

# WAGE RATE INDEX (WRI) - Quarter 4 and Year 2013

(Base: fourth quarter 2011=100)

## 1. Introduction

This issue of the Economic and Social Indicators (ESI) on wage rate index presents data for the fourth quarter 2013 together with a backward series of quarterly indices. Henceforth, data for the year are also presented in this publication.

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 increased by 0.4% or 0.4 point to reach 112.2 in the fourth quarter 2013 from 111.8 in the third quarter (Table 1).

## 3. (a) Movement of the sub indices, 3<sup>rd</sup> Quarter 2013 to 4<sup>th</sup> quarter 2013

Some industry groups registered increases in their wage rates whilst others registered decreases resulting in a net increase of 0.4% in the overall index.

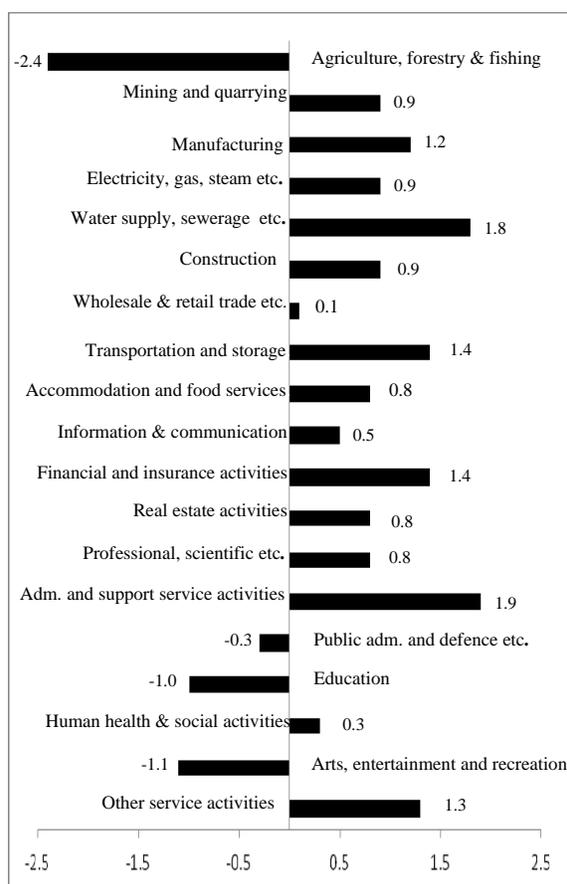
Main increases were registered in the following industry groups (Chart 1 & Table 2):

<i>Administrative and support service activities</i>	1.9%
<i>Water supply, sewerage, waste management and remediation activities</i>	1.8%
<i>Transportation and storage</i>	1.4%
<i>Financial and insurance activities</i>	1.4%
<i>Other service activities</i>	1.3%
<i>Manufacturing</i>	1.2%

Main decreases were registered in the following industry groups:

<i>Agriculture, forestry and fishing</i>	-2.4%
<i>Arts, entertainment and recreation</i>	-1.1%
<i>Education</i>	-1.0%

Chart 1: % Change in Wage Rate Index from Q<sub>3</sub> to Q<sub>4</sub> 2013



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 0.3% or 0.3 point to reach 118.6 in the fourth quarter 2013 from 118.9 in the third quarter 2013. This sector accounts for around 32% of the total weight of the wage rate index.

### 3. (b) Movement of sub indices, 4<sup>th</sup> quarter 2012 to 4<sup>th</sup> quarter 2013

Table 3 compares the indices for the four quarters 2013 with their corresponding quarters of 2012. The wage rate index increased continuously from the fourth quarter 2012 to the fourth quarter 2013.

Main increases were registered in the following industry groups:

<i>Electricity, gas, steam and air conditioning supply</i>	20.1%
<i>Education</i>	16.4%
<i>Water supply, sewerage, waste management and remediation activities</i>	13.6%
<i>Transportation and storage</i>	12.2%
<i>Human health and social work activities</i>	9.7%
<i>Public administration and defence; compulsory social security</i>	8.4%

Main decreases were registered in the following industry groups:

<i>Arts ,entertainment and recreation</i>	-0.7%
<i>Construction</i>	-0.5%

### 4. (a) Wage Rate Index, Year 2013

The wage rate index for the year 2013, worked out as the average of the quarterly indices, reached 109.9 compared to 103.9 for the year 2012. An increase of 5.8 % or 6.0 points was noted (Table 4). The wage rate index for the General Government sector, accounting for 32% of total weight, increased by 9.9% to reach 116.6 in 2013. This sector contributed 3.3 index points to the increase of 6.0 index points to the overall index for 2013.

### 4. (b) Changes by industry

Main increases were registered in the following industry groups:

<i>Education</i>	14.3%
<i>Water supply, sewerage, waste management and remediation activities</i>	12.0%
<i>Electricity, gas, steam and air conditioning supply</i>	9.9%
<i>Human health and social work activities</i>	8.6%
<i>Transportation and storage</i>	8.4%
<i>Public administration and defence; compulsory social security</i>	7.7%

Main decreases were registered in the following industry groups:

<i>Construction</i>	-0.8%
<i>Agriculture, forestry and fishing</i>	-0.2%
<i>Accommodation and food service activities</i>	-0.2%
<i>Arts, entertainment and recreation</i>	-0.2%

### 5. Past trend

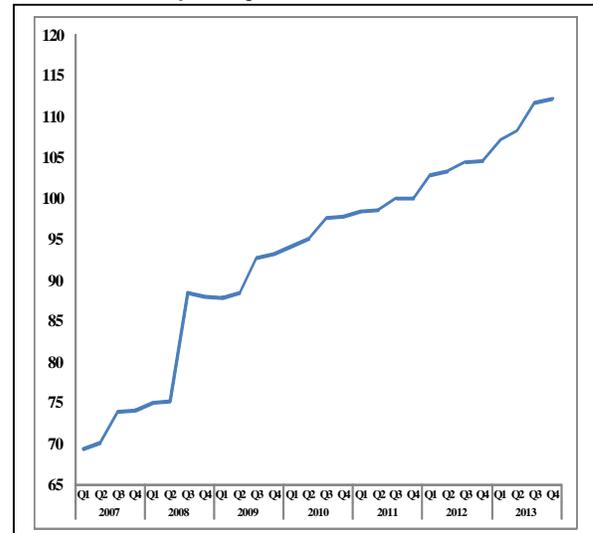
Table 5 presents the quarterly indices from first quarter 2007 to fourth quarter 2013. Indices for 2007 to 2011 have been worked out using third quarter 2006 as base. As from 2012 the base period used is fourth quarter 2011.

To enable comparison between the two series, chain link series with fourth quarter 2011 as base has been worked out and is given in Table 6. The series are not strictly comparable because of different base periods and weighting patterns.

The trend of the quarterly wage rate indices is depicted in Chart 2. It indicates a general upward movement in the index throughout the quarters. The increases in the 3<sup>rd</sup> quarter 2008 and 1<sup>st</sup> quarter 2013 are primarily explained by salary revision in the Government Sector.

**Chart 2 – Wage rate indices, quarters 2007 – 2013**

*Base: fourth quarter 2011 = 100*



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**Table 1: Wage Rate Index, 2013<sup>1</sup>***(Base: fourth quarter 2011=100)*

Industrial group	Weight	2013 <sup>1</sup>				
		Q1	Q2	Q3	Q4	Year
Agriculture, forestry and fishing	32	86.2	85.9	109.7	107.1	97.2
Mining and quarrying	3	103.1	103.6	104.9	105.8	104.4
Manufacturing	121	102.6	104.4	106.1	107.4	105.1
<i>Of which Sugar</i>	4	101.9	100.8	105.2	102.5	102.6
<i>Food (excluding sugar)</i>	19	101.0	102.7	103.3	104.6	102.9
<i>Textiles</i>	48	103.2	106.3	108.4	109.6	106.9
Electricity, gas, steam and air conditioning supply	15	101.8	101.9	120.2	121.3	111.3
Water supply, sewerage, waste management and remediation activities	7	112.3	113.8	116.7	118.8	115.4
Construction	50	102.3	102.6	102.9	103.8	102.9
Wholesale and retail trade; repair of motor vehicles and motorcycles	74	107.3	108.4	110.4	110.5	109.2
Transportation and storage	67	106.2	110.2	117.1	118.7	113.1
Accommodation and food service activities	70	101.3	102.6	103.4	104.2	102.9
Information and communication	39	106.0	106.8	108.0	108.5	107.3
Financial and insurance activities	77	105.6	106.3	106.5	108.0	106.6
Real estate activities	3	106.3	106.6	107.0	107.9	107.0
Professional, scientific and technical activities	33	101.4	101.6	104.1	104.8	103.0
Administrative and support service activities	38	101.6	104.3	104.8	106.8	104.4
Public administration and defence; compulsory social security	190	112.5	113.3	116.8	116.5	114.8
Education	107	118.8	119.6	124.0	122.8	121.3
Human health and social work activities	62	112.7	113.4	117.1	117.4	115.2
Arts, entertainment and recreation	9	100.8	101.4	102.2	101.1	101.4
Other service activities	3	106.4	105.4	107.2	108.6	106.9
<b>All sectors</b>	<b>1000</b>	<b>107.2</b>	<b>108.3</b>	<b>111.8</b>	<b>112.2</b>	<b>109.9</b>
<i>of which General Government</i> <sup>2</sup>	319	114.0	114.9	118.9	118.6	116.6

<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 to Q4 2013**

(Base: fourth quarter 2011=100)

Industrial group	Weight	2013 <sup>1</sup>							
		% change in index				Contribution to change in overall index point			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Agriculture, forestry and fishing	32	-18.2	-0.3	27.7	-2.4	-0.6	-0.1	0.8	-0.1
Mining and quarrying	3	0.7	0.5	1.3	0.9	0.0	0.0	0.0	0.0
Manufacturing	121	-1.3	1.8	1.6	1.2	-0.2	0.2	0.2	0.2
<i>Of which Sugar</i>	4	-4.9	-1.1	4.4	-2.6	0.0	0.0	0.0	0.0
<i>Food (excluding sugar)</i>	19	-3.6	1.7	0.6	1.3	-0.1	0.0	0.0	0.0
<i>Textiles</i>	48	-1.2	3.0	2.0	1.1	-0.1	0.1	0.1	0.1
Electricity, gas, steam and air conditioning supply	15	0.8	0.1	18.0	0.9	0.0	0.0	0.3	0.0
Water supply, sewerage, waste management and remediation activities	7	7.4	1.3	2.5	1.8	0.1	0.0	0.0	0.0
Construction	50	-1.9	0.3	0.3	0.9	-0.1	0.0	0.0	0.1
Wholesale and retail trade; repair of motor vehicles and motorcycles	74	4.8	1.0	1.8	0.1	0.4	0.1	0.1	0.0
Transportation and storage	67	0.4	3.8	6.3	1.4	0.0	0.3	0.5	0.1
Accommodation and food service activities	70	-2.3	1.3	0.8	0.8	-0.2	0.1	0.1	0.1
Information and communication	39	3.2	0.8	1.1	0.5	0.1	0.0	0.0	0.0
Financial and insurance activities	77	3.7	0.7	0.2	1.4	0.3	0.1	0.0	0.1
Real estate activities	3	4.1	0.3	0.4	0.8	0.0	0.0	0.0	0.0
Professional, scientific and technical activities	33	-0.3	0.2	2.5	0.7	0.0	0.0	0.1	0.0
Administrative and support service activities	38	0.5	2.7	0.5	1.9	0.0	0.1	0.0	0.1
Public administration and defence; compulsory social security	190	4.7	0.7	3.1	-0.3	1.0	0.2	0.7	-0.1
Education	107	12.6	0.7	3.7	-1.0	1.4	0.1	0.5	-0.1
Human health and social work activities	62	5.3	0.6	3.3	0.3	0.4	0.0	0.2	0.0
Arts, entertainment and recreation	9	-1.0	0.6	0.8	-1.1	0.0	0.0	0.0	0.0
Other service activities	3	3.3	-0.9	1.7	1.3	0.0	0.0	0.0	0.0
<b>All sectors</b>	<b>1000</b>	<b>2.5</b>	<b>1.0</b>	<b>3.2</b>	<b>0.4</b>	<b>2.6</b>	<b>1.1</b>	<b>3.5</b>	<b>0.4</b>
<i>of which General Government</i> <sup>2</sup>	319	6.7	0.8	3.5	-0.3	2.3	0.3	1.3	-0.1

<sup>1</sup> Provisional

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

**Table 3 - Percentage change from corresponding quarter of the previous year by industry group and contribution of industry groups to overall change in index, Q1 to Q4 2012 & 2013**

(Base: fourth quarter 2011=100)

Industrial group	Weight	2013 <sup>1</sup>							
		% change in index - 2013/2012				Contribution to change in overall index point - 2013/2012			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Agriculture, forestry and fishing	32	-2.6	-1.9	1.6	1.6	-0.1	-0.1	0.1	0.1
Mining and quarrying	3	0.5	0.3	2.3	3.3	0.0	0.0	0.0	0.0
Manufacturing	121	0.4	0.9	2.3	3.3	0.1	0.1	0.3	0.4
<i>Of which Sugar</i>	4	0.0	-2.4	-4.7	-4.4	0.0	0.0	0.0	0.0
<i>Food (excluding sugar)</i>	19	-1.3	-2.5	-2.7	-0.2	0.0	0.0	-0.1	0.0
<i>Textiles</i>	48	2.0	3.9	6.0	4.9	0.1	0.2	0.3	0.2
Electricity, gas, steam and air conditioning supply	15	0.2	0.4	19.1	20.1	0.0	0.0	0.3	0.3
Water supply, sewerage, waste management and remediation activities	7	9.0	11.2	14.2	13.6	0.1	0.1	0.1	0.1
Construction	50	-0.5	-1.2	-0.9	-0.5	0.0	-0.1	0.0	0.0
Wholesale and retail trade; repair of motor vehicles and motorcycles	74	4.9	5.9	7.0	7.9	0.4	0.4	0.5	0.6
Transportation and storage	67	2.3	7.0	11.8	12.2	0.2	0.5	0.8	0.9
Accommodation and food service activities	70	-1.1	-0.7	0.3	0.5	-0.1	0.0	0.0	0.0
Information and communication	39	3.5	4.9	5.1	5.6	0.1	0.2	0.2	0.2
Financial and insurance activities	77	5.1	5.8	6.0	6.1	0.4	0.5	0.5	0.5
Real estate activities	3	4.4	4.7	4.9	5.7	0.0	0.0	0.0	0.0
Professional, scientific & technical activities	33	0.6	0.3	2.8	3.0	0.0	0.0	0.1	0.1
Administrative and support service activities	38	0.7	2.9	3.9	5.6	0.0	0.1	0.1	0.2
Public administration and defence; compulsory social security	190	6.7	6.7	9.0	8.4	1.3	1.3	1.8	1.7
Education	107	12.3	12.1	16.4	16.4	1.4	1.4	1.9	1.9
Human health and social work activities	62	7.1	7.6	9.5	9.7	0.5	0.5	0.6	0.6
Arts, entertainment and recreation	9	-0.2	0.2	-0.2	-0.7	0.0	0.0	0.0	0.0
Other service activities	3	4.8	3.5	4.5	5.4	0.0	0.0	0.0	0.0
<b>All sectors</b>	<b>1000</b>	<b>4.2</b>	<b>4.7</b>	<b>7.0</b>	<b>7.3</b>	<b>4.3</b>	<b>4.9</b>	<b>7.3</b>	<b>7.6</b>
<i>of which General Government</i> <sup>2</sup>	319	8.7	8.6	11.4	11.0	2.9	2.9	3.9	3.8

<sup>1</sup> Provisional

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

**Table 4 - Wage rate index, percentage change and contribution of industry group, years 2012 & 2013**  
(Base: fourth quarter 2011=100)

Industrial group	Weight	Year 2012	Year 2013 <sup>1</sup>	% change	Change in overall index point
Agriculture, forestry and fishing	32	97.4	97.2	-0.2	0.0
Mining and quarrying	3	102.7	104.4	1.7	0.0
Manufacturing	121	103.4	105.1	1.6	0.2
<i>Of which Sugar</i>	4	105.7	102.6	-2.9	0.0
<i>Food (excluding sugar)</i>	19	104.7	102.9	-1.7	0.0
<i>Textiles</i>	48	102.6	106.9	4.2	0.2
Electricity, gas, steam and air conditioning supply	15	101.3	111.3	9.9	0.2
Water supply, sewerage, waste management and remediation activities	7	103.0	115.4	12.0	0.1
Construction	50	103.7	102.9	-0.8	0.0
Wholesale and retail trade; repair of motor vehicles and motorcycles	74	102.6	109.2	6.4	0.5
Transportation and storage	67	104.3	113.1	8.4	0.6
Accommodation and food service activities	70	103.1	102.9	-0.2	0.0
Information and communication	39	102.4	107.3	4.8	0.2
Financial and insurance activities	77	100.8	106.6	5.8	0.4
Real estate activities	3	101.9	107.0	5.0	0.0
Professional, scientific and technical activities	33	101.3	103.0	1.7	0.1
Administrative and support service activities	38	101.1	104.4	3.3	0.1
Public administration and defence; compulsory social security	190	106.6	114.8	7.7	1.5
Education	107	106.1	121.3	14.3	1.6
Human health and social work activities	62	106.1	115.2	8.6	0.5
Arts, entertainment and recreation	9	101.6	101.4	-0.2	0.0
Other service activities	3	102.2	106.9	4.6	0.0
<b>All sectors</b>	<b>1000</b>	<b>103.9</b>	<b>109.9</b>	<b>5.8</b>	<b>6.0</b>
<i>of which General Government</i> <sup>2</sup>	319	106.1	116.6	9.9	3.3

<sup>1</sup> Provisional

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

**Table 5: Quarterly and Yearly Wage Rate Index, 2007-2013<sup>1</sup>**

Year	Quarterly index				Yearly index
	Q1	Q2	Q3	Q4	
<i>(Base: third quarter 2006=100)</i>					
2007	101.1	102.2	107.6	108.0	104.7
2008	109.2	109.7	128.8	128.1	119.0
2009	128.0	128.8	135.0	135.9	131.9
2010	137.2	138.6	142.2	142.4	140.1
2011	143.3	143.5	145.6	145.6	144.5
<i>(Base: fourth quarter 2011=100)</i>					
2012	103.0	103.5	104.5	104.7	103.9
2013 <sup>1</sup>	107.2	108.3	111.8	112.2	109.9

**Table 6: Quarterly and Yearly Wage Rate Index, 2007 - 2013<sup>1</sup>***(Base: fourth quarter 2011=100)*

Year	Quarterly index				Yearly index	% change in yearly index
	Q1	Q2	Q3	Q4		
2007	69.4	70.2	73.9	74.2	71.9	-
2008	75.0	75.3	88.5	88.0	81.7	13.6
2009	87.9	88.5	92.7	93.3	90.6	10.9
2010	94.2	95.2	97.7	97.8	96.2	6.2
2011	98.4	98.6	100.0	100.0	99.2	3.1
2012	103.0	103.5	104.5	104.7	103.9	4.7
2013 <sup>1</sup>	107.2	108.3	111.8	112.2	109.9	5.8

<sup>1</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 occurs, 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 53% of total employment in year 2013. '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. 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 2011. 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 th occupation in base period, December 2011

$R_i^o$  = wage rate of occupation i in base period, December 2011

$R_i^t$  = 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.

#### 5. Reference period

The base period for the index is 2011 as from the first quarter of 2012. 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.

#### 6. Weights

Two sets of weights are used:

- (i) The weights used for each occupation within a given industry group are based on the distribution of wages by occupation as obtained from the Population Census 2011.
- (ii) The weights for each industry group are based on the distribution of earnings by industry group as obtained from the Survey of Employment and Earnings carried out in around 2,700 'large' establishments in March 2011.

#### 7. 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.