

# WAGE RATE INDEX (WRI)

(Base: fourth quarter 2016 = 100)

## 4<sup>th</sup> Quarter and Year 2017

### 1. Introduction

This issue of the Economic and Social Indicators (ESI) on wage rate index presents data for the fourth quarter and year 2017 using as base the fourth quarter of 2016 (Q<sub>4</sub> 2016=100).

The wage rate index measures changes in the price of labour, i.e., changes in the average rates actually paid by employers to their employees for work during normal working hours.

The methodology used for computing the index is given in the technical note at Annex 1.

### 2. Movement of the overall wage rate index

The wage rate index (Base = fourth quarter 2016) increased by 0.4% or 0.4 point to reach 104.7 in the fourth quarter 2017 from 104.3 in the third quarter 2017.

The wage rate indices for the first, second and third quarters 2017 stood at 102.4, 103.2 and 104.3 respectively.

### 3. Movement of the sub-indices, 3<sup>rd</sup> Quarter 2017 to 4<sup>th</sup> quarter 2017

Almost all industry groups registered increases with the exception of 'Agriculture, forestry & fishing', 'Public administration and defence; compulsory social security' and 'Education'.

Main increases were in the following industry groups (Chart 1 & Table 2):

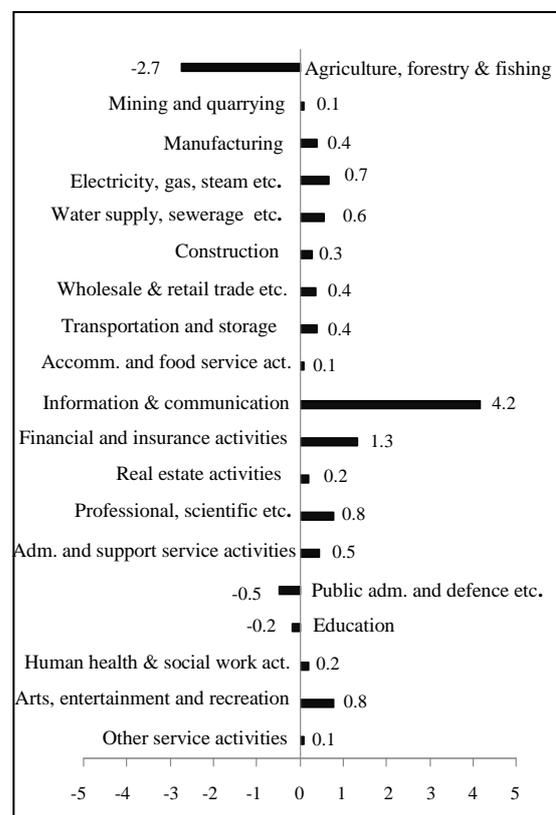
<i>Information and communication</i>	4.2%
<i>Financial and insurance activities</i>	1.3%
<i>Professional, scientific and technical activities</i>	0.8%
<i>Arts, entertainment and recreation</i>	0.8%

Decreases were noted in the following industry groups:

<i>Agriculture, forestry and fishing</i>	-2.7%
<i>Public administration and defence; Compulsory social security</i>	-0.5%
<i>Education</i>	-0.2%

The main decrease in 'Agriculture, forestry and fishing' is due to the off-peak season.

**Chart 1: % Change in Wage Rate Index from 3<sup>rd</sup> Quarter 2017 to 4<sup>th</sup> Quarter 2017**



The wage rate index for the General Government sector which comprises Ministries, Government departments and agencies operating under them, municipalities, district councils and Rodrigues Regional Assembly decreased by 0.1% to reach 102.7 in the fourth quarter 2017, from 102.8 in the third quarter 2017. This decrease is explained by variation in allowances paid to public officers and the recruitment of new employees. This sector

accounts for around 34% of the total weight of the wage rate index.

#### 4. Past trend

Table 3 presents the quarterly indices from first quarter 2007 to fourth quarter 2017 with different base periods. As from 2017, the base period used is fourth quarter 2016.

To enable comparison between the two series, chain link series with fourth quarter 2016 as base has been worked out and is provided in Table 4. The series are not strictly comparable because of weighting patterns.

Chart 2 depicts the trend of the quarterly wage rate indices from 2011 to 2017. It shows a general upward movement in the index throughout the quarters. The increases in the 1<sup>st</sup> quarter 2013 and 1<sup>st</sup> quarter 2016 are mainly explained by salary revision in the Government Sector.

#### 5. Indices for the Private and Public sectors

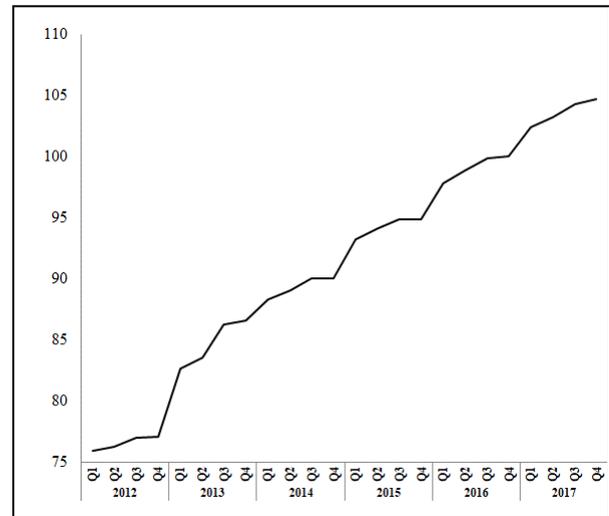
The index for the private sector which accounts for around 54% of the total weight of the wage rate index increased by 0.2% or 0.2 points from 104.9 in the 3<sup>rd</sup> quarter 2017 to 105.1 in the 4<sup>th</sup> quarter 2017. (Tables 6 & 7)

The index for the public sector which comprises General Government and Public enterprises and accounting for around 46% of the wage rate index, increased by 0.4% or 0.4 point from 103.7 in the 3<sup>rd</sup> quarter 2017 to 104.1 in the 4<sup>th</sup> quarter 2017. (Tables 8 & 9)

#### 6. Wage Rate Index, Year 2017

The wage rate index for the year 2017 which is an average of the four quarters, worked out to 103.7 compared to 99.2 in year 2016.

**Chart 2 – Wage rate indices,  
1<sup>st</sup> quarter 2012 – 4<sup>th</sup> quarter 2017**  
(Base: fourth quarter 2016=100)



**Statistics Mauritius**  
**Ministry of Finance and Economic Development**  
**Port Louis**  
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Contact persons:

- (1) Ms. S. Nunhuck (Statistician)**
- (2) Ms. S. D. Venkatasami (Senior Statistical Officer)**

Labour Unit  
Statistics Mauritius  
LIC Centre  
Port-Louis  
Tel: 208 1800 Fax: 213 0234

**Table 1 - Quarterly Wage Rate Indices by industry group, Q1 - Q4 2017 and Year 2017***(Base: fourth quarter 2016=100)*

Industry group	Weight	2017 <sup>1</sup>				
		Q1	Q2	Q3	Q4	Year
Agriculture, forestry and fishing	32	90.5	96.4	109.2	106.2	100.6
Mining and quarrying	3	101.8	103.6	105.6	105.7	104.2
Manufacturing	110	102.0	102.9	103.9	104.3	103.3
<i>Of which Sugar</i>	4	98.9	102.6	115.9	109.2	106.7
<i>Food (excluding sugar)</i>	17	101.8	102.3	104.4	104.4	103.2
<i>Textiles</i>	46	102.3	101.9	102.0	102.9	102.3
Electricity, gas, steam and air conditioning supply	16	102.2	101.9	102.5	103.2	102.5
Water supply; sewerage, waste management and remediation activities	8	103.7	107.3	108.8	109.4	107.3
Construction	38	103.7	106.0	106.1	106.4	105.6
Wholesale and retail trade; repair of motor vehicles and motorcycles	73	102.4	102.9	105.2	105.6	104.0
Transportation and storage	69	102.3	102.9	103.3	103.7	103.1
Accommodation and food service activities	65	101.6	101.7	102.3	102.4	102.0
Information and communication	44	109.0	109.3	110.6	115.2	111.0
Financial and insurance activities	75	101.5	103.2	105.5	106.9	104.3
Real estate activities	4	100.6	103.3	103.8	104.0	102.9
Professional, scientific and technical activities	48	102.7	102.7	102.8	103.6	103.0
Administrative and support service activities	33	104.6	105.9	108.2	108.7	106.9
Public administration and defence; compulsory social security	181	102.7	102.6	102.9	102.4	102.7
Education	120	104.0	104.0	104.3	104.1	104.1
Human health and social work activities	69	101.5	102.4	102.3	102.5	102.2
Arts, entertainment and recreation	10	100.7	101.1	101.7	102.5	101.5
Other service activities	4	101.2	102.4	102.5	102.6	102.2
<b>All sectors</b>	<b>1000</b>	<b>102.4</b>	<b>103.2</b>	<b>104.3</b>	<b>104.7</b>	<b>103.7</b>
<i>of which General Government</i> <sup>2</sup>	335	102.5	102.7	102.8	102.7	102.7

<sup>1</sup> Provisional<sup>2</sup> Ministries, government departments and agencies operating under them; municipalities; district councils and Rodrigues Regional Assembly

**Table 2 - Percentage change from previous quarter by industry group and contribution of industry groups to overall change in index, Q1 - Q4 2017**

(Base: fourth quarter 2016=100)

Industry group	Weight	% change in index				Contribution to change in overall index point			
		2017 <sup>1</sup>							
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Agriculture, forestry and fishing	32	-9.5	6.5	13.3	-2.7	-0.3	0.2	0.4	-0.1
Mining and quarrying	3	1.8	1.8	1.9	0.1	0.0	0.0	0.0	0.0
Manufacturing	110	2.0	0.9	1.0	0.4	0.2	0.1	0.1	0.1
<i>Of which Sugar</i>	4	-1.1	3.7	13.0	-5.8	0.0	0.0	0.1	0.0
<i>Food (excluding sugar)</i>	17	1.8	0.5	2.1	0.0	0.0	0.0	0.0	0.0
<i>Textiles</i>	46	2.3	-0.4	0.1	0.9	0.1	0.0	0.0	0.0
Electricity, gas, steam and air conditioning supply	16	2.2	-0.3	0.6	0.7	0.0	0.0	0.0	0.0
Water supply; sewerage, waste management and remediation activities	8	3.7	3.5	1.4	0.6	0.0	0.0	0.0	0.0
Construction	38	3.7	2.2	0.1	0.3	0.1	0.1	0.0	0.0
Wholesale and retail trade; repair of motor vehicles and motorcycles	73	2.4	0.5	2.2	0.4	0.2	0.1	0.2	0.0
Transportation and storage	69	2.3	0.6	0.4	0.4	0.2	0.0	0.0	0.0
Accommodation and food service activities	65	1.6	0.1	0.6	0.1	0.1	0.0	0.0	0.0
Information and communication	44	9.0	0.3	1.2	4.2	0.4	0.0	0.1	0.2
Financial and insurance activities	75	1.5	1.7	2.2	1.3	0.1	0.1	0.1	0.1
Real estate activities	4	0.6	2.7	0.5	0.2	0.0	0.0	0.0	0.0
Professional, scientific and technical activities	48	2.7	0.0	0.1	0.8	0.1	0.0	0.0	0.0
Administrative and support service activities	33	4.6	1.2	2.2	0.5	0.2	0.0	0.1	0.0
Public administration and defence; compulsory social security	181	2.7	-0.1	0.3	-0.5	0.5	0.0	0.1	-0.1
Education	120	4.0	0.0	0.3	-0.2	0.5	0.0	0.0	0.0
Human health and social work activities	69	1.5	0.9	-0.1	0.2	0.1	0.1	0.0	0.0
Arts, entertainment and recreation	10	0.7	0.4	0.6	0.8	0.0	0.0	0.0	0.0
Other service activities	4	1.2	1.2	0.1	0.1	0.0	0.0	0.0	0.0
<b>All sectors</b>	<b>1000</b>	2.4	0.8	1.1	0.4	2.4	0.8	1.1	0.4
<i>of which General Government</i> <sup>2</sup>	335	2.5	0.2	0.1	-0.1	0.8	0.1	0.0	0.0

<sup>1</sup> Provisional

<sup>2</sup> Ministries, government departments and agencies operating under them; municipalities; district councils and Rodrigues Regional Assembly

**Table 3 - Quarterly Wage Rate Index, Q1 2007 - Q4 2017**

Year	Quarterly index			
	Q1	Q2	Q3	Q4
<i>(Base: third quarter 2006=100)</i>				
2007	101.1	102.2	107.6	108.0
2008	109.2	109.7	128.8	128.1
2009	128.0	128.8	135.0	135.9
2010	137.2	138.6	142.2	142.4
2011	143.3	143.5	145.6	145.6
<i>(Base: fourth quarter 2011=100)</i>				
2012	102.9	103.4	104.4	104.5
2013	112.0	113.2	116.9	117.3
2014	119.7	120.7	122.0	122.0
2015	126.3	127.6	128.5	128.5
2016 <sup>1</sup>	132.5	134.0	135.3	135.5
<i>(Base: fourth quarter 2016=100)</i>				
2017 <sup>2</sup>	102.4	103.2	104.3	104.7

**Table 4 - Quarterly and Yearly Wage Rate Index, 2007 - 2017***(Base: fourth quarter 2016=100)*

Year	Quarterly index				Year
	Q1	Q2	Q3	Q4	
2007	51.2	51.8	54.5	54.8	53.1
2008	55.4	55.6	65.3	64.9	60.3
2009	64.9	65.3	68.4	68.9	66.9
2010	69.5	70.3	72.1	72.2	71.0
2011	72.6	72.8	73.8	73.8	73.3
2012	75.9	76.3	77.0	77.1	76.6
2013	82.7	83.5	86.3	86.6	84.8
2014	88.3	89.1	90.0	90.0	89.4
2015	93.2	94.2	94.8	94.8	94.3
2016 <sup>1</sup>	97.8	98.9	99.9	100.0	99.2
2017 <sup>2</sup>	102.4	103.2	104.3	104.7	103.7

<sup>1</sup> Revised    <sup>2</sup> Provisional

**Table 5 - Quarterly Wage Rate Indices by main industry group for the Private sector, Q1 - Q4 2017 and Year 2017***(Base: fourth quarter 2016=100)*

Industry group	Private Sector					
	Weight	2017 <sup>1</sup>				
		Q1	Q2	Q3	Q4	Year
<b>All sectors</b>	<b>543</b>	<b>102.0</b>	<b>103.0</b>	<b>104.9</b>	<b>105.1</b>	<b>103.8</b>
Of which:						
Agriculture, forestry and fishing	23	85.7	94.0	112.1	107.5	99.8
Manufacturing	110	102.0	102.9	103.9	104.3	103.3
Construction	30	103.4	106.4	106.5	106.8	105.8
Wholesale and retail trade; repair of motor vehicles and motorcycles	69	102.2	102.7	105.2	105.5	103.9
Transportation and storage	20	103.8	105.1	104.9	105.7	104.9
Accommodation and food service activities	65	101.6	101.7	102.3	102.4	102.0
Information and communication	27	102.1	101.9	103.2	103.5	102.7
Financial and insurance activities	50	102.0	103.2	105.8	107.9	104.7
Professional, scientific and technical activities	44	102.7	102.7	102.8	103.6	103.0
Administrative and support service activities	33	104.6	105.9	108.2	108.7	106.9
Education	46	105.4	105.4	106.1	105.5	105.6

<sup>1</sup> Provisional

**Table 6 - Percentage change from previous quarter by main industry group and contribution of industry groups to overall change in index - Private Sector, Q1 - Q4 2017**

(Base: fourth quarter 2016=100)

Industry group	Weight	% change in index				Contribution to change in overall index point			
		2017 <sup>1</sup>							
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
<b>All sectors</b>	<b>543</b>	<b>2.0</b>	<b>1.0</b>	<b>1.8</b>	<b>0.2</b>	<b>2.0</b>	<b>1.0</b>	<b>1.9</b>	<b>0.2</b>
Of which:									
Agriculture, forestry and fishing	23	-14.3	9.7	19.3	-4.1	-0.6	0.4	0.8	-0.2
Manufacturing	110	2.0	0.9	1.0	0.4	0.4	0.2	0.2	0.1
Construction	30	3.4	2.9	0.1	0.3	0.2	0.2	0.0	0.0
Wholesale and retail trade; repair of motor vehicles and motorcycles	69	2.2	0.5	2.4	0.3	0.3	0.1	0.3	0.0
Transportation and storage	20	3.8	1.3	-0.2	0.8	0.1	0.0	0.0	0.0
Accommodation and food service activities	65	1.6	0.1	0.6	0.1	0.2	0.0	0.1	0.0
Information and communication	27	2.1	-0.2	1.3	0.3	0.1	0.0	0.1	0.0
Financial and insurance activities	50	2.0	1.2	2.5	2.0	0.2	0.1	0.2	0.2
Professional, scientific and technical activities	44	2.7	0.0	0.1	0.8	0.2	0.0	0.0	0.1
Administrative and support service activities	33	4.6	1.2	2.2	0.5	0.3	0.1	0.1	0.0
Education	46	5.4	0.0	0.7	-0.6	0.5	0.0	0.1	-0.1

<sup>1</sup> Provisional

**Table 7 - Quarterly Wage Rate Indices by main industry group for the Public Sector, Q1 - Q4 2017 and Year 2017***(Base: fourth quarter 2016=100)*

Industry group	Public Sector <sup>1</sup>					
	Weight	2017 <sup>2</sup>				
		Q1	Q2	Q3	Q4	Year
<b>All sectors</b>	<b>457</b>	<b>103.0</b>	<b>103.4</b>	<b>103.7</b>	<b>104.1</b>	<b>103.6</b>
Of which:						
Electricity, gas, steam and air conditioning supply	15	102.2	101.6	102.2	103.1	102.3
Transportation and storage	49	101.7	102.0	102.6	102.8	102.3
Information and communication	17	120.0	121.1	122.3	133.8	124.3
Financial and insurance activities	25	100.6	103.3	105.0	104.9	103.5
Public administration and defence; compulsory social security	181	102.7	102.6	102.9	102.4	102.7
Education	73	103.1	103.1	103.2	103.2	103.2
Human health and social work activities	60	101.1	102.0	101.9	102.2	101.8

<sup>1</sup> Ministries, government departments and agencies operating under them; municipalities; district councils, Rodrigues Regional Assembly and Public enterprises.

<sup>2</sup> Provisional

**Table 8 - Percentage change from previous quarter by main industry group and contribution of industry groups to overall change in index - Public Sector<sup>1</sup>, Q1 - Q4 2017**

(Base: fourth quarter 2016=100)

Industry group	Weight	% change in index				Contribution to change in overall index point			
		2017 <sup>2</sup>							
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
<b>All sectors</b>	<b>457</b>	<b>3.0</b>	<b>0.4</b>	<b>0.3</b>	<b>0.4</b>	<b>3.0</b>	<b>0.4</b>	<b>0.3</b>	<b>0.4</b>
Of which:									
Electricity, gas, steam and air conditioning supply	15	2.2	-0.6	0.6	0.9	0.1	0.0	0.0	0.0
Transportation and storage	49	1.7	0.3	0.6	0.2	0.2	0.0	0.1	0.0
Information and communication	17	20.0	0.9	1.0	9.4	0.7	0.0	0.0	0.4
Financial and insurance activities	25	0.6	2.7	1.6	-0.1	0.0	0.1	0.1	0.0
Public administration and defence; compulsory social security	181	2.7	-0.1	0.3	-0.5	1.1	0.0	0.1	-0.2
Education	73	3.1	0.0	0.1	0.0	0.5	0.0	0.0	0.0
Human health and social work activities	60	1.1	0.9	-0.1	0.3	0.1	0.1	0.0	0.0

<sup>1</sup> Ministries, government departments and agencies operating under them; municipalities; district councils, Rodrigues Regional Assembly and Public enterprises.

<sup>2</sup> Provisional

## Technical Note

### Methodology used for the compilation of the Wage Rate Index

#### 1. Definition

The Wage Rate Index (WRI) measures changes in the price of labour, i.e., changes in the average rates actually paid by employers to their employees for work during normal working hours.

#### 2. Approach adopted

To show genuine changes in the price of labour, it would have been necessary for wages of specific workers at specific establishments to be measured over time. Since this is not possible, the next best approach has been adopted, that is, to follow changes in the wages of groups of employees performing the same jobs. This gives a measure of changes in wage rates of specific occupations but has the following limitations:

- (i) any changes in the mix of employees within the selected occupations is bound to affect the calculated rates and hence the corresponding sectoral indices. Such changes occur, for example, with a new intake of employees in a specific group - when the wages of the new recruits pull down the average wages for the whole group from one period to the next.
- (ii) wage adjustments resulting from changes in the tasks associated with a particular occupation, which cannot be separated from pure price changes of labour.
- (iii) it is difficult to separate the effects of productivity from the overall change.

#### 3. Coverage

The wage rate index is based on wage rates applicable in 'large' establishments only. Employment in these establishments accounted for around 55% of total employment in year 2017. 'Large' establishments comprise sugar cane plantations of 10 hectares or more; tea plantations of 2 hectares or more; other agricultural and non-agricultural establishments having 10 or more employees as well as General Government Services, i.e. ministries, government departments and agencies operating under them; municipalities; district councils and Rodrigues Regional Assembly.

Time-rated as well as piece-rated wage earners and salaried employees are covered. Apprentices, workers on probation, part-time workers and employees working on a temporary basis are excluded.

#### 4. Sectors covered

Indices are henceforth disseminated by the Public and Private sectors.

The **Public sector** comprises Ministries, Government departments and agencies operating under them; municipalities; district councils, the Rodrigues Regional Assembly and Public enterprises.

## 5. Calculating the Wage Rate Index

A Laspeyres formula is used. The occupational structure is held constant with reference to the base period of the index, i.e. December 2016. The relative changes in average wage rates are measured at the occupational level and these changes are then weighted to give a combined measure of the change. The following formula is used

$$I_t = \frac{\sum w_i (R_i^t / R_i^o)}{\sum w_i} \times 100$$

where  $I_t$  = index for quarter t compared to base period o  
 $w_i$  =  $N_i^o R_i^o$  which represents the total wages paid to all employees in the  $i^{\text{th}}$  occupation base period, December 2016  
 $R_i^o$  = wage rate of occupation i in base period, December 2016  
 $R_i^t$  = wage rate of occupation i in quarter t

The index is first calculated for each industry group and the overall index (covering all industry groups) is computed as a weighted average of the individual industry group indices.

## 6. Reference period

The base period for the index is quarter 4 2016=100 as from the first quarter of 2017. The wage rate indices for the first, second, third and fourth quarters of 2007 and 2008 are based on wage rates applicable during the months of February, May, August and November respectively. As from 2009, the wage rate indices for the first to fourth quarter are based on wage rates applicable during the months of March, June, September and December respectively.

## 7. Weights

Two sets of weights are used:

- (i) **Weight for the industry groups** derived from the 'Survey of Employment & Earnings, March 2015' and
- (ii) **Weight for occupations** within each activity (NSIC) sectorwise. Questionnaires were sent to around 1,200 large establishments at the end of March 2016 to cater for number employed in each category of occupation.

## 8. Wage rates used

The wage/salary rates of specific occupations, used in the calculation of the index, are the rates paid for normal time work, comprising basic wages and salaries, cost of living allowances and other guaranteed and regular allowances paid at the end of each pay period. Overtime payments are therefore excluded.