.8	2.7	Growing	Faster	3
Information & communication	62.2	76.3	14.1	Growing	Faster	21
Management of companies	63.3	54.5	-8.8	Growing	Slower	5
Professional, scientific, & technical services	58.7	63.0	4.3	Growing	Faster	2
Real estate rental & leasing	62.0	51.1	-10.9	Growing	Slower	8
Repair, Maintenance/Washing Of Motor Vehicles.	67.9	83.3	15.4	Growing	Faster	3
Transportation & warehousing	57.1	73.8	16.7	Growing	Faster	2
Utilities	45.0	71.4	26.4	Growing	From Contraction	1
Water supply, sewage & waste management	78.6	85.7	7.1	Growing	Faster	2
Wholesale/Retail trade	61.9	66.8	4.9	Growing	Faster	6

Table 9: New Orders at a Glance

Index	Series Index November	Series Index December	Difference	Direction	Rate of Change	Trend (Months)
NEW ORDERS PMI	57.5	63.1	5.6	Growing	Faster	21
Accommodation & food services	51.9	60.5	8.6	Growing	Faster	6
Agriculture	58.0	71.0	13.0	Growing	Faster	8
Arts, Entertainment & Recreation	66.7	65.8	-0.9	Growing	Slower	3
Construction	52.5	61.3	8.8	Growing	Faster	2
Educational services	60.9	56.9	-4.0	Growing	Slower	6
Electricity, gas, steam & air conditioning supply	50.0	65.4	15.4	Growing	From No Change	1
Finance & insurance	60.0	62.8	2.8	Growing	Faster	22
Health care & social assistance	52.7	59.6	6.9	Growing	Faster	3
Information & communication	60.2	76.3	16.1	Growing	Faster	21
Management of companies	63.3	70.0	6.7	Growing	Faster	4
Professional, scientific, & technical services	56.5	58.7	2.2	Growing	Faster	2
Real estate rental & leasing	59.8	59.8	0.0	Growing	Flat	2
Repair, Maintenance/Washing Of Motor Vehicles..	75.0	87.5	12.5	Growing	Faster	3
Transportation & warehousing	40.5	54.8	14.3	Growing	From Contraction	1
Utilities	45.0	78.6	33.6	Growing	From Contraction	1
Water supply, sewage & waste management	78.6	67.9	-10.7	Growing	Slower	2
Wholesale/Retail trade	60.6	62.5	1.9	Growing	Faster	19

Table 10: Employment at a Glance

Index	Series Index November	Series Index December	Difference	Direction	Rate of Change	Trend (Months)
EMPLOYMENT LEVEL PMI	56.2	57.9	1.7	Growing	Faster	20
Accommodation & food services	57.0	60.9	3.9	Growing	Faster	4
Agriculture	56.0	51.6	-4.4	Growing	Slower	20
Arts, Entertainment & Recreation	56.3	63.2	6.9	Growing	Faster	6
Construction	61.3	51.3	-10.0	Growing	Slower	3
Educational services	63.6	59.5	-4.1	Growing	Slower	6
Electricity, gas, steam & air conditioning supply	59.5	57.7	-1.8	Growing	Slower	8
Finance & insurance	55.9	59.1	3.2	Growing	Faster	19
Health care & social assistance	54.4	53.6	-0.8	Growing	Slower	19
Information & communication	58.2	62.5	4.3	Growing	Faster	3
Management of companies	63.3	63.6	0.3	Growing	Faster	4
Professional, scientific, & technical services	63.0	65.2	2.2	Growing	Faster	2
Real estate rental & leasing	54.3	53.3	-1.0	Growing	Slower	7
Repair, Maintenance/Washing Of Motor Vehicles..	53.6	58.3	4.7	Growing	Faster	14
Transportation & warehousing	54.8	57.5	2.7	Growing	Faster	9
Utilities	40.0	42.9	2.9	Declining	Slower	2
Water supply, sewage & waste management	50.0	64.3	14.3	Growing	From No Change	1
Wholesale/Retail trade	50.6	57.6	7.0	Growing	Faster	7

Table 11: Inventory at a Glance

Index	Series Index November	Series Index December	Difference	Direction	Rate of Change	Trend (Months)
INVENTORY PMI	59.6	62.8	3.2	Growing	Faster	20
Accommodation & food services	56.7	63.4	6.7	Growing	Faster	6
Agriculture	64.0	68.3	4.3	Growing	Faster	3
Arts, Entertainment & Recreation	60.4	60.5	0.1	Growing	Faster	3
Construction	56.3	58.8	2.5	Growing	Faster	6
Educational services	57.6	52.9	-4.7	Growing	Slower	6
Electricity, gas, steam & air conditioning supply	54.8	57.7	2.9	Growing	Faster	3
Finance & insurance	58.6	59.4	0.8	Growing	Faster	11
Health care & social assistance	64.0	60.3	-3.7	Growing	Slower	20
Information & communication	58.2	64.1	5.9	Growing	Faster	8
Management of companies	70.0	45.0	-25.0	Declining	From Expansion	1
Professional, scientific, & technical services	52.2	65.2	13.0	Growing	Faster	2
Real estate rental & leasing	59.8	69.3	9.5	Growing	Faster	10
Repair, Maintenance/Washing Of Motor Vehicles	53.6	70.8	17.2	Growing	Faster	3
Transportation & warehousing	52.4	55.0	2.6	Growing	Faster	2
Utilities	55.0	57.1	2.1	Growing	Faster	5
Water supply, sewage & waste management	53.6	60.7	7.1	Growing	Faster	2
Wholesale/Retail trade	70.0	70.7	0.7	Growing	Faster	17

Table 12: Manufacturing PMI Data Series

Month	COMPOSITE PMI	Production Level	New Orders	Supplier Delivery Time	Employment Level	Raw Materials Inventory	New Export Orders	Output Prices	Input Prices	Quantity of Purchases	Backlog of Work	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
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
May '18	56.5	58.8	54.9	57.5	55.2	58.1	40.1	53.9	61.8	50.8	38.5	55.8
June '18	57.0	59.2	56.2	56.5	55.4	57.7	37.6	53.8	61.9	47.6	38.0	51.1
July '18	56.8	59.0	55.8	56.8	55.0	57.4	39.4	52.3	60.7	51.1	40.7	51.3
Aug '18	57.1	59.3	56.9	55.9	55.5	57.1	39.7	50.1	59.3	50.1	43.1	50.7
Sep '18	56.2	58.4	55.3	56.1	54.9	55.9	37.1	52.4	57.5	49.4	42.2	50.5
Oct '18	56.8	58.9	56.8	56.4	54.8	56.2	39.9	51.2	56.7	50.9	39.6	51.5
Nov '18	57.9	59.9	58.1	56.9	55.4	58.7	41.2	51.9	57.8	52.2	40.0	53.8
Dec '18	61.1	63.6	62.3	58.4	57.0	63.2	42.1	51.6	61.3	56.1	41.7	50.6

Table 13: Non-Manufacturing PMI Data Series

Month	COMPOSITE PMI	Business Activity	New orders	Employment Level	Inventory	Average Input Price	Backlog of Work	New Exports Orders	Imports	Inventories (sentiment)
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
May '18	57.3	58.7	55.9	55.6	59.2	50.8	40.6	36.4	38.4	46.2
June '18	57.5	59.1	56.4	55.9	58.5	52.2	44.0	33.2	40.1	42.4
July '18	57.7	59.6	56.1	56.2	59.1	52.1	43.1	42.1	40.5	45.0
Aug '18	58.0	59.3	56.9	56.7	58.9	50.8	43.3	40.1	40.3	44.8
Sep '18	56.5	58.1	55.8	55.4	56.8	50.2	41.5	40.3	41.3	45.7
Oct '18	57.0	58.3	56.4	55.7	57.6	50.7	42.8	39.7	42.2	45.5
Nov '18	58.4	60.4	57.5	56.2	59.6	52.6	42.0	38.7	39.4	45.9
Dec '18	62.3	65.2	63.1	57.9	62.8	52.4	42.7	42.0	41.3	45.8