

# THE SEYCHELLES LABOR MARKET

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HAROON BHORAT

ARABO EWINYU

DEREK YU

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DEVELOPMENT POLICY  
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DEVELOPMENT POLICY RESEARCH UNIT

**HAROON BHORAT**

[haroon.bhorat@uct.ac.za](mailto:haroon.bhorat@uct.ac.za)

**ARABO EWINYU**

[arabo.ewinyu@uct.ac.za](mailto:arabo.ewinyu@uct.ac.za)

**DEREK YU**

[dyu@uwc.ac.za](mailto:dyu@uwc.ac.za)

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**Abstract:**

This report, produced as a background paper to the World Bank Systematic Country Diagnostic (SCD), provides an detailed overview of the Seychelles labor market, highlighting the relationship between changes to the overall structure of the economy and employment levels. We provide an overview of the economy and the labor market respectively, based on the 2011 and 2014 labor force survey (LFS) data. We then discuss employment across major themes, such as changes to employment levels by sector and skills type; migrant labor; and employment in the informal sector. We also discuss unemployment and wage levels using econometric evidence to investigate premiums earned according to age, education, skill, tenure or gender. Our analysis suggests that future economic growth in the Seychelles is dependent on increasing overall labor absorption levels in a manner which ensures that high quality employment opportunities grow at a sufficient pace to absorb the rising number of labor force participants. At the centre of this challenge must be the growing issue of youth unemployment, that if not suitably addressed, could thwart the future economic development trajectory of this island economy.

**Keywords:** Seychelles, labour markets, employment, youth unemployment, structural transformation, economic development

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**Corresponding author**

Prof. Haroon Bhorat, Director of the DPRU  
Tel: +27 (0)21 650 5705  
email: [haroon.bhorat@uct.ac.za](mailto:haroon.bhorat@uct.ac.za)

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## Executive Summary

This report provides a detailed overview and profile of the Seychelles' labor market based on the 2011 and 2014 labor force survey (LFS) data. Our analysis reveals that growth of Seychelles' economy stems from output expansion in the transport and storage, finance, and "Community, Social and Personal Services" (CSP) sub-sectors. Consistent with this share of GDP rise, the employment share of this sector of the economy grew; constituting essentially all of the substantial net new jobs created in the Seychelles between 2011 and 2014. In contrast, the secondary and primary sectors contracted in terms of employment share and contribution to overall GDP.

This structural shift is accompanied by a deepening skills intensity of employment that has resulted in increasing demand for higher skilled and higher educated individuals. As a share of employment, we observe that the proportion of managers, technicians and skilled agricultural workers increased over this period, while all other occupations experienced a contraction. The unskilled workers, as measured by "elementary" workers, saw a 16 percent decline in their employment level.

In terms of the detailed labour market profile, it is important to give some prominence to a key data issue: whilst the analysis here relies on the standard ILO classification of the working population (individuals aged 15-65), the official estimates of the National Bureau of Statistics report on individuals aged 15 and above without applying an upper bound limit. This causes important differences between many of the official statistics and those reported and analyzed here. In addition, changes in the classification of variables between 2011 and 2014 resulted in the creation of an unspecified category in the 2014 data, for example with respect to the sector of employment, where 9 percent of the employed in 2014 were categorised as unspecified. This modification renders it difficult to fully compare results between the two survey years. Furthermore, data collected by the LFS data excludes migrant labor who reside in employer-provided hostels. The small proportion (less than 4 percent) of migrant labor that is captured relates to those individuals who reside in sampled households. Notwithstanding these data limitations, a number of themes emerged from the analysis.

In terms of working conditions, the Seychelles' labor market is not highly unionized, with only 2 percent of workers indicating that they belong to a trade union. Over 70 percent of the working population in Seychelles works on a full-time basis. However, this headline figure masks the fact that 20 percent of workers in small firms (those employing less than 10 workers) work fulltime, compared to over 90 percent in the medium to large businesses. We observe that 30 percent of the working population has been employed for a period greater than ten years. Furthermore, this category of workers has seen the largest increase in absolute numbers over the 2011-2014 period. The length of hours worked appears quite similar across both years. The average individual reported working for 41.8 hours in 2011, compared to 43.5 hours in 2014.

Overall, our analysis suggests that the Seychelles has an overall unemployment level of approximately 4 percent, with fewer than 2 000 individuals being unemployed. In sharp contrast, youth unemployment (for individuals ranging in age between 15 and 24) is thrice as high as the official national unemployment rate, and is higher relative to the other age cohorts. Additionally, whilst the unemployment rates for individuals with a primary school qualification increased, the absolute increase in the number of

unemployed post-secondary school workers suggests that there is a concern around the relevance of skills offered at the post-secondary level.

With respect to wages, we observe that the best paid workers are profiled as being typically male, working in the tertiary sector (specifically in transport and finance sectors), with a job tenure of ten years or more. The worst paid workers are overwhelmingly female, working in the agriculture or manufacturing sectors, and mostly employed in low skilled level jobs.

Econometric evidence suggests that on average, males are consistently more likely to participate in the labor force as well as to be employed, and as a result earn a wage premium of 16 percent relative to females. The age coefficients reinforce the notion that young people, initially faced with higher unemployment probabilities, further encounter low wages as individuals with greater tenure realise significantly higher conditional returns. Individuals with longer tenure earn wages that are 30 percent higher than individuals with a single year of experience, holding all other individuals characteristics constant. Indeed, on these results we characterise older individuals with 5 years or more of tenure as representing a key proxy for insiders in the Seychelles' labor market.

On average, higher skilled or educated individuals earn a premium of 48 to 70 percent relative to uneducated workers. Specifically, highly skilled individuals earn, on average, over 50 percent more than elementary workers. The differential returns to skill reinforce the notion that Seychelles is an economy defined by a skills-biased labor demand trajectory: in that there is simultaneously a growing relative demand, and in turn a high premium being offered, for high skilled workers and highly educated workers. The shift towards services-led growth, as the structural equivalent of this labor market shift, is evident in the sectoral premium dominant in the transport and storage sector, although notably not as strong for the remaining services sectors.

Given the relative size of the Seychelle's economy, as well as the historical stagnation of the manufacturing sector and the relative growth of the services sector, a key consideration therefore is identifying those sectors of the economy and occupations that that will provide employment to new entrants in sectors of relatively higher value-added. At the centre of this challenge must be the growing issue of youth unemployment, that if not suitably addressed, could thwart the future economic development trajectory of this island economy.

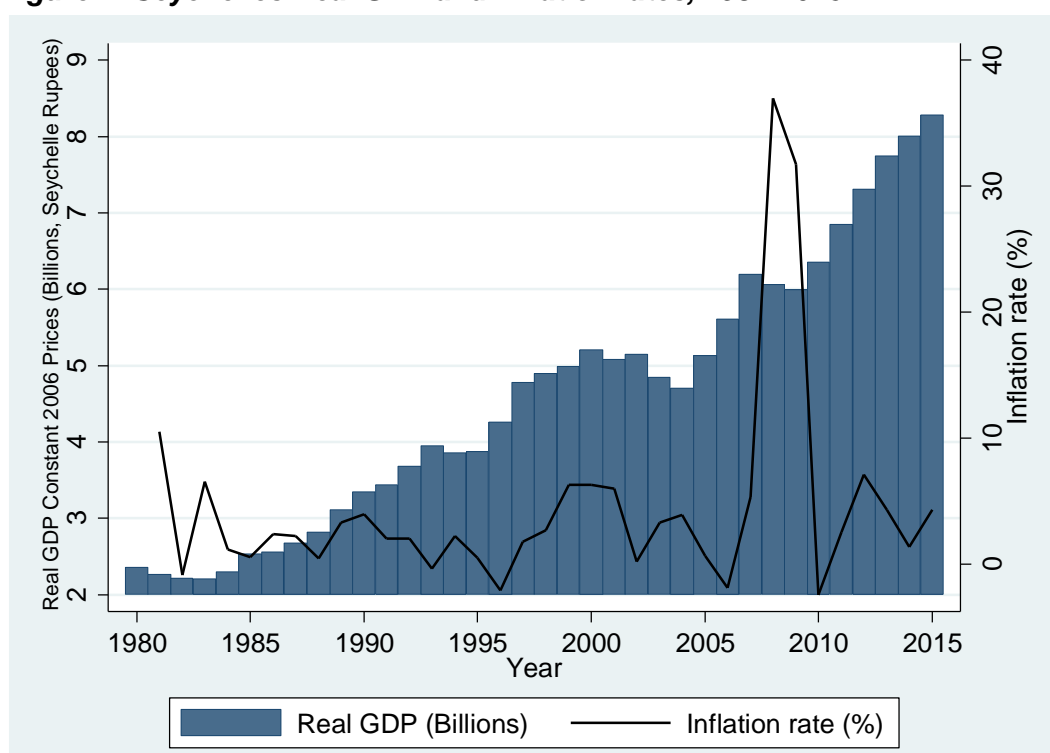
## 1 Introduction

This report, produced as a background paper to the World Bank Systematic Country Diagnostic (SCD), provides an overview of the Seychelles labor market, highlighting the relationship between changes to the overall structure of the economy and employment levels. Accordingly, the report is structured as follows: Sections two and three provide an overview of the economy and the labor market respectively. Section four discusses employment across major themes, namely, changes to employment levels by sector and skills type, migrant labor, as well as employment in the informal sector. Section five discusses unemployment, while wage levels are discussed in the sixth section. A regression analysis is provided in Section seven, followed by the conclusion.

## 2 Economic Overview

Headline data relating to the Seychelles' economic performance are impressive, with high growth and relatively low inflation rates – with the exception of the global financial crisis, and local economic crisis and debt default spike between 2008 and 2009 (see Figure 1). The country has thus realised strong real GDP growth since 1985, averaging 4.9 percent per annum over the past decade. Moderate growth is widely anticipated to continue, for example annual real GDP growth of 3.5 and 4 percent is projected for the period between 2016 and 2018 by the IMF (IMF Economic Outlook, 2015).

**Figure 1: Seychelles Real GDP and inflation rates, 1981-2015**



Source: 2015 IMF Economic Outlook.

Traditionally, economic growth on the island has been driven by the tourism sector, with contributions to a lesser degree from other sectors like fishing and, increasingly,



ICT. To contextualise the shifts in GDP, we examine the share of GDP by sector for the years 2009 and 2013 in Table 1 below. Over this period, we observe the increasing dominance of the tertiary (services) sector that accounts for over 80 percent of total GDP. In the tertiary sector, the accommodation and food services, and the wholesale and retail (distributive) trade sub-segments, comprise over one third of this sector's contribution to GDP.

In terms of the primary sector, the table demonstrates sluggish growth in the share of GDP attributable to agriculture; whilst agriculture has yielded positive growth rates in output over the 2009 to 2013 period, this arises off a low base as the sector's contribution to GDP has stabilised at an overall level of less than 3 percent.

In terms of the secondary sector, we find that contribution of construction to GDP has declined (by 46 percent), while that of electricity, gas and water, has almost doubled. Contraction within the construction industry follows the completion of planned expansion to the major tourist resorts and other planned development between 2009 and 2013. Of particular concern however, is the fact that over this period of aggregate economic growth, the Seychelles' manufacturing sector has struggled to increase its contribution to the economy's GDP. Instead, the sector's share of GDP has declined from 19 percent in 2000 to 9 percent in 2013, which statistically at least, would be representative of a significant degree of deindustrialisation.

**Table 1: Structure of Real GDP by Sector, 2009 and 2013**

Sector	2009	2013	Change (%)
<b>Primary</b>	<b>2.70</b>	<b>2.90</b>	<b>7.4</b>
Agriculture	2.70	2.90	7.4
Mining & Quarrying	0.00	0.00	0.00
<b>Secondary</b>	<b>16.50</b>	<b>15.00</b>	<b>-9.1</b>
Manufacturing	9.20	9.10	-1.1
Water & Electricity	1.50	2.80	86.7
Construction	5.80	3.10	-46.6
<b>Tertiary</b>	<b>80.80</b>	<b>82.00</b>	<b>1.5</b>
Wholesale & Retail	30.30	27.00	-10.9
Transport & Storage	14.90	16.90	13.4
Finance	24.50	25.60	4.5
CSP	11.10	12.50	12.6
	<b>100</b>	<b>100</b>	

Source: 2015 African Economic Outlook.

### 3 Labor Market Overview

Compared to the rest of the Sub-Saharan African region<sup>1</sup>, the Seychelles is characterised by high labor force participation rates in the formal sector (72 and 78 percent in 2011 and 2014, respectively). However, as Table 2 indicates, there is also evidence of a large and growing migrant work-force of over 1 500, constituting approximately 3 percent of the total share of employed in the economy. In actual fact, the LFS data grossly understates the proportion of migrant labor working in Seychelles, as over 14,000 individuals (as of 2015), employed predominantly by the construction and tourism sectors, as well as in manufacturing (the tuna cannery), and housed within institutions, are excluded from participating in the labor force survey (LFS). Hence, the small proportion of workers sampled are those who live in conventional households. Altogether, migrant workers represent over 20 percent of the laborforce in the Seychelles – a proportion that is observed to be rising consistently (IOM, 2014). Unemployment rates however, have remained fairly low at a constant 4 percent over the period under review. In Table 2 below, we use the 2011 and 2014 labor force surveys to provide an overview of the Seychelles' labor market.

**Table 2: Snapshot of the Labor Market, 2011 and 2014**

	2011	2014	2011 – 2014		Target Growth Rate	Employment Absorption Rate
			Absolute change	% Change		
Working-age population	54 938	57 636	2 698	4.9	14.5	96.5
Employed	37 916	43 236	5 320	14.0		
Unemployed	1 631	1 823	192	11.8		
Labor force	39 547	45 059	5 512	13.9		
Migrant workers (surveyed by LFS)	1 042	1 543	501	48.1		
Labor force participation rate (%)	72.0	78.2	8.6			
Unemployment rate (%)	4.1	4.0	-2.43			
Migrant workers (in LFS)	1 042	1 543	48.1			

Source: Authors' calculations based on the Seychelles Labor Force Survey 2011 and 2014.

Notes: 1. The figures presented in this table differ from Statistical Bulletins prepared by the Seychelles National Bureau of Statistics (NBS), as the NBS reports on workers older than 15 without an upper bound limit, whereas our analysis only includes 15-65 year olds.  
2. The LFS excludes over 14 000 migrant workers who reside in employer-provided housing, and are therefore excluded from households included in the total sample.

Between 2011 and 2014, aggregate employment increased from 37 916 to 43 236, translating into an aggregate growth rate of 14 percent over this period, and an average annualised growth rate of 4.5 percent. While relative growth<sup>2</sup> over this period was accompanied by an increase in the number of jobs, we observe that this employment growth was insufficient relative to the growth of the labor force. Hence, despite the increase in employment of 5 320, the labor force expanded by 13.9 percent, resulting crucially in an additional 5 512 new entrants into the labor market. The consequence of a rise in participation rates in excess of employment growth, has been a marginal expansion in the numbers of unemployed individuals (192). A low but

<sup>1</sup> In 2011 and 2014, World Bank data indicates that the Sub-Saharan African region had labor force participation rates of 69.8 and 70.1 percent, respectively.

<sup>2</sup> Relative growth is calculated by dividing the growth rate of the sector by the overall employment growth rate for the period.

increasing unemployment rate, accompanied by a growing economy and expansion in employment, is indicative of a labor market faced with the issue of increasing labor force participation rates exceeding the economy's labor absorption rate.

We use two simple performance indicators to test these labor market trends: the target growth rate, and the employment absorption rate (Bhorat & Oosthuizen, 2006). The target growth rate (TGR) measures how fast employment would have had to expand in order to provide work for all new entrants to the labor market over a given period (say between time  $t$  and  $t + 1$ ), and is defined as follows:

$$TGR_k = \frac{EAP_{k,t+1} - EAP_{k,t}}{L_{k,t}} \quad (1)$$

$EAP_k$  refers to the economically active population of group  $k$ , defined by any given covariate, and  $L_k$  is the number of employed group  $k$  individuals<sup>3</sup>. Employment growth at TGR would result in a reduction in the relevant group's overall unemployment rate<sup>4</sup>. The employment absorption rate (EAR) is the ratio between actual employment growth and the desired or target rate, expressed as a percentage:

$$EAR_k = \frac{\frac{L_{k,t+1} - L_{k,t}}{L_{k,t}}}{\frac{EAP_{k,t+1} - EAP_{k,t}}{L_{k,t}}} = \frac{L_{k,t+1} - L_{k,t}}{EAP_{k,t+1} - EAP_{k,t}} \quad (2)$$

It denotes the proportion of the net increase in the labor force that finds employment. The higher the employment absorption rate, the better the actual relative to the desired employment performance. An EAR of 100 denotes a situation where the increase in the labor force is fully accounted for by an increase in employment. An EAR of greater than 100 is possible where employment grows more than the labor force in absolute terms, i.e. where employment is growing and unemployment is falling in numerical terms. Hence, the closer the employment absorption rate is to 100, the better the actual relative to the desired employment performance. These figures are critical as they are predictors of relative employment performance – something that the standard growth rates do not yield.

The last two columns in Table 2 illustrate however, that while employment grew by 14 percent between 2011 and 2014, employment would have had to grow at 14.54 percent to ensure that all new entrants into the labor market were able to find employment. Additionally, the absorption rate indicates that the economy has been able to generate 96 jobs for every 100 economically active individuals that entered the labor market over this period. Although fairly close to the targeted growth and absorption rates, these figures indicate a labor force that is growing faster than overall employment growth. While in relative and absolute terms, unemployment remains relatively low, this absorption rate also highlights the need for the identification of sectors that can employ the growing proportion of the labor force in high quality jobs.

<sup>3</sup> Because this target growth rate captures the growth required to provide employment to only new entrants between 2011 and 2014, it is independent of the rate or level of unemployment in the base year (2011).

<sup>4</sup> This is because, considering new labor market entrants as a group on their own, if employment grew at the target growth rate, thereby absorbing all new entrants into employment, their unemployment rate would be zero. The fact that, in reality, not all new jobs go to new entrants, does not impact on this reduction in the overall unemployment rate.

Table 3 below, provides an in-depth review of the labor force participants across various individual demographic indicators.

**Table 3: Labor Force Participation (% and actual), 2011 and 2014**

	Labor Force (LF) number		LF share (%)		LF Participation Rates (%)	
	2011	2014	2011	2014	2011	2014
<b>Gender</b>						
Male	19 982	22 368	50.5	49.6	73.8	79.6
Female	19 565	22 661	49.5	50.3	70.2	76.8
<b>Age cohort</b>						
15-24 years	6 648	6 993	16.8	15.5	52.0	57.4
25-34 years	10 209	10 962	25.8	24.3	83.3	88.1
35-44 years	10 361	10 505	26.2	23.3	84.6	90.6
45-54 years	8 868	10 725	22.4	23.8	81.3	86.9
55-65 years	3 461	5 874	8.8	13.0	51.4	64.8
<b>Educational levels</b>						
None	181	443	0.5	1.0	31.9	45.0
Primary	3 130	3 974	7.9	8.8	59.4	57.8
Secondary	19 095	19 230	48.3	42.7	69.0	76.0
Post-Secondary	13 415	17 470	33.9	38.8	84.4	89.4
Degree	1 564	2 045	4.0	4.5	79.8	90.5
Postgraduate	750	1 423	1.9	3.2	88.9	87.7
Not specified	1 412	474	3.6	1.1	51.8	44.8
<b>Migration status</b>						
Not migrant	38 505	43 524	97.4	96.6	72.0	78.1
Migrant	1 042	1 535	2.6	3.4	73.1	80.6
<b>Total</b>	<b>39 547</b>	<b>45 059</b>	<b>100</b>	<b>100</b>	<b>72.0</b>	<b>78.2</b>

Source: Authors' calculations based on the Seychelles Labor Force Survey 2011 and 2014.

Notes: 1. The category Post-secondary combines the following levels of education: Polytechnic, Advanced Level and Vocational studies.

From Table 3, there are three main insights to draw on labor force participation rates (LFPR) in the Seychelles. Firstly, more women joined the labor market than men during this period. This is consistent with the global trend towards higher female labor participation, and may also reflect the impact of local policies to support vulnerable workers, including single mothers. Secondly, we observe a considerable rise in the share of the eldest cohort (55-65) in the labor force. This age group had a calculated labor force participant growth rate of 26 percent, and accounted for 43 percent of the new labor entrants over 2011-2014. The reason behind this unprecedented growth remains unclear. However, it is likely to arise from the anticipated streamlining of the contribution and benefit structure of the Seychelles Pension Fund (SPF), and/or the proportion of elderly non-family members who were paid for caring for the elderly as part of the home carer programme (World Bank, 2016). Lastly, there has been up-skilling of Seychellois' workers, as the number of workers with post-secondary qualifications rose sharply from 13 415 in 2011, to 17 470 in 2014.

## 4 Employment

Overall, employment in the Seychelles grew by 14 percent between 2011 and 2014, driven by high labor force participation rates and the expansion, of the order of close to a 30 percent growth of migrant labor, as captured by the labor force surveys, relative to local workers. This section discusses employment trends across various segments.

### 4.1 Employment by Sector

The private sector is the largest employer, followed by the government, and then parastatals. Together, these three segments employ 75 percent of workers in the Seychelles. Data classification issues, as detailed in Table 4 below, resulted in the exclusion of 13.6 percent of the labor force from the precise broad sector classification, and hence, the key shift at this level of segmentation is a rise in the “unspecified” category. The recorded decline in the employment shares of the public and private sectors thus largely arises from the misspecification issue arising between the two survey years. This resulted in a significant rise in the number and share of respondents not stipulating whether they were working in the public or private sector<sup>5</sup>. A further discussion of the three largest employers by specific worker profile is provided later in the report (Section 4.1.2).

**Table 4: Employment by Nature of Employer, 2011 and 2014**

	Number employed			Share of employed (%)		
	2011	2014	% change (2011 – 2014)	2011	2014	% change (2011 – 2014)
Government	9 544	9 473	-0.7	25.2	21.9	-13
Parastatals	3 941	4 205	6.7	10.4	9.7	-7
Private	21 551	18 523	-14.1	56.8	42.8	-25
Other	2 714	1 150	-57.6	7.1	2.7	-62
Not allowed to answer	0	5 859 <sup>1</sup>	-	0.0	13.6	-
Unspecified	166	4 026	2325.3	0.4	9.3	2225
<b>Total</b>	<b>37 916</b>	<b>43 236</b>		<b>100</b>	<b>100</b>	

Source: Authors' calculations based on the Seychelles Labor Force Survey 2011 and 2014.

Notes: 1. “Other” refers to the following categories of workers: within a cooperative, in a non-government or non-profit organisation, and those working in a private household or elsewhere.

2. In the 2014 survey, those who reported they are ‘operating own business: without regular paid employees’, ‘operating own business: with regular paid employees’, or ‘members of a producers’ cooperative’, were not asked to declare whether they work in the public or private sector.

Below, in Table 5 and Figure 9 of the Appendix, we discuss employment by the SIC classification system in absolute as well as relative terms. The absolute growth numbers show the increase or decrease in employment in each sector between 2011 and 2014, while the relative growth figures show the growth of the sector relative to overall employment growth over the same period. Relative growth is calculated by dividing the growth rate of the sector by the overall employment growth rate for the period. If relative growth is equal to one, sector employment grew as quickly as overall

<sup>5</sup> We recommend that the National Bureau of Statistics assess the source of this misclassification issue and why its significance has grown substantially in the 2014 Labor Force Survey.

employment. If the relative growth figure is greater (lower) than one, sector employment grew faster (slower) than aggregate employment.

**Table 5: Employment by Sector (%): Absolute and Relative Shares, 2011 and 2014**

	Employment			Growth (2011-2014)		Employment Shares		Share of change <sup>2</sup> (2011 – 2014)
	2011	2014	Absolute	Relative <sup>1</sup>	2011	2014		
<b>Primary</b>	<b>1 640</b>	<b>1 539</b>	<b>-101</b>	<b>-0.4</b>	<b>0.04</b>	<b>0.04</b>	<b>-0.02</b>	
Agriculture	1 316	1 464	148	1.8	0.04	0.03	0.028	
Mining & Quarrying	324	75	-249	-12.0	0.009	0.002	-0.047	
<b>Secondary</b>	<b>6 531</b>	<b>6 403</b>	<b>-128</b>	<b>-0.1</b>	<b>0.17</b>	<b>0.15</b>	<b>-0.03</b>	
Manufacturing	3 576	2 943	-633	-8.5	0.09	0.07	-0.12	
Water & Electricity	914	976	62	3.3	0.02	0.02	0.01	
Construction	2 041	2 484	443	10.4	0.05	0.06	0.08	
<b>Tertiary</b>	<b>28 362</b>	<b>33 874</b>	<b>5 512</b>	<b>1.3</b>	<b>0.75</b>	<b>0.78</b>	<b>1.05</b>	
Wholesale & Retail	2 922	4 571	1 649	2.9	0.08	0.11	0.313	
Transport & Storage	9 306	10 889	1 583	0.9	0.25	0.25	0.301	
Finance	4 571	5 604	1 033	1.2	0.12	0.13	0.196	
Community, Social and Personal Services (CSP)	11 563	12 810	1 247	0.6	0.31	0.30	0.237	
<b>Total</b>	<b>36 533</b>	<b>41 816</b>	<b>5 283</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	

Source: Authors' calculations based on the Seychelles Labor Force Survey 2011 and 2014.

Notes: 1. This is the ratio of the percentage change for each respective sub-sector and industry to the total overall percentage change in employment over the period (relative sectoral employment growth).

2. This is the ratio of the percentage change in the share of employment to the overall change in employment over the period (share of change in employment). This measures within each broad sector, where the sources of employment growth are: for instance, employment in the tertiary sector is 1.05 (105 percent) of its level in 2011 – this is also the sum of the changes for all the industries within this sub-sector.

The table, in the first instance, suggests that of the over 5 000 jobs created in the domestic economy since 2011, the majority have emanated from the tertiary sector. In particular, the sector has in fact generated 105 percent of all net new jobs created in the Seychelles over the 3-year period, ensuring that from comprising three-quarters of all employment in 2011, by 2014, this share stood at 78 percent.

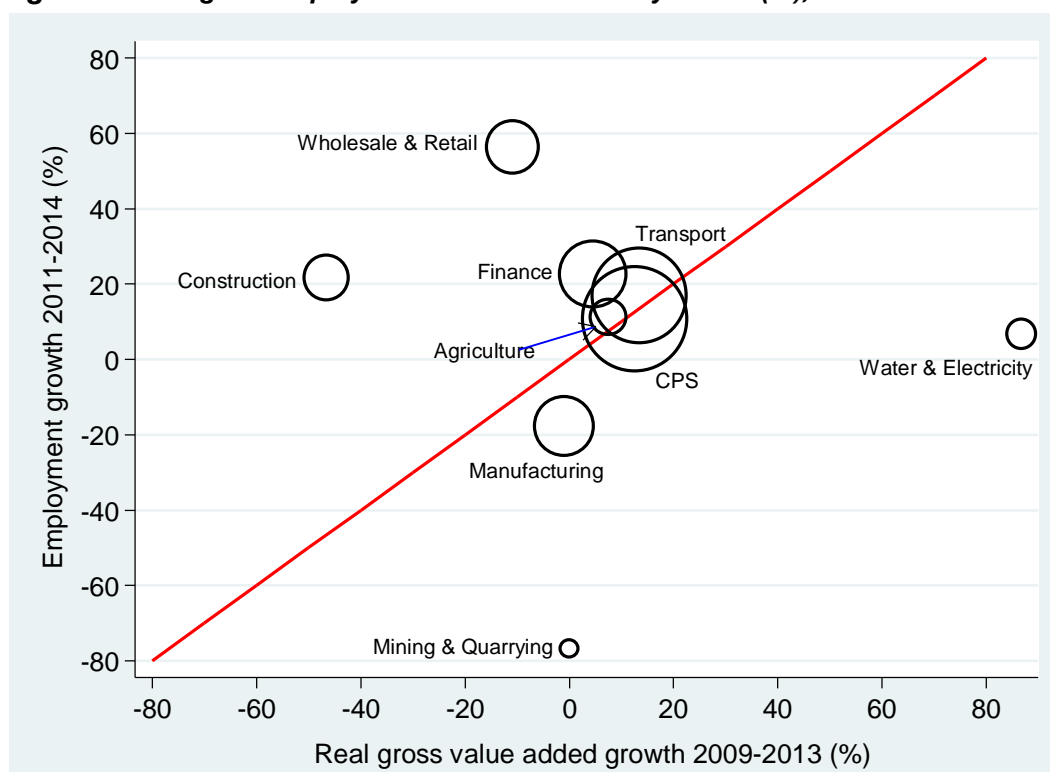
Looking at the composition of employment by sector, employment in the primary sector has remained fairly constant over the survey period. Hence, employment within the agriculture and fishing sector has grown slightly over the period, in keeping with overall increases in employment levels. Employment in the secondary segment has deteriorated over this period – observed by the fact that its overall share of employment has declined by 2 percentage points, from 17 percent in 2011, to 15 percent in 2014. This is driven by the manufacturing sector, as the 633 jobs lost resulted in the sector's share declining in both absolute and relative terms. Fisheries as the other main pillar of economic growth in the Seychelles has sustained a light manufacturing sector dominated by fish-processing activities, particularly in the processing of canned tuna (AfDB, 2014). Notably however, within the secondary sector, employment growth within the construction sector saw its share of aggregate employment rise marginally from 5 to 6 percent.

The tertiary sector thus remains the largest employer in Seychelles, reinforcing the fact that the island is a services-dominated economy. The within-sector results,

though, suggest a few interesting trends. Firstly, the single dominant employer in the economy remains the public sector, given that – on the assumption that Community, Social and Personal Services (CSP) in the main represents general government employees – it accounted for a third of all employees in 2014 in the Seychelles' labor market. The role of the public sector in employment is discussed in a separate section of this report. Secondly, the sector that has grown the fastest nationally has been wholesale and retail, where its share of employment rose from 8 to 11 percent over the 3-year period. Thirdly, whilst all the individual tertiary sectors have all been important contributors to aggregate employment growth, close to 60 percent of the relative employment creation in the Seychelles economy over the 2011-2014 period has been driven by the wholesale and retail, and transport and storage sectors (that encompass the accommodation and food and services segment).

Ultimately then, sectoral employment data suggests that the Seychelles has reinforced its status as a services-driven economy which is a positive sign of sustainable job creation (as opposed to, for example, a rapid rise in public sector employment). The decline in the manufacturing sector, while large in absolute terms, remains a smaller concern as the sector mainly consists of a tuna cannery firm whose employment is likely to be seasonal. The other manufacturing firms contribute a smaller share of overall GDP.

In trying to better understand the interaction between output and employment, the figure below explores the interaction between GDP and employment growth by sector between 2009 and 2014. We expect that sectors in which there was positive output growth in the period would have been more likely to create jobs, while declining sectors would have shed jobs. Each of the bubbles in the figure represents a sector, while the size of the bubbles indicates the relative size of employment in that sector in the base year: 2011. The vertical axis measures average annual employment growth, while the horizontal axis shows the annual growth in gross value added, both in percentage terms. Thus, the co-ordinates for the centre of each of the bubbles are the relevant sector's employment and gross value added growth for the period. The 45-degree line divides the figure into two sections: bubbles below the line show sectors in which employment growth was lower than gross value added growth, while bubbles above the line show sectors in which employment growth exceeded output growth.

**Figure 2: Change in Employment share and GDP by sector (%), 2009-2014**

Source: Authors' calculations based on the Seychelles Labor Force Survey 2011 and 2014.

Notes: 1. The size of the bubble represents employment level in 2011.

2. GDP by sector information refers to the period 2009 and 2013, employment information relates to the period 2011 and 2014.

3. The red line indicates where the ratio between growth in employment and GDP equals 1.

There is a clustering of five main sectors within the first quadrant, namely: CPS, agriculture, utilities, transport and storage, and finance. Over the 2011 to 2014 period, these sectors yielded positive employment growth as well as positive growth in their share of GDP. Secondly, construction and wholesale and retail have seen a positive growth in their contribution to employment, accompanied by a contraction in overall output. Lastly, the manufacturing malaise is demonstrated by the decline in both employment and GDP share over this period – a potential concern given that this sector remains a significant employer in the Seychelles, but where further evidence-gathering is necessary given the comparability challenges between surveys.

#### 4.1.1 Employment in the Tourism Sector

The tourism sector employed between 14 and 17 percent of the Seychellois working age population in 2011 and 2014, respectively. As a proportion of workers within the private sector, tourism employs between 24 and 36 percent of the working individuals. Table 6 below summarises the workers employed in this sector across selected individual characteristics.



**Table 6: Share of Employment in the Tourism Sector (selected characteristics), 2011 and 2014**

	2011		2014	
	Male	Female	Male	Female
<b>Age Category</b>				
15-24yrs	22.0	26.0	18.9	21.3
25-34yrs	31.2	30.5	28.2	24.1
35-44yrs	20.8	22.3	23.3	20.2
45-54yrs	18.8	13.3	19.4	21.7
55-65yrs	6.6	7.1	9.1	11.9
Unspecified	0.6	0.8	1.1	0.9
<b>Education level</b>				
No Schooling	1.0	0.4	1.9	0.9
Primary	5.9	5.7	7.9	7.5
Secondary	47.4	57.5	38.9	50.6
Advanced Level	1.4	0.0	1.5	3.9
Vocational	10.0	12.4	25.4	18.8
Polytechnic	19.7	18.4	18.7	14.7
Degree	7.4	1.0	3.3	1.8
Postgraduate	0.0	0.0	1.7	0.7
Unspecified	7.3	4.6	0.6	1.1
<b>Aggregate Skills Levels</b>				
Skilled	19.7	10.2	23.0	17.4
Semi-skilled	65.2	62.9	60.6	51.0
Unskilled	15.1	27.0	16.4	31.6
<b>Total</b>	<b>2 271</b>	<b>2 964</b>	<b>2 926</b>	<b>4 062</b>
<b>Proportion by Gender</b>	43.4	56.6	41.9	58.1
<b>Proportion of total employed</b>	5.99	7.82	6.77	9.39
<b>Proportion of private sector employees</b>	10.54	13.75	15.80	21.93
<b>Average Wages</b>	17 057.96	7 496.23		

Source: Authors' calculations based on the Seychelles Labor Force Survey 2011 and 2014.

There are four main insights to draw from the review of this data. Firstly, more women are employed in this sector relative to males. Additionally, between 2011 and 2014, the proportion of female workers increased while the share of males declined. Secondly, workers in this sector remain fairly young, with over 70 percent of those employed being younger than 44 years old. However, between the two sampled years we observe that the share of workers aged between 15 and 34 declined while other age categories realized positive growth in their employment share. This suggests that, to some extent, the sector has failed to attract young talent. Thirdly, in line with the overall rising skills intensity in Seychelles, we observe that the share of skilled workers has increased significantly between 2011 and 2014, particularly for female workers, who increased by over 7 percentage points over this period. Less obviously, the share of semiskilled workers decreased, while the proportion of unskilled workers increased. Lastly, despite female workers being in the majority in the sector, we observe that female workers earn Rs 0.40 for every single Rs 1 earned by their male counterparts.

This sector's average wage of Rs 11631 is significantly higher than the national average (Rs 7 739), probably driven by the higher male wages.

#### 4.1.2 Public Sector Employment

As a share of total employment, government and parastatals are the second and third largest overall employer in the Seychelles, respectively. Table 7 and Table 22 in the Appendix provide a summary of key characteristics of workers across the three main institutional sectors of employment.

**Table 7: Employment by Employer Type (selected characteristics), 2011 and 2014**

	2011				2014			
	Government	Para-statal	Private	Overall	Government	Para-statal	Private	Overall
<b>Gender</b>								
Male	28.16	60.01	59.63	50.5	30.04	52.40	51.61	49.6
Female	71.84	39.99	40.37	49.5	68.81	45.73	47.23	50.3
<b>Aggregate Skills Level</b>								
Skilled	42.98	35.54	19.03	16.5	46.98	33.98	22.22	19.2
Semi-skilled	47.80	46.11	61.46	66.3	41.41	49.77	58.28	65.3
Unskilled	6.40	18.35	19.36	16.3	7.70	14.62	18.43	13.8
<b>Job Tenure</b>								
Less than 1 year	14.17	11.06	20.77	18.2	13.33	14.37	24.37	16.8
1 year to less than 3 years	18.25	19.08	26.88	23.3	17.04	17.42	21.29	17.2
3 years to less than 5 years	9.90	13.11	12.74	12.2	12.20	11.68	15.13	12.4
5 years to less than 10 years	16.28	20.88	13.90	15.4	14.10	17.63	14.72	13.9
10 years or more	41.20	35.59	25.33	30.5	41.35	36.08	22.78	29.9
Unspecified	0.21	0.28	0.38	0.4	0.00	0.00	0.00	9.8
<b>TOTAL</b>	<b>9 544</b>	<b>3 941</b>	<b>21 551</b>		<b>9 473</b>	<b>4 205</b>	<b>18 523</b>	
<b>Share of total employment</b>	24	10	54		21	9	41	

Source: Authors' calculations based on the Seychelles Labor Force Survey 2011 and 2014.

Notes: For the 2014 data where figures do not add up to 100%, the remaining proportion relates to workers who are classified as "other", "Unspecified" or "Not allowed to answer the question".

Firstly we note that in terms of job tenure, government and the parastatals are observed to have a larger proportion of workers with over ten years work experience. Within the private sector, the distribution of workers by job tenure is more evenly distributed, with a significant proportion of workers either having fewer than three years work experience or more than ten years. Secondly, aggregate skills levels vary across the different employers, as government employs fewer unskilled workers compared to parastatals and the private sector. Over the survey period, the share of skilled workers employed increased (by 4 percentage points), while semi-skilled workers declined (by 6 percentage points). Furthermore, with Seychelles being a highly skills-intensive economy, we observe that the government and parastatals hire a larger share of

individuals with a degree and post-graduate degree relative to their overall share of the labor force. With specific reference to individuals with a postgraduate qualification, we note that while government's total employment share is 24 percent, they hire 46 percent of individuals with a postgraduate degree. A similar trend is observed for undergraduate and polytechnic qualifications. This implies that despite its overall small employment, the public sector is able to attract relatively highly skilled and experienced (as proxied by tenure) individuals, while the private sector hires a larger proportion of semi-skilled workers of varying work experience.

## 4.2 Employment by Occupation

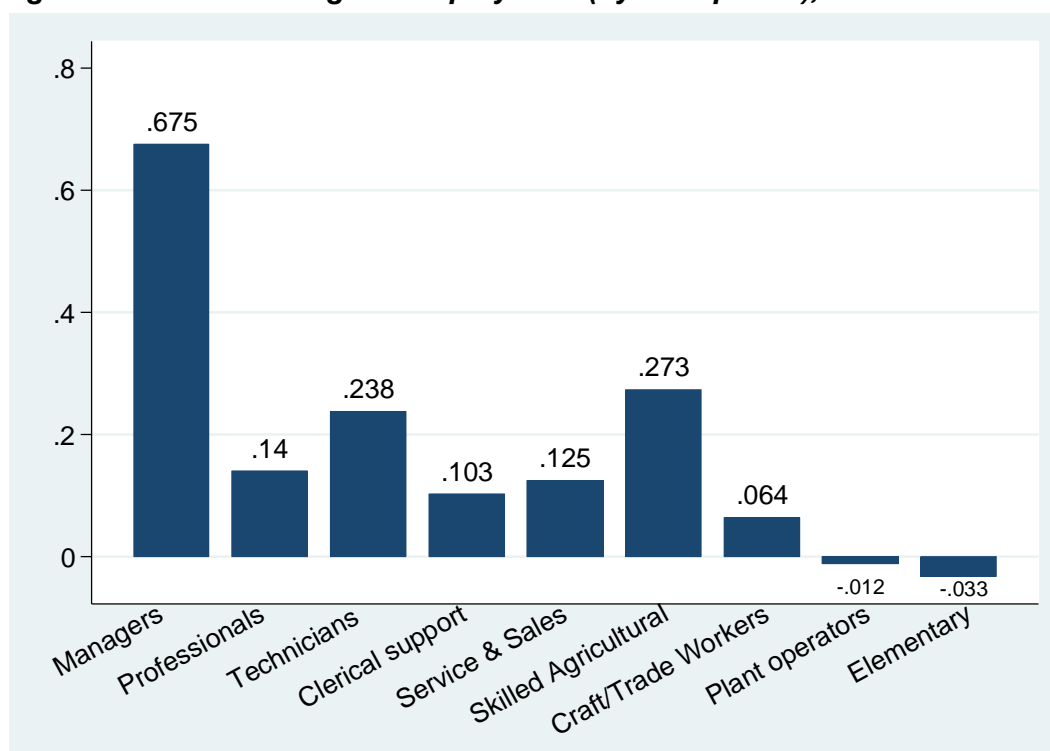
In terms of occupational levels, as Table 8 below illustrates, over two thirds of the Seychellois population are classified as semi-skilled. This is unsurprising given the discussion above regarding Table 3, that a significant proportion of the labor force possess a secondary or post-secondary education qualification. In 2011, the proportion of highly skilled and unskilled workers remained even. However, in 2014, we observe an increase in the absolute number of jobs held by skilled individuals, and a decline in unskilled workers.

**Table 8: Proportion of Employed Individuals by Occupation Category, 2011 and 2014**

	Number of employed			Share of employed (%)		
	2011	2014	Absolute change 2011 - 2014	2011	2014	% change 2011 - 2014
<b>Occupation</b>						
Managers	2 136	3 577	1 441	5.6	8.3	48.2
Professionals	4 132	4 710	578	10.9	10.9	0.0
Technicians and associate professions	3 758	4 651	893	9.9	10.8	9.1
Clerical support workers	2 819	3 108	289	7.4	7.2	-2.7
Service and sales workers	9 719	10 944	1 225	25.6	25.3	-1.2
Skilled agricultural workers	1 471	1 877	406	3.9	4.3	10.3
Craft and related trade workers	4 592	4 895	303	12.1	11.3	-6.6
Plant and machine operators/assemblers	2 779	2 747	-32	7.3	6.4	-12.3
Elementary occupations	6 185	5 983	-202	16.3	13.8	-15.3
<b>Aggregate Skills Levels</b>						
Skilled	6 268	8 287	2 019	16.5	19.2	16.4
Semi-Skilled	25 138	28 222	3 084	66.3	65.3	-1.5
Unskilled	6 185	5 983	-202	16.3	13.8	-15.3
<b>Total</b>	<b>37 916</b>	<b>42 492</b>		<b>100</b>	<b>100</b>	

Source: Authors' calculations based on the Seychelles Labor Force Survey 2011 and 2014.

- Notes:
1. The employment figures in this section vary from earlier provided aggregates as we exclude the Armed Forces and others whose occupation was unspecified. In both periods, these individuals account for approximately 2 percent of the total labor force.
  2. Skilled workers include the managerial and professional occupations; Semi-skilled individuals refer to the sum of workers from Technicians to plant and machine operators, while unskilled workers are the elementary occupations.

**Figure 3: Relative Change in Employment (by Occupation), 2011 and 2014**

Source: Authors' calculations based on the Seychelles Labor Force Survey 2011 and 2014.

Notes: The relative change refers to the difference between two quantities, where one of the data points under review is the reference point. A positive relative change indicates a value that is greater than a positive reference value, while a negative relative change indicates a smaller value. The opposite is true where the reference value is negative. Here, the relative change is calculated relative to the employment for a specified occupation level in 2011.

In relative terms, as Figure 3 above shows, managers and skilled agricultural workers had the largest increase in employment between 2011 and 2014. As a share of employment, we observe that the proportion of managers, technicians and skilled agricultural workers increased over this period, while all other occupations experienced a contraction. Between 2011 and 2014, the proportion of managers increased sharply, both in the absolute sense and as a percentage of all employed individuals. At the other end of the spectrum, individuals employed in elementary occupations and plant machine operators saw their numbers decline. In keeping with the slight expansion in the agricultural sector discussed earlier, we observe that the proportion of skilled agricultural workers increased significantly over this period (though still accounting for only about 4 percent of the workforce).

At the aggregate level then, it is clear that employment generation within the Seychelles has been marked by a rising level of skills intensity. This is driven by a rising demand for highly skilled individuals in the tertiary sector, and specifically in the wholesale and retail, and finance sectors. Growth within the skilled segment highlights the tendency within the local labor market towards hiring individuals that are better trained or higher skilled.

This evidence points to the relative dominance of the services sector in Seychelles. More specifically, the contribution of the manufacturing sector to overall GDP has declined significantly over time, coupled with a decline in the construction sector, the contribution of the secondary sector to GDP declined by 9 percentage points over the

2009 to 2013 period. Over a similar period, the contribution of the services sector has grown to account for over 80 percent of output in 2013. This sectoral transformation is closely mirrored in the labor market, as employment in the Seychelles has become increasingly dominated by the services economy: between 2011 and 2014, our analysis indicates that 105 percent of the share of the change in total employment in the economy was accounted for by the services sector. In turn, within services, the new dominant employers were located within the wholesale and retail, and transport and storage sectors. The latter sector is mainly driven by changes within the tourism subsector that employes over 25 percent of workers within the private sector. Finally, a rising skills intensity in employment linked to the rise in services employment and overall contribution to GDP, is observed.

#### 4.3 Employment in the Informal Sector

Despite widespread usage of the term “informality”, there is no consensus on the definition of the term. Fields (2011) summarises various definitions of the term informality based on the following characteristics:

- i. Whether the business is registered;
- ii. Whether the business operates outside the country’s legal or institutional framework;
- iii. Based on the number of individuals employed by the business;
- iv. Survivalist businesses, where the owner would seek alternative or stable employment as these opportunities arise.

In light of this multiplicity of definitions, Kanbur (2009) and Fields (2011) propose that papers explicitly define their usage of the term “informal”. Consequently, the Seychelles labor force data in 2011 defines an informal business as one bearing the following characteristics:

- i. Whether employees have a formal (written) contract and whether the length of employment is explicitly stated;
- ii. Whether employees are entitled to paid leave and whether other statutory deductions are made on their behalf;
- iii. Whether the business is officially registered and if the owner has a separate business account.

The informal sector in the Seychelles then, as defined in the above manner, employs 15.9 percent of the total labor force. Those in the informal sector are disproportionately classified as unskilled or semiskilled. While the gender split is relatively even in the formal sector, we observe that employment in the informal sector is largely skewed to males, with females accounting for only 28 percent of informal workers. The average informal sector worker is slightly older (41 years) than the formal worker (37 years). Similar education attainment levels are observed, with over 50 percent of informally employed individuals having completed secondary schooling. Table 9 below summarises the relative share of employment in the informal sector by occupation and industry type.

**Table 9: Relative Share of Informal to Formal Sector Employment (by Occupation and Industry), 2011**

	Relative share (Informal / Formal)
<b>Sector</b>	
Agriculture	7.41
Mining & Quarrying	1.38
Manufacturing	2.43
Water & Electricity	0.07
Construction	2.85
Wholesale & Retail	1.36
Transport & Storage	0.60
Finance	0.60
CSP Services	0.36
Other/Unspecified	4.39
<b>Broad occupation</b>	
Managers	0.53
Professionals	0.31
Technicians and associate profession	0.28
Clerical support workers	0.16
Service and sales workers	0.55
Skilled agricultural workers	5.04
Craft and related trade workers	4.86
Plant and machine operators/assemblers	1.54
Elementary occupations	0.92

Source: Authors' calculations based on the Seychelles Labor Force Survey 2011 and 2014.

Notes: This data omits the proportion of Armed Forces personnel that are also classified as being in the informal segment.

By sector, informal workers are predominantly employed in the primary and secondary sectors (namely agriculture, and manufacturing and construction). The relative difficulty in classifying informal workers is further emphasised in the high percentage of informal workers who are categorised as 'other' or 'unspecified'. In terms of overall skills intensity, informal workers are observed to be working in less skilled jobs, predominantly in skilled agricultural work, craft trades, and as plant and machine operators. At the more high skilled jobs, we observe that only one third of the individuals are employed at the professional level.

Distinct employment trends are observed for workers within the formal and informal segments of the labor market, where in the latter segment, workers are typically lower skilled and predominantly clustered within the primary and secondary sectors of the economy. This contrasts sharply with the observed skills intensity of formal employment, and the concomitant deepening contribution of the services sector.

#### 4.4 Secondary Employment

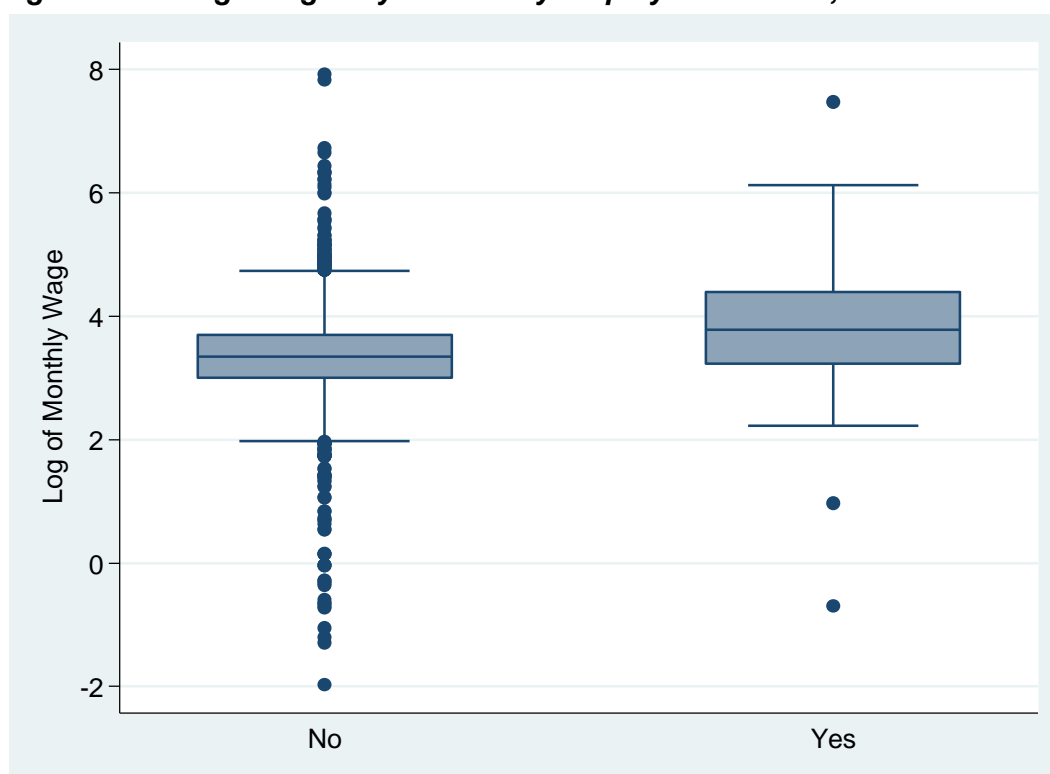
The 2011 labor force survey asked respondents to clarify whether in addition to their main job they also engaged in a secondary job or activity. Overall, 3.9 percent of the labor force reported working in a second job, with 82 percent of these being in unskilled

and semi-skilled occupations. These findings are summarised in Figure 10 in the Appendix.

By demographics, similar trends are observed for secondary employment as for the overall labor market, where workers are more likely to be male and have a secondary or post-secondary qualification.

By sector, workers are mainly clustered in manufacturing and agriculture. The relative share of workers is fairly evenly split between construction, finance, and CSP sectors. The proportion of skilled agricultural workers, craft workers, and professionals with secondary jobs, is greater than those with primary jobs. Below, we summarise the average wage levels for individuals with a secondary job, and those without one.

**Figure 4: Average Wages by Secondary Employment status, 2011**



Source: Authors' calculations based on the Seychelles Labor Force Survey 2011 and 2014.

Notes: A box plot graphically depicts groups of numerical data through their quartiles. Box plots may also have lines extending vertically from the boxes indicating variability outside the upper and lower quartiles. Any outlier values may be plotted as individual data points.

Relative to others, individuals with a secondary job are observed to be better paid with less dispersion in wages earned. Based on the sectoral classification, we highlight that individuals with secondary jobs are situated within both the low wage primary and secondary sectors, as well as the services sectors. This suggests that at lower wage levels, participation in secondary employment is driven by the need to subsidise incomes earned, or may be an indicator of underemployment. Although it is unclear what the key driver for participation in secondary employment for the higher skilled individuals is, this has been tied anecdotally to “top-up” or temporary employment practices, where individuals with a primary job engage in additional unregulated contractual work.

## 4.5 Conditions of Employment

The Seychelles' labor market is not highly unionized, with only 2 percent of workers indicating that they belong to a trade union. Below, we look at the variation in conditions of employment for workers. Over 70 percent of the working population in the Seychelles works on a full-time basis. This is slightly higher than Namibia and South Africa, which report part-time employment levels of 15.2 and 8.3 percent, respectively<sup>6</sup>. The proportion of Seychellois employees that work full time varies with the size of the work establishment, whereby 20 percent of firms employing fewer than 10 individuals had full time workers, compared to more than 90 percent of those working in larger establishments. However, between 2011 and 2014, whilst there was a 2 percent increase in this cohort of workers, there was an overall decline in their share of aggregate employment. Although owner-operated businesses had the second largest share of employment across both years, a slight decline is also noted in 2014. This perceived decline in the employment shares of full-time and casual workers, as well as owner-operated businesses, largely arises from the misspecification issue arising between the two survey years, that resulted in a significant share of respondents being classified as unspecified – a dramatic increase<sup>7</sup>. We observe an increasing shift towards employing individuals on a part-time basis, as well as a decline in the proportion of apprentices and casual workers.

**Table 10: Nature and Type of Work (% and actual), 2011 and 2014**

	Number employed			Employment Share		
	2011	2014	% change (2011 - 2014)	2011 (%)	2014 (%)	% change (2011 - 2014)
Employee: Full-time	30 226	30 965	2	79.7	71.6	-10
Employee: Part-time	1 232	1 451	18	3.2	3.4	6
Employee: Casual worker	972	787	-19	2.6	1.8	-31
Employee: Apprentice	206	72	-65	0.5	0.2	-60
Operating own business: without regular paid employees	3 858	4 169	8	10.2	9.6	-6
Operating own business: with regular paid employees	1 037	1 606	55	2.7	3.7	37
Members of a producers' cooperative	116	84	-28	0.3	0.2	-33
Helping without pay in family business	67	74	10	0.2	0.2	0
Unpaid trainee	0	89	-	0	0.2	-
Other	124	13	-90	0.3	0	-100
Unspecified	78	3 926	4933	0.2	9.1	4450
<b>Total</b>	<b>37 916</b>	<b>43 236</b>		<b>100</b>	<b>100</b>	

Source: Authors' calculations based on the Seychelles Labor Force Survey 2011 and 2014.

<sup>6</sup> Information obtained at: <https://data.oecd.org/emp/part-time-employment-rate.htm>

<sup>7</sup> We highlight this as a key issue for the National Bureau of Statistics to assess the source of this misclassification issue, and to assess why its significance has grown substantially in the 2014 Labor Force Survey.



In Table 11, we observe that 30 percent of the working population has been employed for a period greater than ten years. Furthermore, this category of workers has seen the largest increase in absolute numbers over this period. This is indicative of a fairly established labor market, with close to one third of the individuals accumulating more than ten years work experience. In later analysis, we note that this segment of the labor force also earns the highest wages relative to other segments. Higher wages for this cohort of workers signals the fact that they are more experienced, and are therefore highly skilled individuals requiring higher wages. Alternatively, it might signal a tight, “insider” labor market, with a small minority of workers appearing to capture a disproportionate share of labor earnings.

**Table 11: Share of Employment by Job Tenure (%), 2011 and 2014**

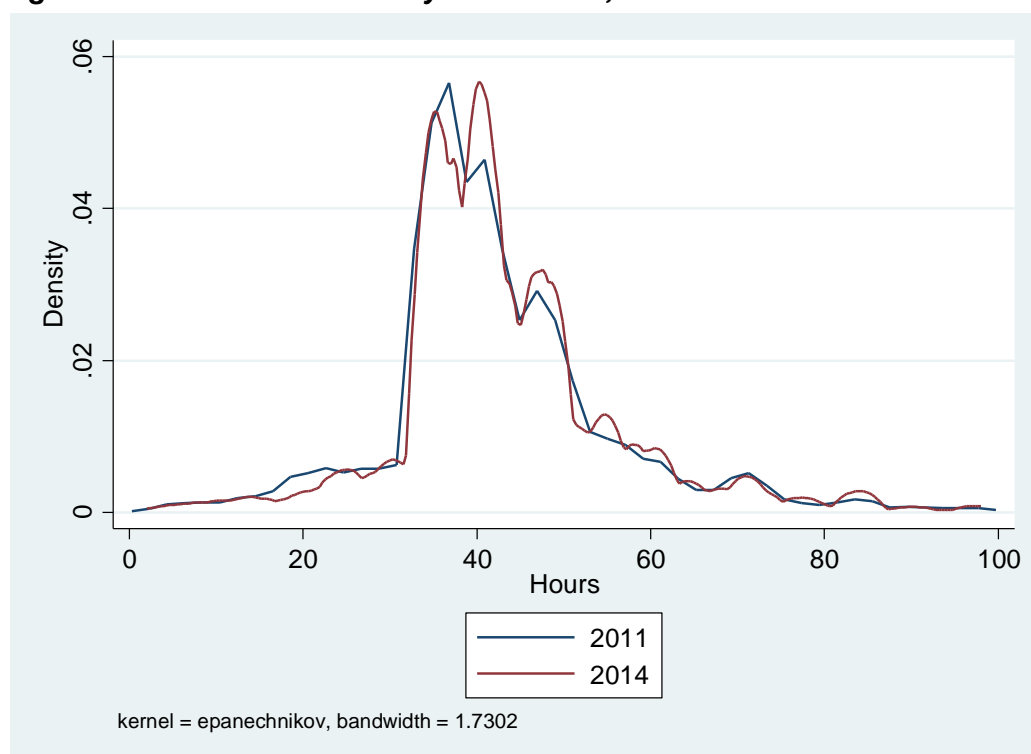
	Number employed			Employment Share		
	2011	2014	change (2011 - 2014)	2011 (%)	2014 (%)	% change (2011 - 2014)
Less than 1 year	6 899	7 269	370	18.2	16.8	-8
1 year to less than 3 years	8 821	7 456	-1 365	23.3	17.2	-26
3 years to less than 5 years	4 624	5 358	734	12.2	12.4	2
5 years to less than 10 years	5 855	6 007	152	15.4	13.9	-10
10 years or more	11 550	12 923	1 373	30.5	29.9	-2
Unspecified	167	4 223	4 056	0.4	9.8	2118
	<b>37 916</b>	<b>43 236</b>	<b>5 320</b>	<b>100</b>	<b>100</b>	

Source: Authors' calculations based on the Seychelles Labor Force Survey 2011 and 2014.

Conversely then, we also observe an overall decline in the proportion of workers that have been working for fewer than three years. In light of a growing labor force and high labor absorption rates, this decline in the employment share of new labor entrants might highlight a labor retention issue, or the fact that younger workers exit the labor market to advance their skills levels. These factors are discussed further below, within the context of youth unemployment.

#### 4.5.1 Work hours

Changes in the number of hours worked provide further insight into workers' conditions of employment. Figure 5 below summarises in a density plot, the average hours worked in 2011 and 2014.

**Figure 5: Distribution of weekly work hours, 2011 and 2014**

Source: Authors' calculations based on the Seychelles Labor Force Survey 2011 and 2014.

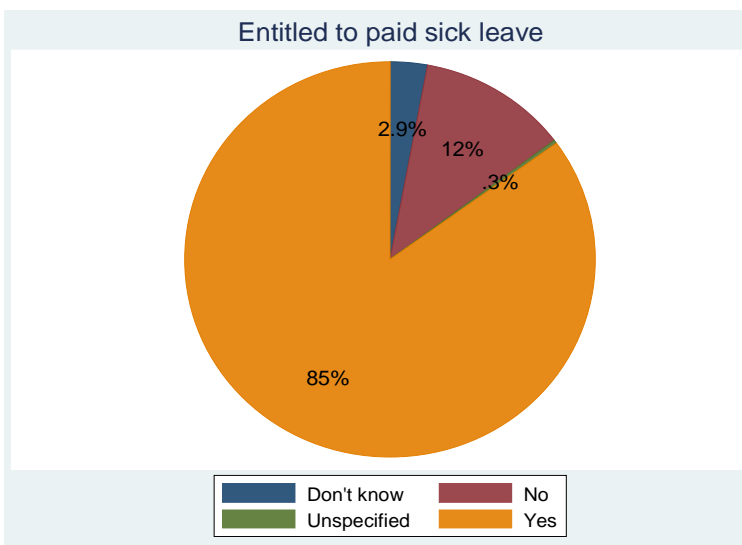
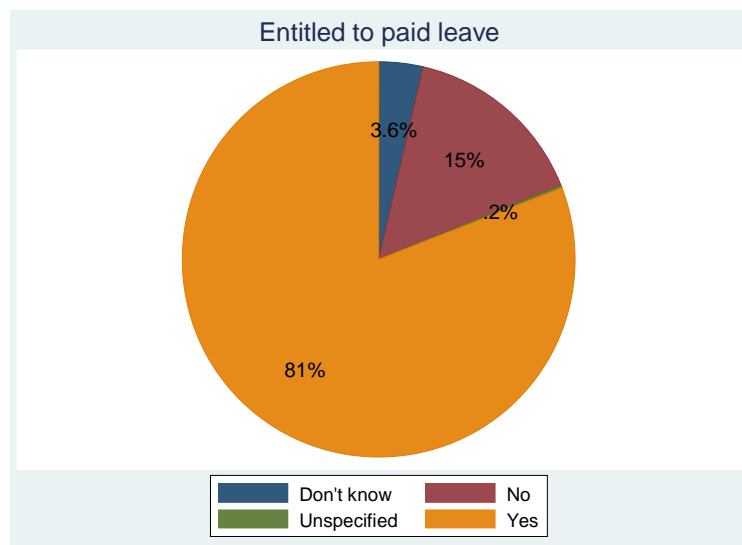
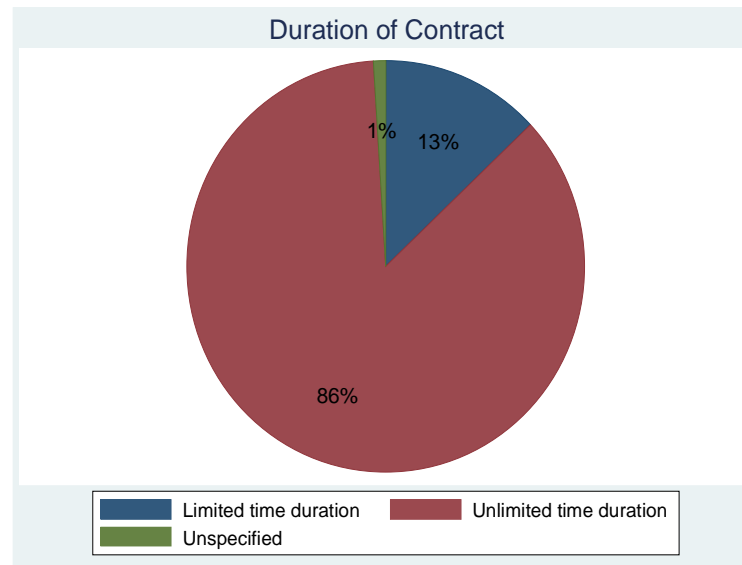
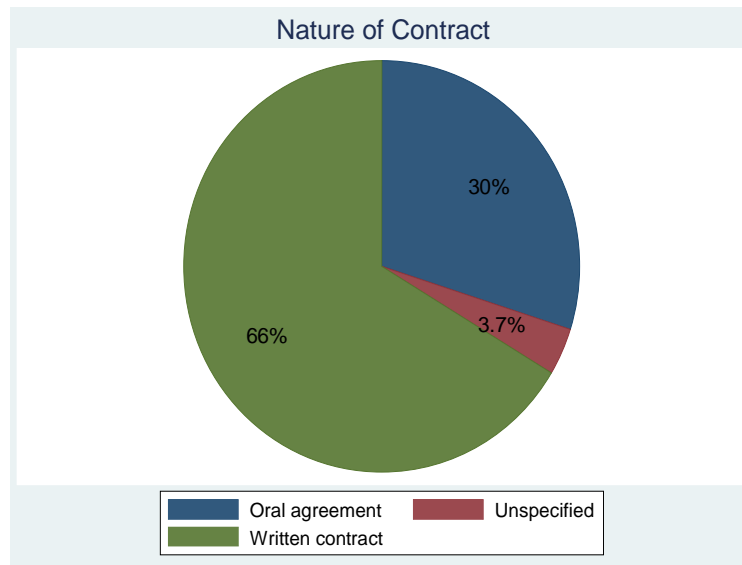
Notes: Across both years we had individuals reporting working 168 hours or more, as well as a significant proportion that worked 0 hours; the density plot above summarises work hours for individuals working between 1 and 100 hours the previous week.

The length of hours worked appears quite similar across both years. The average individual reported working for 41.8 hours in 2011, compared to 43.5 hours in 2014. Men reported working four more hours than women over both years. Managers and skilled agricultural workers reported the longest working hours (over 46 hours in both years), while professionals and individuals working in elementary occupations reported working fewer than 40 hours. By sector, we observe that workers in the agricultural sector report the most number of hours, while the CSP sector had the least.

#### 4.5.2 Contractual and Leave Obligations

Figure 6 below summarises various working conditions of workers in 2011. Here it can be seen that two-thirds of employees had written contracts with employers. Of these, a significantly large proportion (86.1 percent) had contracts that were not time-bound. Regarding paid time off, 81 percent of employees were entitled to paid annual leave, while 85 percent were entitled to paid sick leave.

**Figure 6 (a) - (d): Leave and Contractual Obligations, 2011**



These aggregate figures are indicative of a labor regulatory environment which does offer sufficient protection to workers, and in turn there appears to be a fairly high degree of compliance by employers. However, these aggregate figures mask certain differences in benefits amongst kinds of workers. By sector, 50 percent of the individuals working in agriculture do not have paid leave, compared to less than 5 percent within the water and electricity sector. Comparable patterns are observed where workers with lower skills are observed to be similarly disadvantaged. With respect to time-bound contracts, these are more prevalent in the tertiary sector, where 10 to 15 percent of workers within this sector report having limited-time contracts. Unskilled and semi-skilled workers form a large proportion of individuals with oral contractual agreements. For example, 36 percent of elementary occupation workers have an oral work agreement, as opposed to 16 percent of professionals.

## 5 Unemployment

Compared to the rest of Sub-Saharan Africa, the Seychelles' unemployment rate of 4 percent, is low. As summarised in Table 2, despite having a fairly high labor absorption rate, the labor force grew by a larger proportion than the employment rate, which resulted in unemployment for 1 823 individuals – according to the 2014 LFS. Table 12 below, summarises unemployment across different demographic characteristics.

**Table 12: Unemployment (% and actual), 2011 and 2014**

	Number of unemployed			Share of unemployed (%)			Unemployment rate (%)		
	2011	2014	% change (2011 - 2014)	2011	2014	change (2011 - 2014)	2011	2014	change (2011 - 2014)
<b>Gender</b>									
Male	746	899	20.5	45.7	49.3	7.9	3.7	4.0	8.1
Female	885	924	4.4	54.3	50.7	-6.6	4.5	4.1	-8.9
<b>Age cohort</b>									
15-24 years	730	928	27.1	44.8	50.9	13.6	11	13.3	20.9
25-34 years	260	413	58.8	15.9	22.7	42.8	2.5	3.8	52.0
35-44 years	330	258	-21.8	20.2	14.2	-29.7	3.2	2.5	-21.9
45-54 years	226	124	-45.1	13.9	6.8	-51.1	2.5	1.2	-52.0
55-65 years	85	100	17.6	5.2	5.5	5.8	2.5	1.7	-32.0
<b>Educational attainment</b>									
None	0	14	-	0	0.8	-	0	3.2	-
Primary	93	197	111.8	5.7	10.8	89.5	3	5.0	66.7
Secondary	1 023	853	-16.6	62.7	46.8	-25.4	5.4	4.4	-18.5
Post-Secondary	425	701	64.9	26	38.5	47.9	7.5	11.5	53.3
Degree	34	21	-38.2	2.1	1.2	-42.9	2.2	1.0	-54.5
Postgraduate	11	4	-63.6	0.7	0.2	-71.4	1.5	0.3	-80.0
Not specified	45	33	-26.7	2.8	1.8	-35.7	3.2	7.0	118.8
<b>Migration status</b>									
Not migrant	1 631	1 781	9.2	100	97.7	-2.3	4.2	6.5	54.8
Migrant	0	42	-	0	2.3	-	0	3.2	-
	<b>1 631</b>	<b>1 823</b>	<b>11.8</b>	<b>100</b>	<b>100</b>		<b>4.1</b>	<b>4.0</b>	<b>-2.4</b>

Source: Authors' calculations based on the Seychelles Labor Force Survey 2011 and 2014.

A number of clear trends emerge from Table 12 above. Firstly, between 2011 and 2014, the female unemployment rate declined by 9 percent, while the male unemployment rate rose by 8 percent over this period. Secondly, whilst the unemployment rates for individuals with a primary school qualification increased, the absolute number and relative increase of unemployed post-secondary school workers suggests that there is a concern around the relevance of skills offered at the post-secondary level. This also alludes to the earlier assertion of a shift in the Seychelles' economy toward a more skills-intensive labor demand trajectory.

The Seychelles has a young population, with approximately 24.5 percent of the population being classified as falling between the ages of 15 and 30 in mid-2012 (University of Seychelles, 2015). Youth unemployment (for individuals ranging in age between 15 and 24) in turn, is thrice as high as the official national unemployment rate, and is higher relative to the other age cohorts. A rapid rise in youth unemployment is indicative of a critical labor supply absorption constraint, where there are fewer job opportunities relative to the number of young workers entering the labor market. Additionally, this is compounded by the apparently tight insider labor market, where older individuals seem to retain jobs for a substantial period, and in turn, are remunerated at levels significantly higher than other workers.

Table 13 below summarises the findings of a recent youth unemployment survey. This study cites the lack of relevant work experience and training opportunities as a significant barrier to accessing employment opportunities. This highlights the necessity of suitable internship, apprenticeship, and other similar programmes, to provide young workers with the required skills to enable them access the labor market. From a supply side, the level and quality of education received by potential labor entrants is identified as another constraint to entry.

**Table 13: Barriers to Accessing Employment Opportunities (Youth), 2015**

Barriers to getting a job	%
No work experience	28
Education not up to required level	22
Not enough jobs available	17
Low wages in available jobs	12
I don't have the right skills	11
Considered too young	10
No suitable training opportunities	8
Poor working conditions in available jobs	7
Unsuitable general education	5
Discriminatory prejudices	3
Unsuitable vocational education	2
Have a criminal record	2
Other	16

Source: University of Seychelles, 2015.

Notes: Respondents could select more than one option hence the total is greater than 100 percent.

In the Seychelles, a significant proportion of the labor force is characterised as having a secondary or post-secondary qualification, while a sectoral analysis indicates a greater demand for individuals with higher education and more specialised skills set to work in the tertiary sector. This mismatch partially explains the increasing demand for skilled migrant labor as a temporary measure, while the local labor force receives additional training. The IMF (2013) highlights high reservation wages by the youth as posing further limitation to accessing employment, as individuals are unwilling to work in certain sectors or occupations that are perceived as low-paying. However, no data is offered in support of this, and our research was not able to corroborate this. While we have characterised the Seychelles' labor market as one that offers sufficient protection to workers, and that has high levels of compliance by employers, this survey highlights the presence of specific prejudicial or discriminative practices against young people, which might further limit overall supply. The prevailing view holds that

widespread drug and substance use further explains the reluctance of employers to hire first time workers (IMF, 2013).

Based on the above analysis, shifting unemployment rates are observed to arise from increasing service-led growth and a rising demand for higher skilled personnel. As a result, job vacancies outpace the number of potential jobseekers as vacant positions require higher skilled individuals, particularly in the technical and professional occupational levels (IMF, 2013). The above analysis points to youth employment outcomes and poor outcomes for workers with post-secondary qualifications as key issues. Below, we discuss some of the skills development programmes in place to tackle these problems.

### 5.1 Addressing Skills Constraints

Education fosters economic development, as a country with a highly skilled workforce grows faster than others (Hanushek & Woessmann, 2007). Equipping workers with relevant skills that are also in high demand increases the likelihood that unemployed individuals will obtain jobs, and that the underemployed will increase their productivity and therefore earnings potential. Ensuring sufficient, continuous, and equitable access to skills development systems is therefore an important precondition for providing more and better jobs. Active labor market programs in Seychelles include:

1. The “My First Job Scheme” is targeted at youth that have dropped out of secondary school. This provides a 1-year training programme that combines practical and theoretical training required in the labor market. Each participant receives a fixed monthly allowance during training, which is shared on a 40/60 basis between the employer and the government. Additionally, each trainee should contribute to any tuition fee depending on the rate charged by the institution offering training (World Bank, 2011).
2. The Employment Training Scheme is directed at post-secondary students who have dropped out of tertiary education, or mature individuals looking to change careers.
3. The Home Carer programme involves the provision of training to youth, and particularly women, to care for the elderly and chronically ill.
4. The unemployment relief scheme provides training for a period of between 6 and 24 months, and the number of beneficiaries trained has increased from 1 200 in 2010, to 2 600 in 2014.<sup>8</sup>

So far, we have evidence of a service-driven economy with a rising skills intensity in labor demand preferences. High youth unemployment rates are evidence of low absorption rates for young workers, which suggests few employment opportunities or a mismatch in their overall skillset. Meanwhile, older workers with longer job tenure are observed to benefit from a tight labor market that disproportionately rewards more experienced workers relative to new labor market entrants. Finally, the local view is further that unemployment among the youth is further driven by factors such as high reservation wages, increasing drug and substance abuse among youth, as well as an

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<sup>8</sup> Source: <http://epri.org.za/wp-content/uploads/2011/03/42-Seychelles.pdf> and based on information provided by World Bank staff.

ample social protection system that is perceived to act as a disincentive to many individuals (IMF, 2013).



## 6 Wage Determination in the Seychelles: An Overview

Table 14 and Figure 7 below provide descriptive evidence for the Seychelles suggests that female workers earn lower wages relative to male workers. Importantly, this result is also observed across the entire wage distribution. By educational attainment levels, individuals with a tertiary qualification are observed to earn the highest wages. Wages are non-linear with respect to age, as they increase until the 35 to 44 cohort, and decrease thereafter. This is consistent with a tight insider labor market that confers benefits to workers with a specified length of tenure.

**Table 14: Mean and Median Wages (by select characteristics), 2011 prices**

	Mean	Median
<b>Gender</b>		
Male	9 197	5 644
Female	6 276	4 636
<b>Age cohort</b>		
15-24 years	6 851	4 408
25-34 years	7 004	5 381
35-44 years	9 171	5 479
45-54 years	7 600	5 242
55-65 years	7 598	4 515
<b>Educational attainment</b>		
None	4 305	2 669
Primary	4 840	3 793
Secondary	7 271	4 515
Advanced level	8 192	5 519
Vocational	6 288	4 997
Polytechnic	8 686	6 081
Degree	14 392	10 159
Postgraduate	14 918	12 229
Not specified	6 940	5 180
<b>Income by tenure</b>		
Less than 1 year	8 149	4 358
More than 10 years	8 408	6 146
<b>Migration status</b>		
Not migrant	7 585	5 017
Migrant	13 163	8 805
<b>Overall</b>	<b>7 739</b>	<b>5 057</b>

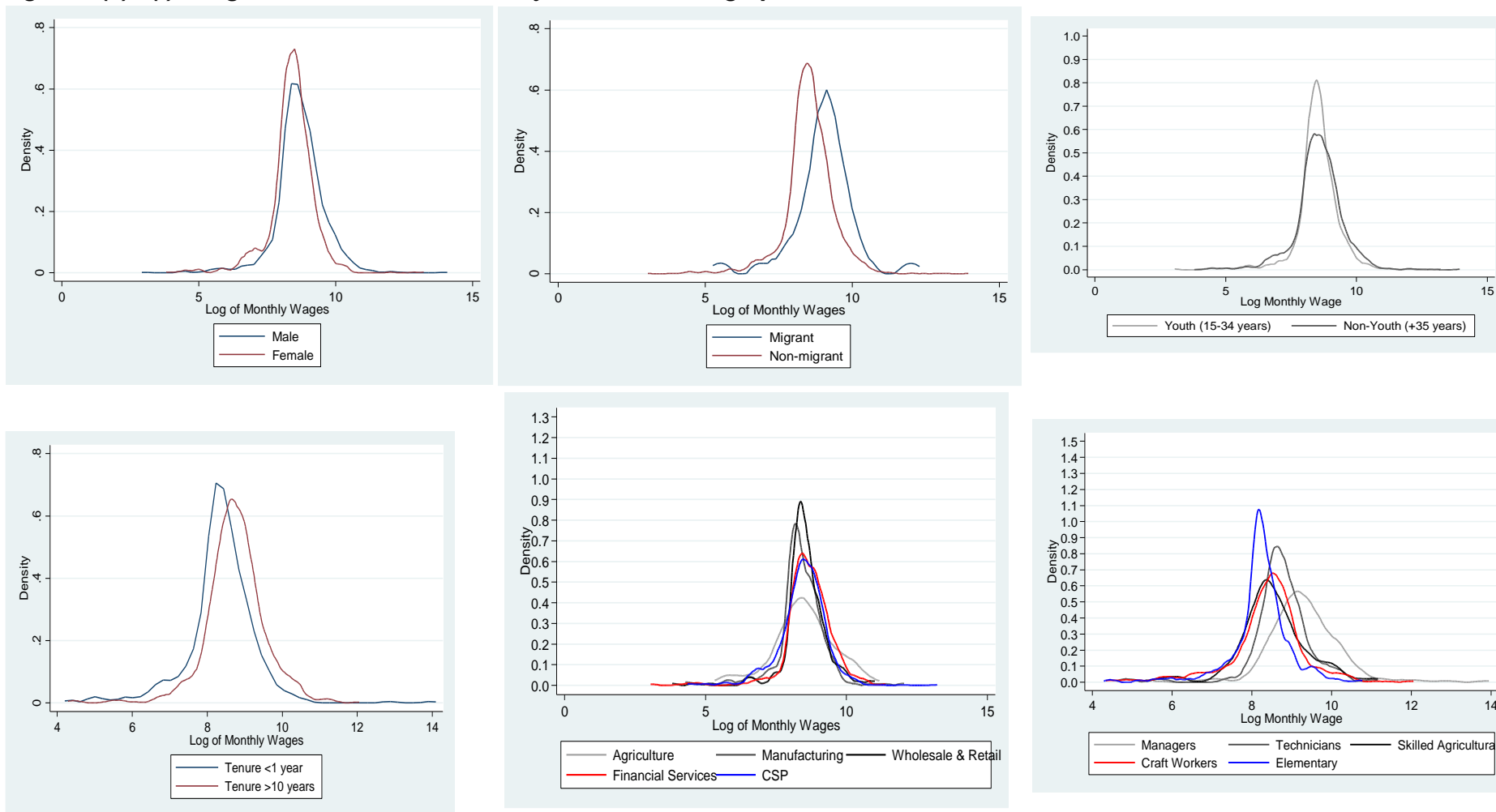
Source: Authors' calculations based on the Seychelles Labor Force Survey 2011 and 2014.

We observe higher wages across the distribution for individuals with greater than 10 years' work experience, compared to those with less than a year. By nationality, migrant workers are observed to earn higher wages that are more evenly spread compared to local workers.

Across the wage distribution, agricultural workers earn less than workers in the financial and CSP sectors. This earning disparity is greater at the lower to middle end of the distribution, with the earnings of agricultural workers at the upper end appearing to converge with those of the financial services sector. Within CSP and the financial sector we observe a higher density spread around the middle, which suggests that more individuals are clustered on either side of the mean and median wage levels. Manufacturing, and wholesale and retail trade workers, are observed to cluster around the middle, with the wages at the upper end tending to converge across these sectors; this suggests a lower wage disparity for workers with higher skills across the different sectors.

Based on these unconditional estimates, the best paid workers are profiled as being typically male, working in the tertiary sector (specifically in transport and finance sectors), with a job tenure of ten years or more. The worst paid workers are overwhelmingly female, working in the agriculture or manufacturing sectors, and mostly employed in low skilled level jobs.

**Figure 7 (a) - (f): Wage Distribution of Income by Selected Demographics, 2011**



Source: Authors' calculations based on the Seychelles Labor Force Survey 2011 and 2014.

## 6.1 Wage Inequality

As indicators for the degree of spread amongst wages we will use  $\log(W_{90}-W_{10})$ ,  $\log(W_{90}-W_{50})$  and  $\log(W_{50}-W_{10})$ , where  $W_{90}$ ,  $W_{50}$  and  $W_{10}$  are percentiles along the wage distribution at the 90<sup>th</sup>, 50<sup>th</sup> and 10<sup>th</sup> percentiles of the distribution, respectively. The  $\log(W_{90}-W_{10})$  is an indicator for the degree of spread across the outer segments of the wage distribution, while  $\log(W_{90}-W_{50})$  and  $\log(W_{50}-W_{10})$  indicate the spread at the top-half and bottom-half of the earnings distribution, respectively. Therefore, if for example the  $\log(W_{90}-W_{50})$  is greater than the  $\log(W_{50}-W_{10})$ , the result would indicate a greater degree of inequality in the top half relative to the bottom half of the wage distribution in the Seychelles. This relationship between the top and lower half of the distribution is further summarised in the ratio of  $\log(W_{90}-W_{50})$  to  $\log(W_{50}-W_{10})$ . This is summarised in Table 15 below.

**Table 15: Monthly Wage Distribution (by Selected Demographics), 2011**

Characteristic	10th Percentile (in SCR)	90th Percentile (in SCR)	Log(50-10)	Log(90-50)	Log(90-10)	Ratio of log(90-50)/log(50-10)
<b>Gender</b>						
Male	2 194	16 440	1.12	1.12	1.26	1.00
Female	1 505	9 895	1.15	1.09	1.26	0.94
<b>Industry</b>						
Agriculture	452	20 544	1.38	1.18	1.62	0.85
Manufacturing	1 844	9 374	1.11	1.10	1.22	1.00
Construction	1 631	18 813	1.15	1.16	1.33	1.00
Transport	3 055	16 368	1.08	1.12	1.21	1.04
Finance	2 939	14 581	1.08	1.11	1.20	1.03
<b>Occupation</b>						
Managers	4 565	30 102	1.10	1.11	1.22	1.01
Professionals	3 951	15 365	1.07	1.08	1.16	1.01
Skilled agricultural workers	1 686	16 305	1.13	1.15	1.31	1.01
Craft and related trade workers	1 254	10 498	1.19	1.09	1.30	0.92
<b>Formality</b>						
Informal	753	17 121	1.27	1.16	1.47	0.92
Formal	2 258	12 543	1.11	1.10	1.22	1.00
<b>Migration Status</b>						
Not Migrant	1 806	12 543	1.14	1.11	1.26	0.97
Migrant	2 032	21 071	1.19	1.10	1.31	0.92
<b>Total</b>	<b>1 881</b>	<b>12 824</b>	<b>1.13</b>	<b>1.11</b>	<b>1.25</b>	<b>0.98</b>

Source: Authors' calculations based on the Seychelles Labor Force Survey 2011 and 2014.

The overall aggregate wage differential at the bottom and top half appears fairly similar, with only slight disparities observed for specific covariates. However, it is notable that wage inequality within the agricultural sector is significantly higher than the national average. In this sector, wage inequality is primarily driven by the spread

in wages at the bottom half of the distribution relative to the top. A similar trend is observed by occupation, where we note that skilled agricultural, and crafts and trade workers, also have greater wage differentials at the lower half of the wage distribution relative to the upper half. The observation where the wage distribution at the  $\log(W_{50}-W_{10})$  is greater than  $\log(W_{90}-W_{50})$  seems to indicate the absence of worker protection policies for low wage workers together, or a premium being offered to semi-skilled workers at the median of the distribution.

### 6.1.1 Gini and Theil Measures of Wage Inequality

To further analyse wage inequality, we characterise inequality indicators based on different subgroups of the population, as well as based on the different sources of income. Inequality could vary from one occupation to the next – that is, between a manager and a craft worker. This is referred to as ‘between group’ inequality. Some inequality will also be prevalent within each group, which necessitates an analysis of ‘within group’ inequality. For policy purposes it is necessary to decompose these sources of inequality accordingly<sup>9</sup> (Haughton & and Khandker, 2009). We use the Gini coefficient measure of inequality that ranges from 0, indicating perfect equality, to 1 indicating perfect inequality.

With regards to disparity in wages earned by demographic characteristics, occupational, and sectoral differences, we calculate an overall wage Gini coefficient of 0.47 for the Seychelles. While lower than the Brazilian and South African wage Gini coefficients, this is indicative of high wage inequality. Table 16 below, summarises the Gini coefficients for various sub-groups.

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<sup>9</sup> The Generalized Entropy class of indicators, including the Theil indexes, can be decomposed across these partitions in an additive way, but the Gini index cannot.

**Table 16: Wage-based Gini Coefficients (by Select Characteristics), 2011**

	Within Group	Between Group	
<b>Gender</b>			
Male	0.496		
Female	0.432	0.669	0.018
<b>Migration Status</b>			
Non-migrant	0.473		
Migrant	0.496	0.682	0.005
<b>Industry</b>			
Agriculture	0.548		
Manufacturing	0.447		
Construction	0.481	0.659	0.028
Transport	0.529		
Finance	0.396		
<b>Occupation</b>			
Managers	0.632	0.588	0.100
Professionals	0.397	0.556	0.069
Skilled Agricultural	0.466		
Craft and Related Trade Workers	0.472		
Plant and Machine Operators	0.384		
<b>Job Tenure</b>			
Less than 1 year	0.583		
1 year to less than 3 years	0.437		
3 years to less than 5 years	0.420	0.681	0.007
5 years to less than 10 years	0.516		
10 years or more	0.419		
<b>Formality</b>			
Informal	0.676	0.680	0.011
Formal	0.424	0.629	0.001
<b>Overall</b>	<b>0.477</b>		

Source: Authors' calculations based on the Seychelles Labor Force Survey 2011 and 2014.

Higher wage inequality is observed in sub-groups that have previously been classified as earning a wage premium. For instance, males who typically earn more than female workers, are observed to have a higher wage Gini coefficient than women and the entire population. A similar outcome is observed for individuals working longer than ten years, and amongst migrant workers.

Within group inequality measures the dispersion of wages between the lowest and highest percentile of earners within each sub-population group. For all cohorts, within-group inequality – namely inequality within the respective cohort as opposed to between-group inequality – is driving overall inequality. By occupation, we observe that inequality is highest for managers relative to plant operators. Workers within the agricultural and construction sectors experience higher inequality relative to workers in mining and manufacturing sectors.

This analysis of wage inequality indicates relatively high levels of wage inequality as measured by the Gini coefficient. In addition, our Theil measures suggest that inequality within the different cohorts is the main driver of overall inequality. This is particularly the case for male workers, higher skilled or educated workers, and migrant laborers. Furthermore, across the wage distribution of income, we note that  $\log(W_{50}-W_{10})$  is greater than  $\log(W_{90}-W_{50})$  for a few sectors or groups. This seems to be

provisionally suggestive that either a premium for semi-skilled workers exists, or that low-wage workers are insufficiently remunerated.

## 6.2 Absolute and Relative Levels of Minimum Wage Violation

Concerns over the economic effects of minimum wage laws on employment are understandably prominent in the active labor market policy agenda, but the enforcement of these laws requires similar attention. Enforcement of, and compliance with, minimum wage legislation is a substantial contributing factor that must be considered in discussions of minimum wage effects. Internationally the research in this area is at a very early stage, and in many cases the data are inadequate to understand enforcement practices and the various elements that influence compliance. However, papers by Borhat *et al.* (2012), Rani *et al.* (2013) and Almeida and Carneiro (2009 & 2012), provide clear evidence that many workers around the world who are covered in principle, in fact continue to earn sub-minimum wages, and that factors such as levels of unemployment, firm size, informality, intensity of inspection, and the level of fines for non-compliance, all influence compliance rates to varying degrees.

We apply an Index of Violation drawn from Borhat *et al.* (2012) to calculate the level and depth of non-compliance with prescribed minimum wages in the Seychelles. For a distribution of wages  $F(w)$ , with a density function of  $f(w)$  and a minimum wage of  $W^m$ , we calculate the Index of Violation using the following equation:

$$V(\alpha) = \int_0^{W^m} \left[ \frac{W^m - W_i}{W^m} \right]^\alpha f(W) \quad (3)$$

where  $W_i$  are individual wages and  $\alpha$  is the ‘violation aversion’ parameter such that when:

- $\alpha = 0$ ,  $V(\alpha)$  measures the percentage of workers below the minimum;
- when  $\alpha = 1$ ,  $V(\alpha)$  measures the average gap between  $W^m$  and the earned wage;
- and
- when  $\alpha = 2$ ,  $V(\alpha)$  is the squared violation gap.

This index allows us to calculate a family of measures which capture both absolute ( $V^0$ ) and relative ( $V^1$ ,  $V^2$ ) levels of non-compliance.

The 2011 monthly minimum wage rate was set at SCR 3 003, and applied to workers with a contract working full-time or part-time. Accordingly, in applying equation (3) above, our estimates suggest that 15 percent of workers in the Seychelles are earning below the national minimum wage. In turn, of the workers below the minimum wage, we note that the average national minimum wage violation gap is 0.07. This information is summarised for a set of covariates in Table 17 below.

**Table 17: Minimum Wage Violation Levels and Depth (by Selected Characteristics), 2011**

	a=0	a=1	a=2
<b>Gender</b>			
Male	0.112	0.062	0.050
Female	0.196	0.089	0.062
<b>Employer type</b>			
Government sector	0.217	0.104	0.072
Parastatal sector	0.030	0.019	0.017
Private sector	0.137	0.066	0.051
In private household	0.447	0.240	0.166
<b>Migration Status</b>			
Non-migrant	0.158	0.077	0.056
Migrant	0.125	0.080	0.064
<b>Sector</b>			
Informal	0.327	0.145	0.102
Formal	0.145	0.071	0.052
<b>Overall</b>	<b>0.157</b>	<b>0.077</b>	<b>0.057</b>

Source: Authors' calculations based on the Seychelles Labor Force Survey 2011 and 2014.

By specific sub-categories, we are able to observe variation in the level and incidence of minimum wage violation. In particular, we observe that while women are more likely to be under-paid (19.6 percent relative to males' 11.2 percent), the incidence of underpayment was lower by only 3 percent relative to men. Individuals working in private households are the most vulnerable, with 4.4 in 10 of these workers reporting sub-minimum wages, and in turn earning on average the lowest below the minimum wage. Similarly, workers in the informal sector report higher vulnerability relative to those who are formally employed, although interestingly, violation of the minimum wage is higher for non-migrants than migrant workers.

Non-compliance by occupations and broad industry categories in turn suggest that the highest levels of minimum wage violation exists for CSP workers, with 50 percent of these employees earning below the monthly minimum wage in 2011. This is mostly as a result of the lower paid individuals working in private households, who are also classified within this sector.



**Table 18: Minimum Wage Violation Levels and Depth (by Industry and Occupation), 2011**

	a=0	a=1	a=2
<b>Broad Industry</b>			
Agriculture	0.043	0.048	0.051
Mining & Quarrying	0.007	0.005	0.003
Manufacturing	0.068	0.049	0.046
Utilities	0.016	0.018	0.022
Construction	0.042	0.046	0.046
Wholesale/Retail	0.067	0.075	0.087
Transport	0.112	0.140	0.165
Finance	0.075	0.072	0.075
CSP	0.490	0.474	0.437
<b>Occupation</b>			
Managers	0.045	0.035	0.030
Professionals	0.032	0.022	0.018
Technicians and Associate Professionals	0.067	0.034	0.028
Clerical Support Workers	0.068	0.042	0.038
Service and Sales Workers	0.273	0.131	0.091
Skilled Agricultural Workers	0.168	0.073	0.057
Craft and Related Trade Workers	0.159	0.075	0.055
Plant and Machine Operators	0.081	0.045	0.042
Elementary Occupations	0.234	0.104	0.073
<b>Overall</b>	<b>0.157</b>	<b>0.077</b>	<b>0.057</b>

Source: Authors' calculations based on the Seychelles Labor Force Survey 2011 and 2014.

By occupation, service and sales, and elementary workers have the highest level of non-compliance (over 20 percent), but the depth of underpayment is observed to be low for both these category of workers (less than 0.24). Higher skilled individuals, such as managers and professionals, who have been characterised as earning significantly high wages, are observed to have generally low non-compliance levels, with less than 5 percent of such workers being underpaid by a magnitude of less than 3 percent below the stipulated minimum wage.

Table 23 and Table 24, in the appendix, further highlight variation by gender across industry and occupational levels. Briefly, non-compliance in terms of wages paid to female workers is consistently observed across all sectors. By occupation, a similar trend is observed, with the exception of female technicians, where non-compliance is lower for female workers relative to males.

This analysis indicates that workers most vulnerable to non-compliance of minimum wages are typically female, working in a private household, or based in the informal sector. The CSP sector is further estimated to have the highest incidence of non-compliance with workers regularly being underpaid by almost 50 percent of the stipulated wages. Higher non-compliance is observed for various semi-skilled categories of workers. These findings are consistent with the earlier wage inequality conclusion of a labor market that may offer insufficient protection to workers at the bottom of the wage distribution despite the legislated national minimum wage.

## 7 Participation, Employment and Earnings: a Multivariate Analysis

In line with Borat & Liebbrandt (2001), we set up a model which deals with the three sequential stages in the labor market: labor market participation, employment, and earnings. As a consequence of the high levels of involuntary unemployment in South Africa, and indeed in many developing country labor markets, the authors argue that it is important to include both labor market participation and employment equations in the analysis, to clearly define unemployment as a state that occurs despite the decision to enter the labor market.

It is a well-established fact in the literature that the sample of labor market participants is highly unlikely to be a randomised sample of the working age population. The group of potential labor market participants has already undergone some kind of selection process, whereby a decision was made on whether or not to enter the labor market. The participation equation, therefore, attempts to shed some light on the factors impacting on an individual's decision to enter the labor force. We begin with a full sample of potential labor market participants and estimate a participation probit regression using, amongst other variables, a number of individual controls that would impact on an individual's decision to enter the labor market. Once the participants are determined, an employment probit model is estimated – conditional on labor force participation. The final stage models the earnings of those who find employment. These findings are summarised in the tables below.

**Table 19: Probit Regressions on Labor Force Participation Likelihood, 2011 and 2014**

	2011 Marginal effect	2014 Marginal effect
Gender: Male	0.066*** (0.047)	0.038*** (0.034)
Age: 25-34 years	0.186*** (0.067)	0.150*** (0.050)
Age: 35-44 years	0.190*** (0.07)	0.179*** 0.056
Age: 45-54 years	0.154*** (0.077)	0.153*** (0.055)
Age: 55-65 years	-0.069** (0.095)	0.040*** (0.059)
Household head	0.159*** (0.060)	0.086*** (0.043)
Married or lived together with a partner	0.107*** (0.049)	0.075*** (0.036)
Migrant	-0.159*** (0.149)	-0.106*** (0.104)
Education: Secondary	0.089*** (0.076)	0.101*** (0.044)
Education: Advanced level	0.140*** (0.181)	0.105*** (0.094)
Education: Vocational	0.198*** (0.119)	0.188*** (0.068)
Education: Polytechnic	0.195*** (0.093)	0.178*** (0.064)
Education: Degree	0.124*** (0.142)	0.152*** (0.108)
Education: Postgraduate	0.187*** (0.214)	0.127*** (0.111)
Education: Unspecified	-0.082** (0.116)	-0.066** (0.105)
Number of children 0-17 years in the household	-0.065*** (0.041)	-0.077*** (0.035)
Number of males 18-59 years in the household	0.010 (0.023)	0.017*** (0.014)
Number of females 18-59 years in the household	0.029*** (0.026)	0.020*** (0.018)
Number of elderly 60 years or above in the household	-0.026** (0.035)	-0.039*** (0.024)
Observed probability	0.720	0.782
Predicted probability (at x-bar)	0.757	0.827
N	4 655	11 095
Wald chi <sup>2</sup>	747.13	1 626.98
Prob > chi <sup>2</sup>	0	0
Pseudo R <sup>2</sup>	0.170	0.196

Source: Authors' calculations based on the Seychelles Labor Force Survey 2011 and 2014.

Notes: 1. Standard errors are provided in parenthesis.

2. The sample size significantly increased between 2011 and 2014 due to the fact that the 2014 data sampled more individuals.

3. \*\*\* Significant at 1%; \*\* Significant at 5%; \* Significant at 10%

4. Reference group: Gender: Female; Age cohort: 15-24 years; Education: None or primary.

Relative to females, male workers have a higher likelihood of participation in the labor force by a magnitude of 4 to 7 percentage points. In addition, 25 to 44 year olds are most likely to be involved in the labor force. In 2011, those categorised as household heads were more likely to be labor force participants (15.9 percent) than when compared to 2014 (8.6 percent). Relative to individuals with a primary or no education

individuals that completed post-secondary schooling were more likely to be labor force participants. Specifically, those individuals with vocational or polytechnic training qualification were most likely to participate in the labor force. In an unexpected and hard to explain result, migrants had a lower likelihood of participation in the labor force of between 11 and 16 percentage points across both years. Households with a dependant (individuals aged under 17 and those older than 60 years) indicate a negative and significant likelihood of participation in the labor force. Labor force participation in a household with children is lower by a magnitude of 7 percent while households with elderly members lower participation by approximately three percent. More positively, the likelihood of participation increases where the household has individuals of working age; this effect is slightly higher for female participants (2 – 2.9 percentage points) relative to males (1 – 1.7 percentage points).

In this analysis, the Heckman two-step approach is used to control for sample selection bias.<sup>10</sup> The derived earnings function is therefore conditional on the individual characteristics of the earners as well as conditional on the fact that these earners are a subsample of all labor market participants (those with a job) and an even smaller subsample of potential participants (all working-age Seychellois).

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<sup>10</sup> Following the estimation of the labor force participation probit, the estimates were used to derive an estimate for the inverse Mills ratio ( $\lambda$ ) to be included in the employment probit. The selection  $\lambda$  derived from the employment probit was then included in the earnings equation.

**Table 20: Determinants of the Probability of Employment, Selection Corrected: 2011 and 2014**

	Marginal effect (2011)	Marginal effect (2014)
Gender: Male	0.002 (0.087)	-0.001** (0.056)
Age: 25-34 years	0.031*** (0.180)	0.023*** (0.105)
Age: 35-44 years	0.026** (0.187)	0.029*** (0.124)
Age: 45-54 years	0.034*** (0.186)	0.041*** (0.132)
Age: 55-65 years	0.037*** (0.205)	0.035*** (0.127)
Household head	-0.012 (0.135)	0.002 (0.080)
Married or lived together with a partner	0.001 (0.106)	0.004 (0.065)
Migrant	-	-0.002 (0.193)
Education: Secondary	-0.012 (0.182)	0.007 (0.112)
Education: Advanced level	-	0.018* (0.219)
Education: Vocational	-0.006 (0.276)	0.013 (0.168)
Education: Polytechnic	0.008 (0.236)	0.011 (0.157)
Education: Degree	0.002 (0.323)	0.022** (0.240)
Education: Postgraduate	0.009 (0.462)	0.027*** (0.356)
Education: Unspecified	0.017 (0.305)	0.012 (0.224)
Lambda	-0.052 (0.429)	-0.036** (0.247)
Observed probability	0.957	0.959
Predicted probability (at x-bar)	0.965	0.973
N	3 214	8 882
Wald chi <sup>2</sup>	85.98	291.70
Prob > chi <sup>2</sup>	0	0
Pseudo R <sup>2</sup>	0.072	0.118

Source: Authors' calculations based on the Seychelles Labor Force Survey 2011 and 2014.

Notes: 1. Standard errors are provided in parenthesis.

2. \*\*\* Significant at 1%; \*\* Significant at 5%; \* Significant at 10%.

3. The sample size significantly increased between 2011 and 2014 due to the fact that the 2014 data had slightly more individuals sampled.

4. Migrants and Advanced educational levels are omitted due to collinearity in 2011.

5. Reference group: Gender: Female; Age cohort: 15-24 years; Education: None or primary.

The likelihood of employment as indicated by the lambda was statistically significant only in 2014 and not in 2011, suggesting that sample selection bias if not corrected for, would have significantly affected our results for 2014. The marginal effect of being male on employment was more relevant in 2014, where it reduced overall employment likelihood by 0.1 percent. All age cohorts are significant in 2011 and 2014. In particular, we observe that relative to the reference group (15 – 24 years), individuals aged 45 – 54 and 55 – 65 are the most likely to be employed – consistent with the earlier

observation of a tight insider labor market. The education dummy variables are observed to be insignificant in 2011 and significant for individuals with advanced level qualifications, a degree and a postgraduate degree implying that higher qualifications positively influence the likelihood of employment.

The earnings regression results for 2011 only are summarised in Table 19 below. Lambda is statistically insignificant, which means no selection bias was evident in the second stage of the model. In order to determine the earnings premium we specify two different models. The first (I) does not specify any sectoral or occupational dummies and provides a crude estimate while the second (II) includes these specific dummies. The earning premium to being male is approximately 16 – 18 percent. The age variables are all insignificant.

**Table 21: Heckman regressions on Wage, conditional on employment (2011)**

	Coefficient	
	[I]	[II]
Gender: Male	0.176*** (0.027)	0.157*** (0.028)
Education: Secondary	0.244*** (0.044)	0.137*** (0.042)
Education: Vocational	0.289*** (0.058)	0.118** (0.056)
Education: Polytechnic	0.516*** (0.057)	0.262*** (0.055)
Education: Degree	0.845*** (0.092)	0.449*** (0.092)
Education: Postgraduate	1.137*** (0.085)	0.683*** (0.084)
Education: Unspecified	0.245*** (0.093)	0.098 (0.091)
Occupation: Manager		0.716*** (0.070)
Occupation: Professional		0.479*** (0.060)
Occupation: Technician		0.307*** (0.051)
Occupation: Clerk		0.257*** (0.046)
Occupation: Service and sales		-0.002 (0.037)
Occupation: Skilled agriculture		0.006 (0.079)
Occupation: Craft and related trade		0.040 (0.055)
Occupation: Operator and assembler		0.179*** (0.048)
Occupation: Armed forces		0.574*** (0.073)
Industry: Mining		0.055 (0.128)
Industry: Manufacturing		-0.049 (0.113)
Industry: Electricity and water		0.172 (0.118)
Industry: Construction		0.092

	Coefficient	
	[I]	[II]
		(0.123)
Industry: Wholesale and retail trade		0.064 (0.116)
Industry: Transport, storage & communication		0.249** (0.109)
Industry: Finance		0.111 (0.109)
Industry: Community, social & personal		-0.012 (0.115)
Industry: Other		-0.034 (0.116)
Employee	-0.080 (0.067)	-0.077 (0.068)
Formal sector worker	0.290*** (0.052)	0.175*** (0.054)
Public sector	-0.087** (0.037)	-0.036 (0.048)
Private sector	0.067** (0.034)	0.057 (0.036)
Tenure: 1 year to less than 3 years	0.099*** (0.039)	0.068* (0.038)
Tenure: 3 years to less than 5 years	0.061 (0.047)	0.025 (0.046)
Tenure: 5 years to less than 10 years	0.214*** (0.049)	0.161*** (0.050)
Tenure: 10 years or more	0.371*** (0.043)	0.297*** (0.043)
Having a secondary job	0.470*** (0.081)	0.506*** (0.075)
Lambda	-0.770 0.535	-0.705 (0.514)
Constant	2.648*** (0.152)	2.696 (0.181)
N	3 071	3 071
F-statistic	36.02	35.26
R <sup>2</sup>	0.1877	0.2697
Adjusted R <sup>2</sup>	0.1818	0.2598

Source: Authors' calculations based on the Seychelles Labor Force Survey 2011 and 2014.

Notes: 1. Standard errors are provided in parenthesis.

2. \*\*\* Significant at 1%; \*\* Significant at 5%; \* Significant at 10%.

3. Migrant and Education at the Advanced Level are omitted due to collinearity.

4. Reference group: gender: female; age cohort: 15-24 years; education: none or primary; occupation: elementary occupations; industry: agriculture; sector: not public sector and not private sector (e.g. parastatal sector, co-operative, embassy, NGO, private household); tenure: Less than 1 year.

As is to be expected, returns to education are positive and increasing in level of education, as individuals with a post-graduate qualification attained a significant wage premium relative to individuals with no education or a primary level of schooling. This is observed using both specifications of the model where individuals with a post-graduate and undergraduate degree earn the highest relative to the comparator group (individuals with primary or no education). Returns at the post-secondary level though, are concave such that individuals with a vocational qualification realize the lowest wage premium relative to individuals with other qualifications. In 2011, individuals with a vocational qualification earned 11.8 percent more than workers with a primary

education; individuals with a secondary education are observed to be fare slightly better as they earned 13.7 percent more than the reference group. By occupational category, we note that managers, professionals and armed forces personnel, all earn more than 50 percent higher wages relative to agricultural workers. No wage differentials are observed by industry, with the exception of the transport, storage and communication sector, where earnings are observed to be 24.9 percent higher than the agricultural sector. Having a second job has a significant impact on wages, improving wages by 50 percent. This supports earlier findings in the report that individuals with secondary jobs earn higher wages and that such individuals are most likely located in the primary and secondary sectors engaging in unskilled or semi-skilled work.

The effect of cumulative experience, as demonstrated by increasing tenure, is significant from five years of work, where employees can expect to earn upwards of 16 percent more relative to individuals working for less than one year. Again, we observe higher returns for individuals working longer than ten years, who earn a premium of almost 30 percent relative to the reference group. This finding is indicative of a lifetime employment structure coupled with seniority-based wages, where individuals with increasing experience and tenure, controlling for other characteristics, are compensated with higher wages.

Our econometric evidence here suggests that at the mean, males are consistently more likely to participate in the labor force as well as to be employed, and as a result they earn a wage premium of 16 percent over females.

The age coefficients reinforce the notion that young people, initially faced with higher unemployment probabilities, further encounter low wages as individuals with greater tenure realise significantly higher returns. Indeed, on these results it would be fair to characterise older individuals with 5 years or more of tenure as representing a key proxy for “insiders” in the Seychelles’ labor market.

On average, higher skilled or educated individuals are observed to earn a premium of 48 to 70 percent relative to uneducated workers. Specifically, highly skilled individuals earn on average, over 50 percent more than elementary type workers. The differential returns to skill reinforce the notion that Seychelles is an economy defined by a skills-biased labor demand trajectory, in that there is simultaneously a growing relative demand, and in turn a high premium being offered, for high skilled workers and highly educated workers.

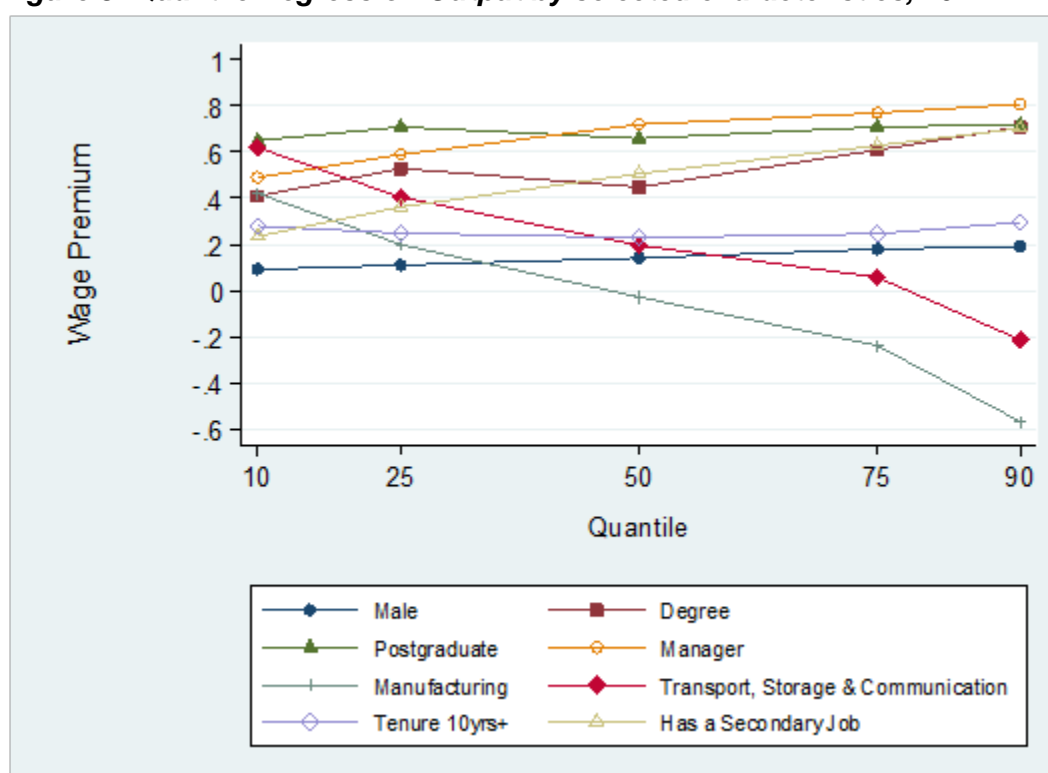
The shift towards services-led growth, as the structural equivalent of this labor market shift, is evident in the sectoral premium dominant in the transport and storage sector, although notably not as strong for the remaining services sectors. As is to be expected, labor market segmentation is clear in that formal sector workers earn a wage premia that is 18 percent higher relative to other workers, whilst individuals with secondary wages are observed to earn wages that are 50 percent higher than individuals with a single source of income.



## 7.1 Quantile Regression

This section discusses the results of our earning functions quantile regression, which principally aims to estimate the individual contributions and impact of various variables in shaping the earning outcomes of Seychellois workers. The data used relates to 2 928 individuals, and includes controls for demographic characteristics including gender, age, tenure and education. We also include occupational and industrial characteristics, as well as an indicator of the sector where the individual works. The full results are reported in the Appendix. The figure below summarises the main findings for the regressions at the 10<sup>th</sup>, 25<sup>th</sup>, 50<sup>th</sup>, 75<sup>th</sup> and the 90<sup>th</sup> percentile of the log wage distribution. This allows us to evaluate the impact of the explanatory variables on the workers' earnings at these points of the log wage distribution.

**Figure 8: Quantile Regression Output by selected characteristics, 2011**



Source: Authors' calculations based on the Seychelles Labor Force Survey 2011 and 2014.

These findings corroborate earlier results. There is a significant and increasing gender gap across the wage distribution with men earning wages that are 9 percent higher than females at the 10<sup>th</sup> percentile, increasing to 19 percent at the 90<sup>th</sup> percentile. Although the age variables are all insignificant, we observe that tenure (a proxy for age and experience) continues to be significant for individuals working ten years or more, and not for any of the other age categories. These finding supports earlier discussions on the presence of a tight insiders labor market that disproportionately rewards workers with longer tenure. In particular, longer tenured workers earn between 23 and 30 percent higher than younger individuals or less experienced workers. Gains from a secondary job are increasingly evident across the wage distribution, with workers at the 90<sup>th</sup> percentile earning 70 percent more than workers with a single job.

Our findings validate a wage premium effect operating on this evidence across the entire wage distribution, for highly skilled and educated workers, arising from the growing skills intensity of employment. This benefit results in differentiated earnings across the wage distribution of this cohort of workers. In particular, workers with a post graduate qualification earn 70 percent more than individuals with none, or primary level of schooling, while managers earn 50 to 80 percent more than unskilled workers.

Shifts to greater service-led growth is further observed in the wage returns across the different sectors. Higher wages in the tertiary sector are the norm, particularly within the transport and storage sector where wages at the 10<sup>th</sup> to the 25<sup>th</sup> percentile are observed to be over 40 percent higher than agricultural workers at these percentiles and controlling for other key characteristics. The relative stagnation of the manufacturing sector is demonstrated by significantly lower wages across the distribution. Working in the formal sector has increasingly positive benefits at the lower wage levels, becoming less important as you move towards the top of the wage distribution.

## 8 Conclusion

This report has aimed to provide a detailed overview and profile of the Seychelles' labor market based on the 2011 and 2014 labor force survey data.

In the main, the growth of Seychelles' economy can be characterised as output expansion in the various services sectors. Consistent with this share of GDP rise, the employment share of this sector of the economy grew – constituting essentially all of the substantial net new jobs created in the Seychelles between 2011 and 2014. In contrast, the secondary sector has been essentially stagnant, driven largely by a manufacturing sector which has contracted in terms of employment share and contribution to overall GDP. Accompanying this shift is the deepening skills intensity of employment that has resulted in increasing demand for higher skilled and higher educated individuals.

Low national unemployment rates disguise a youth unemployment rate that is thrice the national rate. High youth unemployment rates are evidence of low absorption rates for young workers, which suggests few employment opportunities or a mismatch in their overall skillset. Conversely, tenure is identified as a significant constraint to entry into the labor market. This ossification of the labor market suggests the existence of a lifetime employment structure where a small minority of long-serving employees are compensated with higher wages.

This employment-growth relationship is further demonstrated in the Seychelles' wage dynamics. Increasing demand for better educated or higher skilled workers is demonstrated by wage premia ranging between 45 and 70 percent for individuals with a degree or post-graduate qualification, as well as highly skilled individuals relative to unskilled workers. The growing prominence of the services sector has resulted in significant benefit to individuals employed within the transport and storage segments, who earn significantly more than all other sectors.

Despite low unionisation levels, we observe fairly secure working conditions whereby over half of the workers have a written contract, and over 80 percent of workers are entitled to paid annual and sick leave. However, these aggregate figures mask certain heterogeneities in the distribution of these benefits to workers. By sector, 50 percent of the individuals working in agriculture do not have paid leave, compared to less than 5 percent within the water and electricity sector. Similar patterns are observed where workers with lower skills are observed to be similarly disadvantaged. Unskilled and semi-skilled workers form a large proportion of individuals with oral contractual agreements. For example, 36 percent of elementary occupation workers have an oral work agreement, as opposed to 16 percent of professionals.

Although significantly lower than the extreme levels in Brazil and South Africa, this report concludes that there is relatively high wage inequality in the Seychelles. A Gini coefficient of 0.47 is calculated using the 2011 wage data. The observation that the wage distribution at the bottom half is greater than the top half may indicate the incomplete implementation or weakened monitoring of worker protection policies for low wage workers, or a premium being offered to semi-skilled workers at the median of the distribution.

Our index of minimum wage violation indicates that 16 percent of workers are paid sub-minimum wages that are, on average, 7 percent below the stipulated minimum

wage. This varies significantly by various demographic indicators. Female workers, individuals in the informal sector, and those working in private households, are the most vulnerable. Non-compliance remains high for the agriculture sector, and for individuals working within the service and sales occupational segment. Ultimately though, relative to other developing countries – and certainly for African economies – levels of minimum wage violation are fairly low in the Seychelles. It should be noted that the 2014 survey data underpinning this finding pre-dates the large (approximately 25 percent) increase in minimum wage as of 2016.

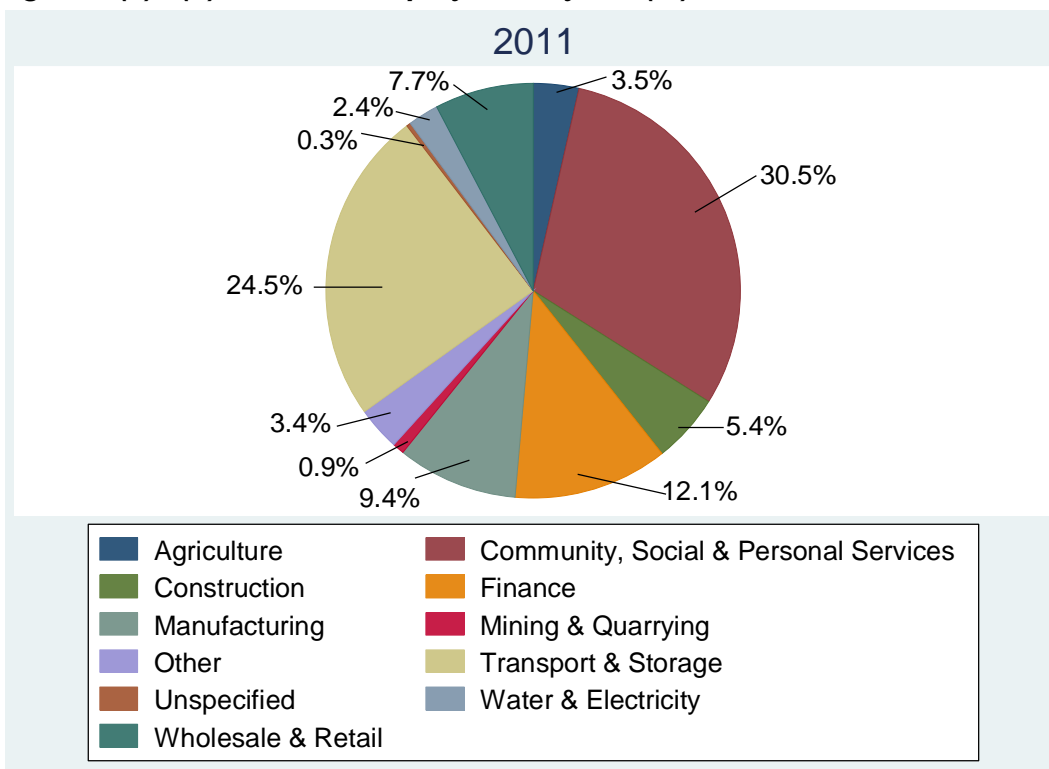
Ultimately, the above suggests that future economic growth in the Seychelles is dependent on increasing overall labor absorption levels in a manner which ensures that high quality employment opportunities grow at a sufficient pace to absorb the rising number of labor force participants. A key consideration therefore is in identifying those sectors of the economy that will provide employment to new entrants in sectors of relatively higher value-added. At the centre of this challenge must be the growing issue of youth unemployment, that if not suitably addressed, could thwart the future economic development trajectory of this island economy.

## Reference List

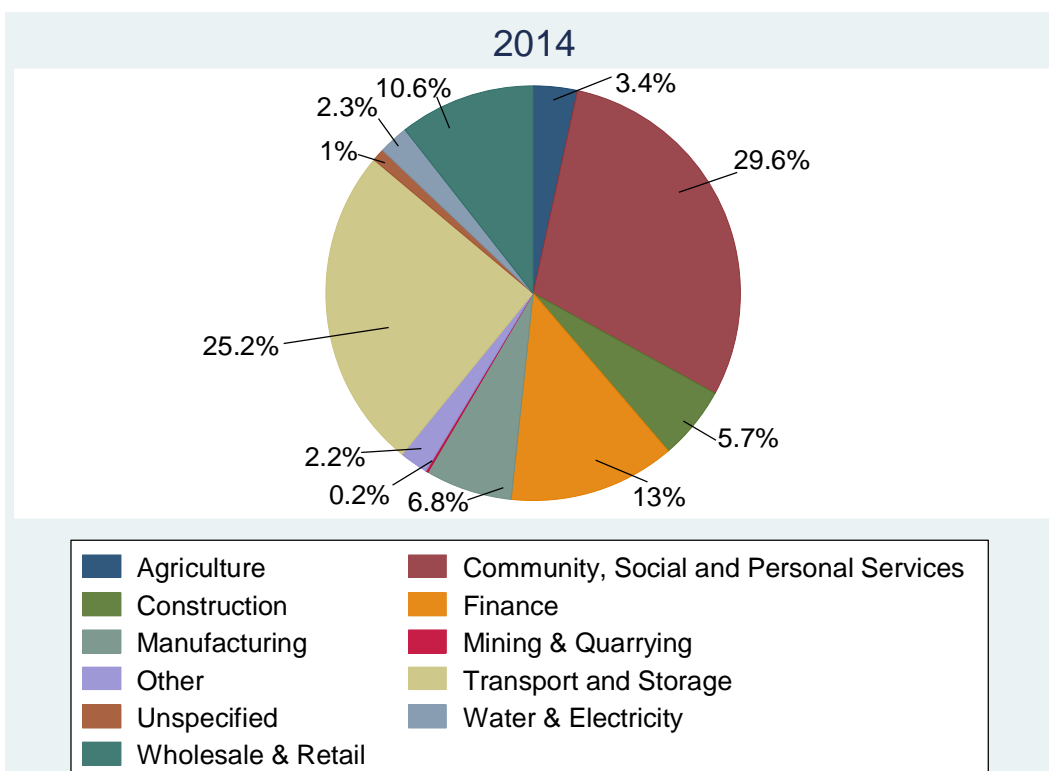
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## Appendix

**Figure 9 (a) - (b): Share of Employment by SIC (%), 2011 and 2014**

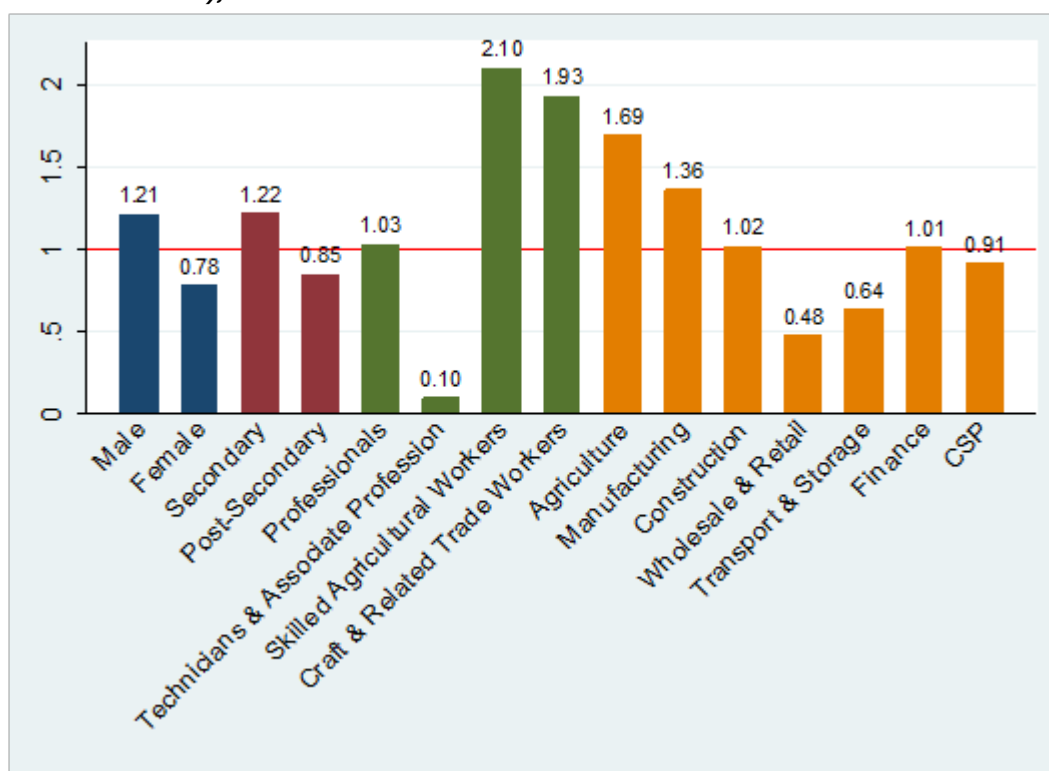


Source: Authors' calculations based on the Seychelles Labor Force Survey 2011 and 2014.



Source: Authors' calculations based on the Seychelles Labor Force Survey 2011 and 2014.

**Figure 10: Relative Incidence of Secondary to Primary Employment (selected characteristics), 2011**



Source: Authors' calculations based on the Seychelles Labor Force Survey 2011 and 2014.

- Notes:
1. This data omits the proportion of Armed Forces individuals that are also classified as being in secondary employment. We also omit other individuals classified as "Unspecified" or "Other".
  2. The relative change refers to the difference between two quantities where one of the data points under review is the reference point. A positive relative change indicates a value that is greater than a positive reference value while a negative relative change indicates a smaller value. The opposite is true where the reference value is negative. Here, the relative change is calculated by comparing the characteristics of those with secondary employment relative to the overall labor market characteristics in 2011.

**Table 22: Employment Share of individuals by academic qualification, 2011 and 2014**

		<b>LFS 2011</b>									
		<b>No schooling</b>	<b>Primary</b>	<b>Secondary</b>	<b>Advanced level</b>	<b>Vocational</b>	<b>Poly-technic</b>	<b>Degree</b>	<b>Post-graduate</b>	<b>Unspec-ified</b>	<b>All LF</b>
<b>Employed (%)</b>	<b>Government sector</b>	38.1	21.5	21.4	29.1	21.4	29.7	31.6	46.3	14.7	24.1
	<b>Parastatal sector</b>	7.7	4.5	8.5	8.7	12.4	14.1	13.6	5.1	9.7	10.0
	<b>Private sector</b>	46.4	56.0	57.2	54.0	55.9	47.9	48.5	42.9	67.2	54.5
	<b>With a cooperative</b>	0.0	0.8	0.7	0.0	0.3	0.1	0.0	1.5	0.0	0.5
	<b>In non-government / non-profit organization</b>	0.0	0.0	0.2	0.0	0.3	0.7	1.5	1.5	0.9	0.4
	<b>Embassy / international</b>	0.0	0.0	0.0	0.0	0.7	0.0	1.7	0.0	0.0	0.1
	<b>In private household</b>	0.0	11.1	4.2	4.9	3.0	2.2	0.9	1.3	1.8	3.9
	<b>Elsewhere</b>	7.7	2.6	2.3	3.3	0.9	1.8	0.0	0.0	1.6	1.9
	<b>Unspecified</b>	0.0	0.6	0.2	0.0	0.3	0.8	0.0	0.0	1.0	0.4
<b>Unemployed (%)</b>		0.0%	3.0	5.4	0.0	4.8	2.8	2.2	1.5	3.2	4.1
<b>All LF</b>		<b>181</b>	<b>3 130</b>	<b>19 095</b>	<b>728</b>	<b>3 716</b>	<b>8 971</b>	<b>1 564</b>	<b>750</b>	<b>1 412</b>	<b>39 547</b>

		<b>LFS 2014</b>										
		<b>No schooling</b>	<b>Primary</b>	<b>Secondary</b>	<b>Advanced level</b>	<b>Vocational</b>	<b>Poly-technic</b>	<b>Degree</b>	<b>Post-graduate</b>	<b>Unspec-ified</b>	<b>All LF</b>	
<b>Employed (%)</b>	<b>Government sector</b>	17.6	18.4	17.9	25.0	18.0	26.2	30.9	39.8	15.0	21.0	
	<b>Parastatal sector</b>	2.5	6.2	8.1	9.3	12.6	11.2	8.1	10.4	5.8	9.3	
	<b>Private sector</b>	41.6	37.4	43.6	40.6	45.6	38.6	30.7	27.1	49.5	41.3	
	<b>With a cooperative</b>	0.0	0.4	0.4	0.0	0.0	0.4	0.0	0.0	0.0	0.3	
	<b>In non-government / non-profit organization</b>	0.0	0.0	0.3	0.4	0.0	0.4	1.1	0.5	0.0	0.3	
	<b>Embassy / international</b>	0.0	0.1	0.1	0.0	0.0	0.0	0.4	0.0	0.0	0.1	
	<b>In private household</b>	3.0	3.9	2.1	0.6	1.3	0.5	0.6	0.4	1.7	1.7	
	<b>Elsewhere</b>	0.0	0.4	0.4	0.0	0.5	0.1	0.0	0.5	0.0	0.3	
		<b>Unspecified</b>	23.8	15.3	13.3	7.9	9.4	10.5	11.2	13.5	17.7	12.2
		<b>Not allowed to answer the sector question</b>	8.5	13.0	9.3	12.8	8.2	8.4	15.9	7.6	3.4	9.6
<b>Unemployed (%)</b>		3.1	5.0	4.5	3.3	4.6	3.7	1.1	0.3	6.9	4.1	
<b>All LF</b>		<b>443</b>	<b>3 974</b>	<b>19 230</b>	<b>1 368</b>	<b>7 630</b>	<b>8 472</b>	<b>2 045</b>	<b>1 423</b>	<b>474</b>	<b>45 059</b>	

Source: Authors' calculations based on the Seychelles Labor Force Survey 2011 and 2014.



**Table 23: Minimum Wage Violation Levels and Depth (by Gender and Industry), 2011**

		Male	Female
<b>Agriculture</b>	<b>a=0</b>	0.440	0.745
	<b>a=1</b>	0.260	0.424
	<b>a=2</b>	0.201	0.297
<b>Mining</b>	<b>a=0</b>	0.411	0.738
	<b>a=1</b>	0.225	0.407
	<b>a=2</b>	0.112	0.214
<b>Manufacturing</b>	<b>a=0</b>	0.225	0.407
	<b>a=1</b>	0.112	0.214
	<b>a=2</b>	0.081	0.151
<b>Utilities</b>	<b>a=0</b>	0.269	0.662
	<b>a=1</b>	0.169	0.371
	<b>a=2</b>	0.132	0.260
<b>Construction</b>	<b>a=0</b>	0.295	0.662
	<b>a=1</b>	0.167	0.386
	<b>a=2</b>	0.123	0.272
<b>Wholesale/Retail</b>	<b>a=0</b>	0.223	0.402
	<b>a=1</b>	0.125	0.235
	<b>a=2</b>	0.095	0.177
<b>Transport</b>	<b>a=0</b>	0.112	0.180
	<b>a=1</b>	0.075	0.103
	<b>a=2</b>	0.062	0.077
<b>Finance</b>	<b>a=0</b>	0.171	0.279
	<b>a=1</b>	0.088	0.157
	<b>a=2</b>	0.065	0.114
<b>CPS</b>	<b>a=0</b>	0.159	0.287
	<b>a=1</b>	0.094	0.129
	<b>a=2</b>	0.071	0.085

Source: Authors' calculations based on the Seychelles Labor Force Survey 2011 and 2014.

**Table 24: Minimum Wage Violation Levels and Depth (by Gender and Occupation), 2011**

		Male	Female
<b>Managers</b>	<b>a=0</b>	0.174	0.193
	<b>a=1</b>	0.108	0.112
	<b>a=2</b>	0.081	0.079
<b>Professionals</b>	<b>a=0</b>	0.169	0.269
	<b>a=1</b>	0.091	0.158
	<b>a=2</b>	0.066	0.117
<b>Technicians</b>	<b>a=0</b>	0.305	0.233
	<b>a=1</b>	0.184	0.140
	<b>a=2</b>	0.142	0.105
<b>Clerical Support</b>	<b>a=0</b>	0.167	0.360
	<b>a=1</b>	0.100	0.165
	<b>a=2</b>	0.077	0.111
<b>Service and Sales</b>	<b>a=0</b>	0.321	0.645
	<b>a=1</b>	0.188	0.356
	<b>a=2</b>	0.146	0.247
<b>Skilled Agricultural Workers</b>	<b>a=0</b>	0.212	0.610
	<b>a=1</b>	0.116	0.332
	<b>a=2</b>	0.087	0.230
<b>Craft and Related Workers</b>	<b>a=0</b>	0.165	0.610
	<b>a=1</b>	0.093	0.355
	<b>a=2</b>	0.073	0.258
<b>Plant and Machinery Operators</b>	<b>a=0</b>	0.242	0.354
	<b>a=1</b>	0.133	0.170
	<b>a=2</b>	0.104	0.115
<b>Elementary Occupations</b>	<b>a=0</b>	0.523	0.812
	<b>a=1</b>	0.311	0.473
	<b>a=2</b>	0.228	0.333

Source: Authors' calculations based on the Seychelles Labor Force Survey 2011 and 2014.

**Table 25: Quantile regression of Wages from All Jobs (Conditional on Employment), 2011**

	q10	q25	q50	q75	q90
	Coefficient	Coefficient	Coefficient	Coefficient	Coefficient
<b>Gender: Male</b>	<b>0.09***</b> (0.03)	<b>0.11***</b> (0.02)	<b>0.14***</b> (0.02)	<b>0.18***</b> (0.03)	<b>0.19***</b> (0.06)
Education: Secondary	0.09* (0.05)	0.08** (0.035)	0.06** (0.031)	0.13 (0.04)	0.27 (0.09)
Education: Vocational	0.16*** (0.06)	0.18*** (0.05)	0.10*** (0.04)	0.16*** (0.06)	0.27** (0.124)
Education: Polytechnic	0.23*** (0.06)	0.26*** (0.05)	0.24*** (0.04)	0.33*** (0.06)	0.43*** (0.13)
<b>Education: Degree</b>	<b>0.41***</b> <b>(0.08)</b>	<b>0.53***</b> <b>(0.06)</b>	<b>0.45***</b> <b>(0.053)</b>	<b>0.61***</b> <b>(0.07)</b>	<b>0.71***</b> <b>(0.16)</b>
<b>Education: Postgraduate</b>	<b>0.65***</b> (0.11)	<b>0.71***</b> (0.08)	<b>0.66***</b> (0.07)	<b>0.71***</b> (0.09)	<b>0.72***</b> (0.19)
Education: Unspecified	0.04 (0.08)	0.11** (0.06)	0.13 (0.05)	0.2 (0.07)	0.34** (0.15)
Occupation: Manager	0.49*** (0.07)	0.59*** (0.047)	0.72*** (0.04)	0.77*** (0.06)	0.81*** (0.12)
Occupation: Professional	0.50*** (0.06)	0.50*** (0.04)	0.51*** (0.03)	0.51*** (0.05)	0.42*** (0.106)
Occupation: Technician	0.32*** (0.05)	0.26*** (0.037)	0.35*** (0.032)	0.37*** (0.04)	0.31*** (0.097)
Occupation: Clerk	0.29*** (0.05)	0.25*** (0.04)	0.27*** (0.035)	0.30*** (0.05)	0.24** (0.104)
Occupation: Service and sales	-0.15*** (0.04)	-0.04 (0.02)	0 (0.02)	0.08*** (0.03)	0.02 (0.07)
Occupation: Skilled agriculture	0.15** (0.08)	-0.01 (0.05)	0.02 (0.05)	0.06 (0.07)	0 (0.15)
Occupation: Craft and related trade	0 (0.05)	0.05 (0.04)	0.07** (0.03)	0.08** (0.04)	0.07 (0.09)
Occupation: Operator and assembler	0.17*** (0.05)	0.12*** (0.03)	0.13*** (0.03)	0.16*** (0.04)	0.19* (0.1)
Occupation: Armed forces	0.76*** (0.12)	0.65*** (0.09)	0.58*** (0.08)	0.55*** (0.11)	0.40* (0.23)
Industry: Mining	0.46*** (0.11)	0.26*** (0.1)	0 (0.09)	-0.38*** (0.13)	-0.43 (0.26)
<b>Industry: Manufacturing</b>	<b>0.42***</b> (0.08)	<b>0.20***</b> (0.06)	<b>-0.03</b> (0.05)	<b>-0.24***</b> (0.08)	<b>-0.57***</b> (0.176)
Industry: Electricity and water	0.57*** (0.1)	0.31*** (0.07)	0.09 (0.07)	-0.1 (0.09)	-0.52 (0.21)
Industry: Construction	0.42*** (0.09)	0.28*** (0.06)	0.09 (0.06)	-0.04 (0.09)	-0.29 (0.19)
Industry: Wholesale and retail trade	0.59*** (0.09)	0.34*** (0.06)	0.08 (0.05)	-0.17** (0.08)	-0.52*** (0.18)

<b>Industry: Transport, storage &amp; communication</b>	<b>0.62***</b> (0.08)	<b>0.405***</b> (0.059)	<b>0.197***</b> (0.053)	<b>0.058</b> (0.07)	<b>-0.215</b> (0.165)
Industry: Finance	0.52*** (0.085)	0.333*** (0.06)	0.08 (0.054)	-0.088 (0.07)	-0.35** (0.17)
Industry: Community, social & personal	0.31*** (0.089)	0.152** (0.06)	-0.041 (0.056)	-0.24*** (0.08)	-0.56*** (0.177)
Industry: Other	0.36*** (0.1)	0.165** (0.07)	-0.06 (0.065)	-0.25*** (0.09)	-0.61*** (0.204)
Employee	0.26*** (0.049)	0.133*** (0.035)	-0.032 (0.031)	-0.11*** (0.04)	-0.21** (0.097)
Formal sector worker	0.23*** (0.046)	0.228*** (0.03)	0.117*** (0.028)	0.116 (0.04)	0.022 (0.082)
Public sector	0.01 (0.045)	-0.042 (0.03)	-0.052 (0.03)	-0.068 (0.04)	-0.056 (0.091)
Private sector	0.10*** (0.035)	0.028 (0.025)	0.013 (0.022)	-0.016 (0.03)	-0.032 (0.067)
Tenure: 1 year to less than 3 years	0.074 (0.037)	0.058 (0.027)	0.056 (0.023)	0.055 (0.03)	0.096 (0.073)
Tenure: 3 years to less than 5 years	0.027 (0.04)	0.03 (0.03)	0.038 (0.028)	0.019 (0.04)	0.073 (0.084)
Tenure: 5 years to less than 10 years	0.097 (0.04)	0.164 (0.03)	0.155 (0.027)	0.145 (0.04)	0.19 (0.085)
<b>Tenure: 10 years or more</b>	<b>0.28***</b> (0.04)	<b>0.25***</b> (0.029)	<b>0.230***</b> (0.025)	<b>0.245***</b> (0.03)	<b>0.295***</b> (0.076)
Lambda	-1.298 (0.706)	0.226 (0.51)	0.16 (0.444)	0.152 (0.61)	-0.398 (1.422)
<b>Having a secondary job</b>	<b>0.235***</b> (0.057)	<b>0.362***</b> (0.042)	<b>0.506***</b> (0.037)	<b>0.628***</b> (0.05)	<b>0.704***</b> (0.118)
Constant	1.61*** (0.2)	1.92*** (0.14)	2.628*** (0.126)	3.02*** (0.17)	3.73*** (0.395)
N	2 928	2 928	2 928	2 928	2 928
Pseudo R <sup>2</sup>	0.2163	0.2014	0.2232	0.2443	0.2343

Source: Authors' calculations based on the Seychelles Labor Force Survey 2011 and 2014.

Notes: 1. Standard errors are provided in parenthesis.

2. \*\*\* Significant at 1%; \*\* Significant at 5%; \* Significant at 10%.

3. Controls for age are not presented for simplicity. The coefficients on this variable are mostly insignificant and do not materially affect our overall findings.

4. Migrant and Education at the Advanced Level are omitted due to collinearity.

5. Reference group: gender: female; age cohort: 15-24 years; education: none or primary; occupation: elementary occupations; industry: agriculture; sector: not public sector and not private sector (e.g. parastatal sector, co-operative, embassy, NGO, private household) tenure: Less than 1 year.



**Development Policy Research Unit**  
University of Cape Town  
Private Bag  
Rondebosch 7701  
Cape Town  
South Africa  
Tel: +27 21 650 5701  
[www.dpru.uct.ac.za](http://www.dpru.uct.ac.za)



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