

WAGE RATE INDEX (WRI) - Quarter 4 and Year 2016

(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 2016 together with a backward series of quarterly indices. 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 for the fourth quarter 2016 increased by 0.1% or 0.2 point to reach 135.5 from 135.3 in the third quarter 2016.

3. (a) Movement of the sub indices, 3rd Quarter 2016 to 4th quarter 2016

Some industry groups registered increases in their wage rates whilst others registered decreases.

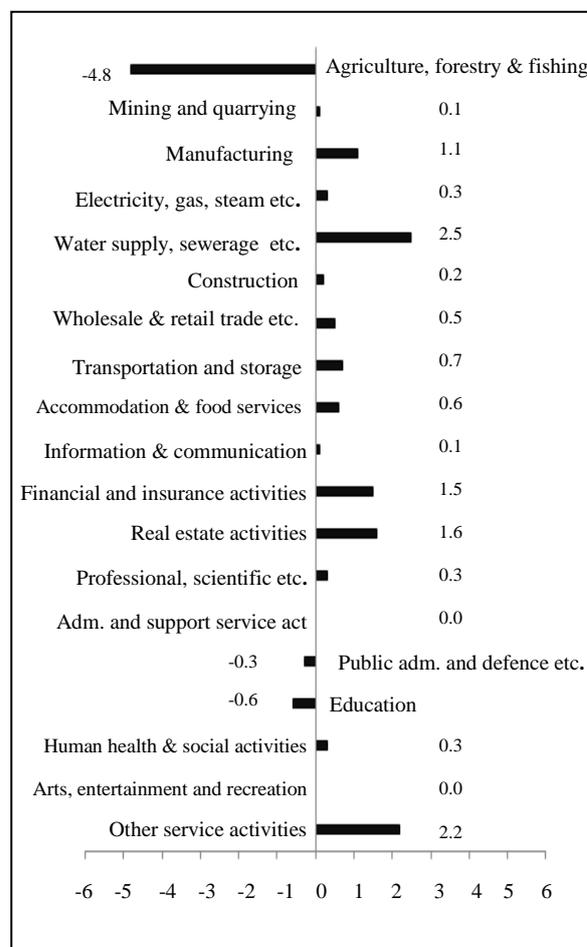
Main increases were registered in the following industry groups (Chart 1 & Table 2):

<i>Water supply; sewerage, waste management and remediation activities</i>	2.5%
<i>Other service activities</i>	2.2%
<i>Real estate activities</i>	1.6%
<i>Financial & insurance activities</i>	1.5%
<i>Manufacturing</i>	1.1%

Main decreases were registered in the following industry groups:

<i>Agriculture, forestry and fishing</i>	-4.8%
<i>Education</i>	-0.6%
<i>Public administration and defence; compulsory social security</i>	-0.3%

Chart 1: % Change in Wage Rate Index from Q₃ to Q₄ 2016



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 0.2% or 0.1 point to reach 145.4 in the fourth quarter 2016 from 145.7 in the third quarter 2016. This decrease is explained by variation in allowances paid to public officers. This sector accounts for around 32% of the total weight of the wage rate index.

3. (b) Movement of sub-indices, 4th quarter 2015 to 4th quarter 2016

Table 3 compares the indices for the four quarters 2016 with their corresponding quarters of 2015. Comparing the fourth quarter 2016 to fourth quarter 2015, a general increase was registered in all industry groups with the exception of 'Arts, entertainment and recreation' sector which decreased by 5.0%.

Main increases were registered in the following industry groups:

<i>Water supply; sewerage, waste management & remediation activities</i>	12.7%
<i>Other service activities</i>	9.3%
<i>Education</i>	9.1%
<i>Financial & insurance activities</i>	8.7%
<i>Real estate activities</i>	7.5%
<i>Construction</i>	7.4%

The wage rate index for the general government sector increased by 6.3% or 2.7 points to reach 145.4 in fourth quarter 2016 compared to 136.8 in the corresponding quarter of 2015.

4. (a) Wage Rate Index, Year 2016

The wage rate index for the year 2016, worked out as the average of the quarterly indices, reached 134.3 compared to 127.7 for the year 2015. An increase of 5.2 % or 6.6 points was noted (Table 4). The wage rate index for the General Government sector, accounting for 32% of total weight, increased by 6.8% to reach 146.0 in 2016 from 136.7 in 2015. This increase is due to salary revision effective as from January 2016. This sector contributed 3.0 index points to the increase of 6.6 index points in the overall index.

4. (b) Changes by industry

Main increases were registered in the following industry groups:

<i>Real estate activities</i>	12.1%
<i>Water supply; sewerage, waste management & remediation activities</i>	10.0%
<i>Education</i>	8.4%
<i>Construction</i>	7.5 %
<i>Other service activities</i>	6.9%
<i>Public administration and defence; compulsory social security</i>	6.5%
<i>Financial & insurance activities</i>	6.4%

A decrease of 3.5% was registered in the 'Arts, entertainment and recreation' sector.

5. Past trend

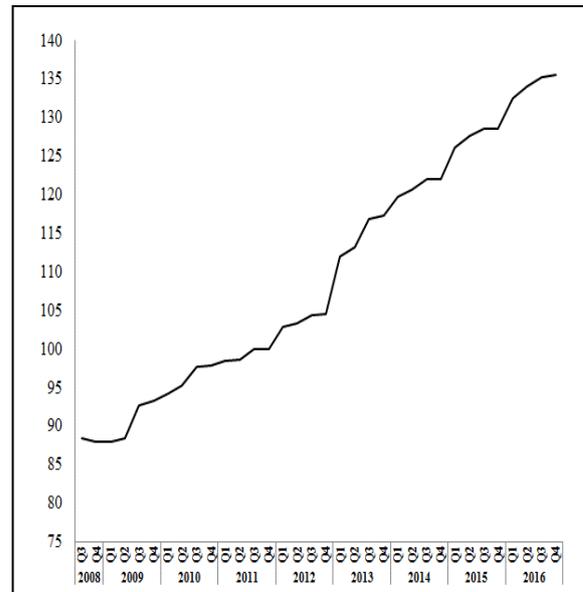
Table 5 presents the quarterly indices from first quarter 2007 to fourth quarter 2016. Indices for 2007 to 2011 have been worked out using third quarter 2006 as base. As from 2012 the base period used is fourth quarter 2011.

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 3rd quarter 2008, 1st quarter 2013 and 1st quarter 2016 are primarily explained by salary revision in the Government Sector.

Chart 2 – Wage rate indices
3rd Quarter 2008 – 4th Quarter 2016

Base: fourth quarter 2011 = 100



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March 2017

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Table 1- Quarterly Wage Rate Indices by industry group, 2015 & 2016*(Base: fourth quarter 2011=100)*

Industry group	Weight	2015					2016				
		Q1	Q2	Q3	Q4	Year	Q1 ¹	Q2 ²	Q3 ²	Q4 ²	Year ²
Agriculture, forestry and fishing	32	103.1	119.9	138.5	131.5	123.3	115.0	114.9	142.2	135.4	126.9
Mining and quarrying	3	122.1	124.6	126.3	126.4	124.9	127.2	128.3	128.3	128.4	128.1
Manufacturing	121	122.9	124.4	124.6	125.3	124.3	127.3	128.0	129.7	131.1	129.0
<i>Of which Sugar</i>	4	121.7	126.7	133.1	132.1	128.4	128.6	128.7	138.3	136.8	133.1
<i>Food (excluding sugar)</i>	26	117.3	119.0	119.4	122.3	119.5	122.4	122.8	123.5	127.7	124.1
<i>Textiles</i>	48	123.9	125.7	123.9	125.0	124.6	128.6	129.5	132.9	133.4	131.1
Electricity, gas, steam and air conditioning supply	15	151.1	151.2	153.5	155.0	152.7	157.6	155.5	157.8	158.3	157.3
Water supply; sewerage, waste management and remediation activities	7	134.9	135.7	135.7	138.1	136.1	141.9	149.4	151.9	155.7	149.7
Construction	50	108.4	110.8	112.2	113.0	111.1	114.7	120.1	121.2	121.4	119.4
Wholesale and retail trade; repair of motor vehicles and motorcycles	74	118.1	120.8	120.6	121.0	120.1	123.3	125.4	125.7	126.3	125.2
Transportation and storage	67	134.0	133.8	134.7	134.8	134.3	135.0	136.0	138.0	139.0	137.0
Accommodation and food service activities	70	119.5	119.4	119.6	121.1	119.9	121.8	121.7	122.1	122.8	122.1
Information and communication	39	127.1	126.8	127.3	127.4	127.2	129.0	131.1	131.8	131.9	131.0
Financial and insurance activities	77	119.5	119.5	120.2	120.6	120.0	123.6	126.8	129.1	131.1	127.7
Real estate activities	3	124.2	127.8	127.8	138.1	129.5	138.7	147.4	146.1	148.5	145.2
Professional, scientific and technical activities	33	111.8	111.1	111.6	111.8	111.6	115.0	118.0	117.5	117.8	117.1
Administrative and support service activities	38	117.0	119.2	120.7	121.6	119.6	123.4	126.0	127.0	127.0	125.9
Public administration and defence; compulsory social security	190	134.7	135.3	135.3	135.1	135.1	144.3	144.3	143.8	143.3	143.9
Education	107	138.1	139.2	139.1	137.4	138.5	148.0	151.5	150.8	149.9	150.1
Human health and social work activities	62	138.7	138.9	137.5	137.7	138.2	146.3	146.6	144.9	145.3	145.8
Arts, entertainment and recreation	9	114.0	116.4	117.3	117.4	116.3	114.9	110.9	111.5	111.5	112.2
Other service activities	3	130.5	131.4	131.4	131.7	131.3	136.8	139.7	140.9	144.0	140.4
All sectors	1000	126.3	127.6	128.5	128.5	127.7	132.5	134.0	135.3	135.5	134.3
<i>of which General Government</i> ³	319	136.3	136.8	136.8	136.8	136.7	146.4	146.4	145.7	145.4	146.0

¹ Revised² Provisional³ 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, Q4 2015 and Q1 to Q4 2016

(Base: fourth quarter 2011=100)

Industry group	Weight	% change in index				Contribution to change in overall index point			
		2016 /2015							
		Q1 ¹	Q2 ²	Q3 ²	Q4 ²	Q1 ¹	Q2 ²	Q3 ²	Q4 ²
Agriculture, forestry and fishing	32	-12.5	-0.1	23.8	-4.8	-0.5	0.0	1.0	-0.2
Mining and quarrying	3	0.6	0.9	0.0	0.1	0.0	0.0	0.0	0.0
Manufacturing	121	1.6	0.5	1.3	1.1	0.2	0.1	0.2	0.2
<i>Of which Sugar</i>	4	-2.6	0.1	7.5	-1.1	0.0	0.0	0.0	0.0
<i>Food (excluding sugar)</i>	26	0.1	0.3	0.6	3.4	0.0	0.0	0.0	0.1
<i>Textiles</i>	48	2.9	0.7	2.6	0.4	0.2	0.0	0.2	0.0
Electricity, gas, steam and air conditioning supply	15	1.7	-1.3	1.5	0.3	0.0	0.0	0.0	0.0
Water supply; sewerage, waste management and remediation activities	7	2.8	5.3	1.7	2.5	0.0	0.1	0.0	0.0
Construction	50	1.5	4.7	0.9	0.2	0.1	0.3	0.1	0.0
Wholesale and retail trade; repair of motor vehicles and motorcycles	74	1.9	1.7	0.2	0.5	0.2	0.2	0.0	0.1
Transportation and storage	67	0.1	0.7	1.5	0.7	0.0	0.0	0.1	0.1
Accommodation and food service activities	70	0.6	-0.1	0.3	0.6	0.1	0.0	0.0	0.0
Information and communication	39	1.3	1.6	0.5	0.1	0.1	0.1	0.0	0.0
Financial and insurance activities	77	2.5	2.6	1.8	1.5	0.2	0.2	0.2	0.2
Real estate activities	3	0.4	6.3	-0.9	1.6	0.0	0.0	0.0	0.0
Professional, scientific and technical activities	33	2.9	2.6	-0.4	0.3	0.1	0.1	0.0	0.0
Administrative and support service activities	38	1.5	2.1	0.8	0.0	0.1	0.1	0.0	0.0
Public administration and defence; compulsory social security	190	6.8	0.0	-0.3	-0.3	1.7	0.0	-0.1	-0.1
Education	107	7.7	2.4	-0.5	-0.6	1.1	0.3	-0.1	-0.1
Human health and social work activities	62	6.2	0.2	-1.2	0.3	0.6	0.0	-0.1	0.0
Arts, entertainment and recreation	9	-2.1	-3.5	0.5	0.0	0.0	0.0	0.0	0.0
Other service activities	3	3.9	2.1	0.9	2.2	0.0	0.0	0.0	0.0
All sectors	1000	3.1	1.1	1.0	0.1	4.0	1.5	1.3	0.2
<i>of which General Government</i> ³	319	7.0	0.0	-0.5	-0.2	3.1	0.0	-0.2	-0.1

¹ Revised

² Provisional

³ 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 2015 & 2016

(Base: fourth quarter 2011=100)

Industry group	Weight	% change in index				Contribution to change in overall index point			
		2016 /2015							
		Q1 ¹	Q2 ²	Q3 ²	Q4 ²	Q1 ¹	Q2 ²	Q3 ²	Q4 ²
Agriculture, forestry and fishing	32	11.5	-4.2	2.7	3.0	0.4	-0.2	0.1	0.1
Mining and quarrying	3	4.2	3.0	1.6	1.6	0.0	0.0	0.0	0.0
Manufacturing	121	3.6	2.9	4.1	4.6	0.5	0.4	0.6	0.7
<i>Of which Sugar</i>	4	5.7	1.6	3.9	3.6	0.0	0.0	0.0	0.0
<i>Food (excluding sugar)</i>	26	4.3	3.2	3.4	4.4	0.1	0.1	0.1	0.1
<i>Textiles</i>	48	3.8	3.0	7.3	6.7	0.2	0.2	0.4	0.4
Electricity, gas, steam and air conditioning supply	15	4.3	2.8	2.8	2.1	0.1	0.1	0.1	0.1
Water supply; sewerage, waste management and remediation activities	7	5.2	10.1	11.9	12.7	0.1	0.1	0.1	0.1
Construction	50	5.8	8.4	8.0	7.4	0.3	0.5	0.4	0.4
Wholesale and retail trade; repair of motor vehicles and motorcycles	74	4.4	3.8	4.2	4.4	0.4	0.3	0.4	0.4
Transportation and storage	67	0.7	1.6	2.4	3.1	0.1	0.1	0.2	0.3
Accommodation and food service activities	70	1.9	1.9	2.1	1.4	0.2	0.2	0.2	0.1
Information and communication	39	1.5	3.4	3.5	3.5	0.1	0.2	0.2	0.2
Financial and insurance activities	77	3.4	6.1	7.4	8.7	0.3	0.6	0.7	0.8
Real estate activities	3	11.7	15.3	14.3	7.5	0.0	0.1	0.1	0.0
Professional, scientific & technical activities	33	2.9	6.2	5.3	5.4	0.1	0.2	0.2	0.2
Administrative and support service activities	38	5.5	5.7	5.2	4.4	0.2	0.3	0.2	0.2
Public administration and defence; compulsory social security	190	7.1	6.7	6.3	6.1	1.8	1.7	1.6	1.6
Education	107	7.2	8.8	8.4	9.1	1.1	1.3	1.3	1.4
Human health and social work activities	62	5.5	5.5	5.4	5.5	0.5	0.5	0.5	0.5
Arts, entertainment and recreation	9	0.8	-4.7	-4.9	-5.0	0.0	0.0	-0.1	-0.1
Other service activities	3	4.8	6.3	7.2	9.3	0.0	0.0	0.0	0.0
All sectors	1000	4.9	5.0	5.3	5.4	6.2	6.4	6.8	7.0
<i>of which General Government</i> ³	319	7.4	7.0	6.5	6.3	3.2	3.1	2.8	2.7

¹ Revised

² Provisional

³ Ministries, government departments and agencies operating under them; municipalities; district councils and Rodrigues Regional Assembly

Table 4 - Percentage change in index and contribution of industry groups to overall index point, year 2015 & 2016

(Base: fourth quarter 2011=100)

Industry group	Weight	Index 2015	Index 2016 ¹	% change in index	Contribution to change in overall index point
Agriculture, forestry and fishing	32	123.3	126.9	2.9	0.1
Mining and quarrying	3	124.9	128.1	2.6	0.0
Manufacturing	121	124.3	129.0	3.8	0.6
<i>Of which Sugar</i>	4	128.4	133.1	3.7	0.0
<i>Food (excluding sugar)</i>	26	119.5	124.1	3.8	0.1
<i>Textiles</i>	48	124.6	131.1	5.2	0.3
Electricity, gas, steam and air conditioning supply	15	152.7	157.3	3.0	0.1
Water supply; sewerage, waste management and remediation activities	7	136.1	149.7	10.0	0.1
Construction	50	111.1	119.4	7.5	0.4
Wholesale and retail trade; repair of motor vehicles and motorcycles	74	120.1	125.2	4.2	0.4
Transportation and storage	67	134.3	137.0	2.0	0.2
Accommodation and food service activities	70	119.9	122.1	1.8	0.2
Information and communication	39	127.2	131.0	3.0	0.1
Financial and insurance activities	77	120.0	127.7	6.4	0.6
Real estate activities	3	129.5	145.2	12.1	0.0
Professional, scientific and technical activities	33	111.6	117.1	4.9	0.2
Administrative and support service activities	38	119.6	125.9	5.3	0.2
Public administration and defence; compulsory social security	190	135.1	143.9	6.5	1.7
Education	107	138.5	150.1	8.4	1.2
Human health and social work activities	62	138.2	145.8	5.5	0.5
Arts, entertainment and recreation	9	116.3	112.2	-3.5	0.0
Other service activities	3	131.3	140.4	6.9	0.0
All sectors	1000	127.7	134.3	5.2	6.6
<i>of which General Government</i> ²	319	136.7	146.0	6.8	3.0

¹ Provisional

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

Table 5: Quarterly and yearly Wage Rate Indices, 2007-2016

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	102.9	103.4	104.4	104.5	103.8
2013	112.0	113.2	116.9	117.3	114.9
2014	119.7	120.7	122.0	122.0	121.1
2015	126.3	127.6	128.5	128.5	127.7
2016 ¹	132.5	134.0	135.3	135.5	134.3

Table 6: Quarterly and yearly Wage Rate Indices, 2007-2016*(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	102.9	103.4	104.4	104.5	103.8	4.6
2013	112.0	113.2	116.9	117.3	114.9	10.7
2014	119.7	120.7	122.0	122.0	121.1	5.4
2015	126.3	127.6	128.5	128.5	127.7	5.5
2016 ¹	132.5	134.0	135.3	135.5	134.3	5.2

¹ 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 2016. '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 ith 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.