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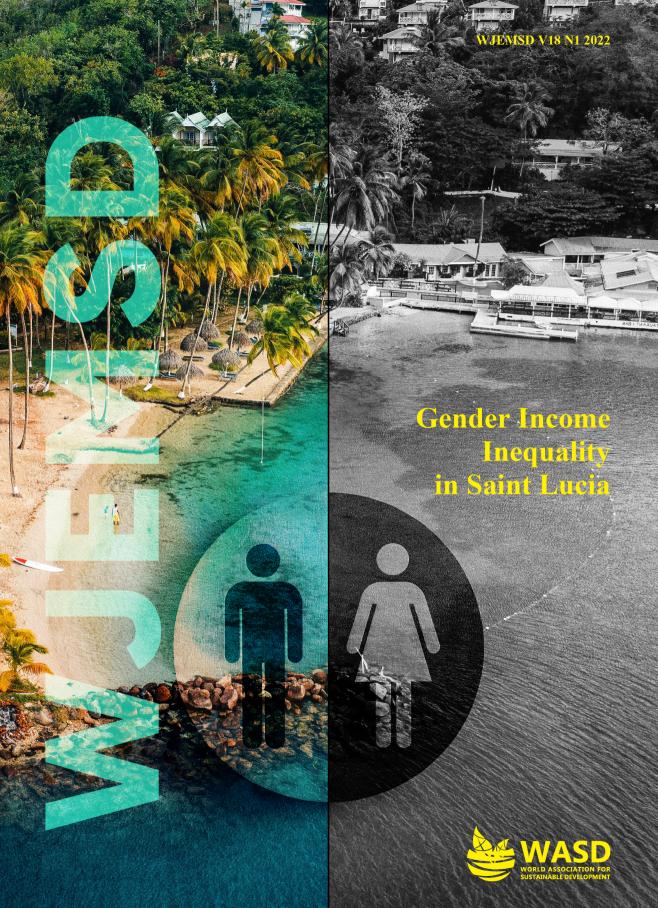
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RESEARCH PAPER

Gender Income Inequality in Saint Lucia

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ABSTRACT

PURPOSE: This paper seeks to evaluate the gender wage gap in St Lucia. It also attempts to highlight any rigidities and peculiarities within the country's labour market that could, in turn, aid the design of effective policies to reduce gender inequality in the country.

DESIGN/METHODOLOGY/APPROACH: The study utilises Blinder-Oaxaca's decomposition and data from the 2016 Saint Lucian Survey of Living Conditions Household Budgetary Survey to estimate the gender wage gap.

FINDINGS: The results suggest that men earn significantly more than equally qualified women, and that the gender wage gap in St Lucia cannot be sufficiently explained by differences in the characteristics of workers. Also, self-selection into the labour force increases gender gaps exponentially. The results suggest that if all women participated in the labour force, the gap moves from 27% to 69%.

ORIGINALITY/VALUE: In every region of the world, women are not afforded the same equal rights or opportunities as men. However, despite gender inequality being a global issue, most studies to date tend to focus on developed countries. By focusing on the case of a small island developing state in the Caribbean, Saint Lucia, this study adds to the body of knowledge of gender inequality in countries outside of the West.

KEYWORDS: Gender Wage Gap; Gender Inequality; Blinder-Oaxaca Decomposition; Selection; Saint Lucia; Caribbean

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INTRODUCTION

Despite gender income inequality being a global issue, most studies to date tend to focus on developed countries (Kunze, 2018). Studies on workers in developed countries suggest that the observed gender wage gap can sometimes be attributed to gender differences in human capital, occupations, and industry (Mandel and Semyonov, 2014; Blau and Kahn, 2017). However, theories of labour market discrimination, initiated by Becker (1957), are also used to explain the gap. Under this theory, men and women with equal productivity receive different wages solely due to non-economic factors, such as their gender. Indeed, studies have found that a portion of the gender wage gap cannot be explained by differences in worker characteristics, hinting that there could be some degree of labour market discrimination (Blau and Kahn, 2017; Christofides *et al.*, 2013). This has led to several policy initiatives in developed countries, ranging from gender neutral job evaluation to equal pay legislations (Plantenga and Remery, 2006). With respect to developing countries, the literature is on the rise (Appleton *et al.*, 1999; Blunch, 2018) but there is still a large knowledge gap on gender income inequality outside of Western contexts. As such, this paper opts to focus on the case of a small island developing state in the Caribbean – Saint Lucia (henceforth, St Lucia).

Progress and stagnation can best describe developments in gender equality in St Lucia over the years. In terms of progress, women are more likely to complete tertiary education, and are also more likely to be employed as managers and professionals. However, a great deal of inequality between the sexes still exists, with women being disproportionately affected by unemployment and poverty.

In recognition of these gendered imbalances, the Department of Gender Affairs in St Lucia was mandated to advocate for the creation of an "environment to redress gender imbalances". This involves the establishment of monitoring structures to assess the gender imbalances, as well as the collection and dissemination of data and information on gender issues. There have been various policy responses to deal with gender inequality in St Lucia, including the 1991 National Policy on Women, and passage of the Equality of Opportunity and Treatment in Employment Occupation Act (Cap 16.14) in 2000. The act defines discrimination as "a distinction exclusion...the intent of ...which is to nullify or impair equality of opportunity or treatment in occupation or employment" (section 3, subsections 1-3), and articulates that an offence is made once a person has been discriminated against. While legislative and advocacy efforts by the Government are a step in the right direction, gender equality can only be successfully accomplished if there is a comprehensive understanding of the size and nature of gender inequality in the country. Against this backdrop, this paper seeks to evaluate the income differential between men and women in St Lucia in an attempt to highlight any rigidities and peculiarities within the country's labour market that could, in turn, aid in the design of effective policies to reduce gender inequality.

Notwithstanding the obvious benefits of this study to St Lucia, the study also has relevance outside the St Lucian context. Achieving gender equality and the empowerment of all women and girls is listed as one of the United Nation's Sustainable Development Goals for 2015 to 2030, and is

seen as being integral to all dimensions of inclusive and sustainable development (United Nations, 2015). This international effort requires an understanding of the nature and magnitude of gender income equality across a variety of economic and cultural contexts. Currently, gender income inequality in the Caribbean is an understudied area. Studies explicitly focusing on the gender pay gap have only been carried out for a few islands: Jamaica (Bellony *et al.*, 2010; Hotchkiss and Moore, 1996; MacKinnon Scott, 1992), Trinidad and Tobago (Olsen and Coppin, 2001; Mahabir and Ramrattan, 2015) and Barbados (Bellony *et al.*, 2010; Coppin, 1996), all of which suggest that women tend to earn less than their male equivalents. The dearth of studies on the Caribbean countries, although somewhat understandable given their small size, geographical location and the unavailability of nationally representative labour market data (Bellony and Reilly, 2009), limits our understanding of gender income inequality. This in turn is a hindrance to the efforts to promote gender equality at the global level. By focusing on St Lucia, the study adds to the body of knowledge of gender income equality in the Caribbean region and, by extension, countries outside of the developed world.

The rest of the paper is organised as follows. The following section provides some background information about gender disparities in St Lucia. After which, the empirical methodology and data are described, followed by the presentation of the results. Finally, the paper concludes.

BACKGROUND

St Lucia is a small open economy in the Eastern Caribbean, with a land mass of approximately 238.2 square miles and a population of 173,720 as at 2010 (Central Statistics Office, 2011). The country gained independence from Britain in 1979, and like many other small island states has an economy that is currently dominated by the services sector, having transitioned away from monocrop agriculture in the early 1990s. Currently, the largest service industry is tourism, with the wholesale and retail, construction and manufacturing sectors playing supportive roles. Despite gains received through consecutive growth of the tourism industry, unemployment in St Lucia remains in the double digits, standing at 21.6% at the end of 2016 (Central Statistics Office, 2016).

Statistics to date suggest that there are significant gender gaps in the St Lucian labour market. In 2016, the labour participation rate stood at 72.8%, with an approximate spread of 11.0 percentage points between female participation rates (67.4%) and that of males (78.2%) (Central Statistics Office, 2016). Reviewing participation rates over the last 22 years (see Figure 1) show that 2016 is not an outlier, rather, the gender gap in labour force participation has existed for some time and appears to be worsening.

¹Bananas were the dominant export of the economy and the industry was the largest employer. The loss of preferential trade terms with the EU following a WTO challenge by the US led to the decline and eventual move into tourism.

²The tourism industry, as proxied by the hotel and restaurant category in GDP, grew on average by 2.0% over the period 2012 to 2016.

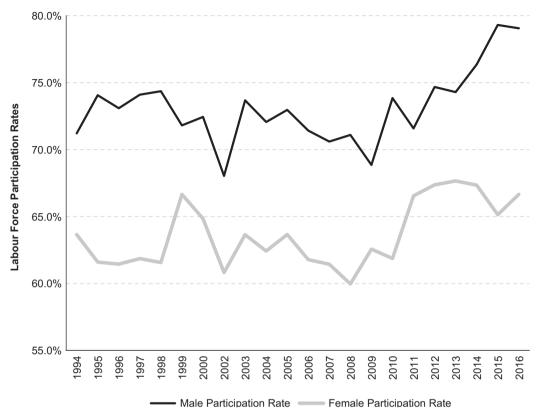


Figure 1: Labour Force Participation Rates of Men and Women

Source: St Lucia Central Statistics Office

Compounding our findings of low female participation rates are the persistently high levels of female unemployment relative to that of men (see Figure 2). An interesting observation is that the smallest level of disparity between the two occurred during the depth of the global financial crisis in 2009/2010 where the overall unemployment rate was on the rise. However, in 2007, when the lowest unemployment rate was recorded (at least on record), the gap between the male and female unemployment rate was 8.5%, the fifth highest in the period under review. This stark disparity occurred amid strong economic activity due to the hosting of a mega-sporting event, the 2007 Cricket World Cup. This raises concerns about the structure and rigidities in the labour market, where male unemployment seems to be more sensitive to upswings in the business cycle than that of women.

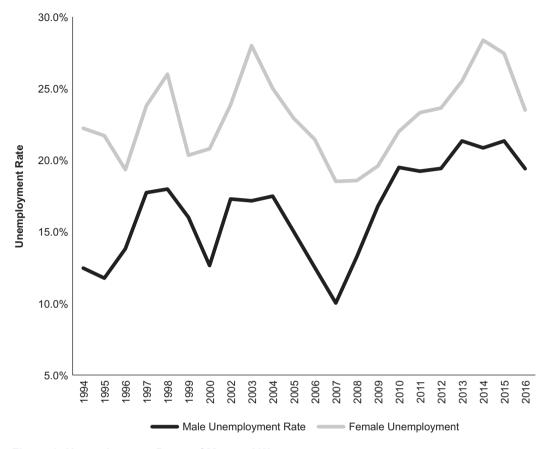


Figure 2: Unemployment Rates of Men and Women

Source: St Lucia Central Statistics Office

There is also statistical evidence of a significant gender wage gap. A review of the country's National Insurance Corporation³ earnings database revealed that average female earnings (across all industries) are about EC \$19,682 per annum, roughly 8.1% lower than the EC \$21,437.90 per annum recorded for males. Compounding this observation was that positive male earning differentials existed in sectors both under- and over-represented by males, as shown in Table 1. It is therefore not surprising that there are significant differences in the poverty outcomes of women and men. Since 2006, there has been a slow but steady decline in poverty, specifically, the poverty head count declined from 28.8% in 2006 to 25.0% in 2016 (Central Statistics Office, 2016). However, this decline was solely driven by a fall in the poverty headcount of men that moved from 28.0% to

³The National Insurance Corporation is the provider of social security in St Lucia.

21.1% over the review period. During the period, the female poverty headcount remained relatively unchanged and stood at 30.4% in 2016 relative to 30.2% in 2006.

This raises the question, what are the likely causes of these gender gaps? It is quite possible that these observed gender gaps could be due to differences in human capital accumulation of men or women, or could even be evidence of a class ceiling effect. However, in an interesting twist of events, women tend to have higher levels of educational attainment than men. The Central Statistics Office estimates that in 2016 about 9.5% of the labour force were university educated, with about 60% of university educated people being women (Central Statistics Office, 2016). In addition, according to a 2015 International Labour Organization report (International Labour Organization, 2015), St Lucia is one of the few countries in the world where managers were more likely to be female than male. This declaration prompted local discussions⁴ on the state of advancement of females in the St Lucian workforce. Notwithstanding this progress, deep seated structural imbalances exist, such as the persistence of gender gaps in employment, wages and poverty. This apparent disparity prompts an examination of gender inequalities in St Lucia.

Table 1: Income Per Annum by Sector Based on Over/Under Representation (in Ec \$)

	Men	Women
Male Dominated Sectors	\$19,982.97	\$18,060.07
Female Dominate Sectors	\$18,341.13	\$22,940.26
Neutral Sectors	\$19,112.71	\$16.731.18

Source: National Insurance Corporation

In what follows, the gender wage gap is estimated, controlling for differences in the endowments of male and female workers. The main focus is to determine the sources of the aforementioned disparities in income, that is, can these differences be adequately explained by the characteristics of male and female workers, or is the gender gap largely uncorroborated? In the next sections, the data and empirical methods used to conduct this analysis are detailed.

METHOD

As noted in the introduction, the literature attributes gender wage gaps to differences in worker endowments and/or labour market discrimination. As such, we employ the Blinder-Oaxaca decomposition, first developed by Oaxaca (1973) and Blinder (1973), in this study. The Blinder-Oaxaca decomposition has emerged as the empirical workhorse to investigate differences in average wages between two demographic groups (Jann, 2008). The popularity of this approach stems from its ability to decompose the gap into an explained component (that is, a part explained

⁴ https://www.stlucianewsonline.com/st-lucia-has-third-highest-number-of-female-bosses-washington-post-report/

by differences in worker endowments such as tenure or education), and a residual part that cannot be accounted for by differences in worker characteristics. In this sense, Oaxaca (1973) exposes that in the absence of discrimination, differences in wages between Group A and Group B would only be due to differences in worker characteristics.

The first step of the procedure involves estimating the separate wage regressions for the two groups under study, in this case men and women. The regressions can be expressed in matrix form as:

$$\ln Y_w = X' \beta_w + \epsilon_w$$
 (if the individual is a woman)

$$\ln Y_m = X'\beta_m + \epsilon_m$$
 (if the individual is a man)

where $\ln Y$ is the vector of the natural logarithm of hourly wages, X is the matrix of explanatory variables, including the intercept, and ϵ is the random error term. Drawing on the literature on gender wage gaps (Kunze, 2018; Weichselbaumer and Winter-Ebmer, 2005; Yahmed, 2018), this study models income as a function of education, job tenure, type of job and industrial sector. Unfortunately, the database (see next subsection for details) does not contain measures of work experience, and so the individual's age and its square are used as a proxy for an individual's work experience, as suggested by Badel and Peña (2010).

According to the standard Blinder-Oaxaca decomposition, the difference of logged income between men and women can be expressed as:

$$\overline{\ln Y_m} - \overline{\ln Y_w} = (\overline{X}'_m - \overline{X}'_w)\widehat{\beta}_m + \overline{X}'_f(\widehat{\beta}_m - \widehat{\beta}_f)$$

The first term on the right-hand side represents the portion of the gap that is due to differences in the observed characteristics of men and women, often called the explained portion of the gap. The second term on the right represents the part of the gap that is due to differences in the average returns to the individual's characteristics, often called the unexplained portion of the gap. The unexplained component is often used as an estimate of the degree of discrimination; however, it may include unobserved factors that influence worker productivity.

DATA SOURCES AND DESCRIPTIVE STATISTICS

To conduct the empirical analysis, the study uses data from the 2016 Survey of Living Conditions-Household Budgetary Survey (SLC-HBS), which was administered by the Central Statistical Office in St Lucia. The SLC-HBS collected detailed information on the demographic and socioeconomic characteristics for a representative sample⁵ of approximately 1,493 St Lucia households,

⁵ A stratified random sampling procedure was used to ensure proportional geographical and the administrative structure of St Lucia.

corresponding to 4,633 individuals. In this study, the authors opt to focus on individual employed people of working age (that is, people between 25 to 54 years of age inclusive); this represents the period when individuals are most productive (Tuzemen, 2018). Furthermore, listwise deletion for people without a reported income and missing observations across the independent variables resulted in a final sample size of 1,284 individuals, of which 592 (46.1%) were women.

Variables and Descriptive Statistics

As noted earlier, the main dependent variable is the logarithm of wages per hour. Figure 3 shows the kernel density curves for the distribution of log hourly wages. In line with the statistics provided in the stylised facts section, there is some evidence of gender income inequality, also the point of maximum density is further to the left for the female distribution relative to the male distribution. The finding is reinforced by the lower value of hourly wages average for women compared to men as seen in Table 2.

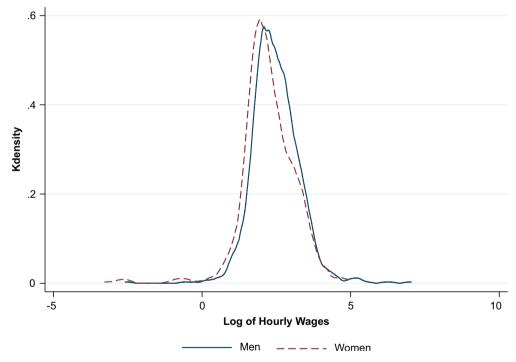


Figure 3: Monthly Income Distribution for Men and Women Between Ages 25 to 54 Source: Constructed by authors using 2016 Survey of Living Conditions

Table 2: Descriptive Statistics

	Working Men	Working Women
Dependent Variable	Mean (s.e.)	Mean (s.e.)
Log of hourly wage	2.472 (0.794)	2.234 (0.898)
Independent Variables	Mean (s.e.)	Mean (s.e.)
Age (in years)	39.8 (8.7)	38.9 (8.8)
Independent Categorical Variables	%	%
Educational attainment		
No formal Education	1.2	0.5
Primary	39.8	25.2
Lower Secondary	10.2	8.6
Upper Secondary	30.2	35.4
Post-secondary	7.6	12.7
University	9.4	15.9
Other	1.5	1.8
Tenure		
Less than 6 months	6.91	5.8
6 to less than 12 months	5.9	7.2
1 year to less than 5 years	23.8	31.3
5 years to less than 10 years	24.2	30.0
10 years or more	39.5	25.6
Job characteristics		
Managers, professionals, technicians and associate professionals	20.5	28.6
Clerical support workers	1.5	10.3
Service and sales workers	16.7	40.8
Skilled agricultural, forestry and fishery workers	11.5	1.9
Craft and related trades workers	23.1	2.2
Plant and machine operators and assemblers	9.9	1.75
Elementary occupations	12.7	11.4
Industry		
Agriculture, forestry & fishing	12.9	2.1
Construction, mining & quarrying	18.4	1.4
Manufacturing	5.5	4.7
Water supply, electricity, gas, steam & air conditioning supply, sewerage, waste management and remediation activities	1.1	1.5
Wholesale & retail trade; repair of vehicles & motorcycles	11.2	19.5

(continued)

Table 2: Descriptive Statistics (continued)

	Working Men	Working Women
Transportation, storage, information & communication	8.7	2.7
Accommodation & food service activities	12.3	19.0
Finance, insurance, real estate & other professional services	0.9	4.4
Administrative and support service activities	7.2	6.8
Public Administration, defence and education	13.4	25.7
Other Services	4.4	10.0

Source: Constructed by authors using 2016 Survey of Living Conditions

As noted in the previous section, the set of observables (independent variables) for the Oaxaca regression are age and its square, educational attainment, job tenure, type of job and industrial sector. Age is the only continuous variable; all other variables are categorical. Descriptive statistics for all the independent variables are also provided in Table 2. For the continuous variable, the mean and standard deviations are reported, while for the categorical variables, the share of people in each category is reported as a percentage.

RESULTS

Determinants of Income

The results from the first stage of the Blinder-Oaxaca decomposition, that is, the determinants of income for men and women, are shown in Table 3. In line with human capital theory, higher education is associated with greater wages. For men, there is no statistical difference between income earned by those with no education (base) and those with primary, secondary school or post-secondary educational attainments: university education is the minimum threshold necessary to alter men's income compared to men with no education. For women, positive returns to schooling begin once women complete upper secondary school. On the basis of the coefficients, the 'returns to University education' appears much greater for women than men. Taken together, higher educational attainment appears much more important for raising the economic status of women than it is for men, and could form part of the explanation of why more women attend university then men. The impact of age on income also differs by gender. The impact of age (the study's proxy for work experience) on women's wages is in line with *a priori* expectations: the results suggest that there is a parabolic relationship between age and a women's wages. However, there is no evidence that age impacts the wages of men. Tenure outcomes appear the same across genders, where for both men and women, having more than 10 years of tenure significantly increases their income.

Table 3: Wage Determinants in St Lucia

	Men		Women	
	Coef. Std. Err.		Coef. Std. E	
Age	0.040	0.033	0.089**	0.036
Age squared × 10 ⁻³	0.000	0.000	-1.032**	0.450
Educational Attainment (base: None)				
Primary	-0.273	0.248	0.606	0.533
Lower/Junior Secondary School	-0.223	0.261	0.732	0.539
Upper Secondary School	0.013	0.255	0.919 [*]	0.534
Post-Secondary	0.148	0.274	1.353**	0.540
University	0.609**	0.281	1.698***	0.539
Other	0.338	0.339	0.614	0.578
Tenure (base: 6 months to 1 year)				
0 to 6 months	-0.095	0.159	0.026	0.179
1 to 5 years	0.008	0.130	-0.097	0.131
5 to 10 years	0.113	0.131	0.163	0.132
10 years and more	0.223*	0.127	0.225 [*]	0.136
Job Characteristics (base: Elementary Occupations)				
Managers	0.236	0.168	0.254*	0.154
Professionals	0.359***	0.147	0.278 [*]	0.153
Technicians	0.214	0.131	0.264 [*]	0.137
Clerical Support Workers	0.137	0.251	0.027	0.148
Service and sales workers	-0.010	0.110	-0.022	0.101
Skilled agriculture	0.014	0.158	0.098	0.573
Craft and related trades workers	0.319***	0.103	0.145	0.245
Plant and Machine Operators and Assemblers	0.148	0.131	0.402	0.269
Industry (base: Other)				
Agriculture	0.042	0.174	0.041	0.533
Construction Mining & Quarrying	0.204	0.128	0.039	0.282
Water supply, Electricity, Gas, etc.	0.452	0.279	0.946	0.751
Manufacturing	0.081	0.164	-0.569***	0.190
Transportation, storage, information & communication	0.081	0.155	0.071	0.218
Accommodation & Food Service Activities	0.085	0.131	0.130	0.116
Administrative and support service activities	0.093	0.148	0.151	0.152
Finance, insurance, real estate & other professional services	0.159	0.355	0.170	0.175

(continued)

Table 3: Wage Determinants in St Lucia (continued)

	Men		Women	
	Coef.	Std. Err.	Coef.	Std. Err.
Public Administration, Defence & Education	0.187	0.131	0.009	0.117
Wholesale & retail trade; Repair of vehicles & motorcycles	-0.068	0.133	-0.156	0.118
R ²	0.213		0.365	
N	692		592	

Notes: "", " and ' represents statistical significance at the 1%, 5% and 10% levels; sample based on people of working age (that is: aged 25 to 54)

Source: Constructed by authors using 2016 Survey of Living Conditions

There is not much variation in wages across job types and industrial sectors. For men, the greatest monetary remuneration comes from professional jobs and craft and related trade jobs, while for women, greater earnings can be found among managers, professionals and technical workers. The variation in wages across sectors is even less pronounced. The wages of men seem unrelated to the sector in which they work, while for women, the only difference in wages by sector for women occurs in the manufacturing sector, where women in this sector are among the lowest paid.

Wage Differential between Men and Women

The results of the Blinder-Oaxaca decompositions are presented in Table 4. Panel A of the table provides evidence of a statistically significant income gap. After controlling for various observable characteristics, the estimated gender wage gap is 0.242 log points; when exponentiated, this translates to men earning approximately 27.4% more than equally qualified women. Panel B splits this gender wage gap into the explained and unexplained components. The explained component is statistically insignificant. In contrast, the unexplained component is significant in both statistical and substantive terms. Taken together, these findings suggest that the gender wage gap in St Lucia cannot be sufficiently explained by differences in endowments/characteristics of workers; rather, the gender gap is largely unexplainable. This finding is somewhat expected. As mentioned in the introductory remarks (and shown in the descriptive statistics presented in Table 2), women in the St Lucian labour force tend to be better educated than their male equivalents, and are also more likely to hold management positions. Given the endowments of women in St Lucia, it is quite plausible that the gap would be largely unexplained.

Table 4: Decomposition of the Gender Wage Gap in St Lucia

Panel A: Gender Wage Gap				
	Natural Logs	Expected Hourly Wage Rate		
Men	2.482***	11.97		
Women	2.240***	9.40		
Differential	0.242***	27.4%		
Panel B: Decomposition of Gender Wage Gap				
	Log Points			
Total	0.242***			
Explained	-0.000			
Unexplained	0.242***			

Notes: *** represents statistical significance at the 1% level; sample based on people of working age

(that is: aged 25 to 54)

Source: Constructed by authors using 2016 Survey of Living Conditions

Correcting for Sample Selection Bias

A point hitherto ignored in this study concerns the possible impact of non-random selection into work by women. Traditionally, men were more likely to be employed on a full-time basis throughout their life cycles, while women were more likely to work for pay prior to marriage (Kunze, 2018). Moreover, there is also literature to suggest that women are more likely to alter their labour force participation during child bearing and rearing years (Kunze, 2018). Indeed, as noted in the stylised facts section, male participation rates in St Lucia are higher than that of women. This would suggest the results presented thus far could be biased because of non-random selection of women into employment. This raises the question, what would the gender wage gap be if all women worked? By re-estimating the Blinder-Oaxaca decompositions using sample selection adjusted coefficients, combined with the labour market characteristics of all women, one can build this counterfactual. This subsection therefore investigates whether and how non-random selection affects the observed gender gap.

We correct for sample selection bias in the female wage equations (Badel and Peña, 2010; Jann, 2008) based on the procedure by Heckman (Heckman, 1976, 1979). This involves the assumption that while some of the variables affect both labour force participation and wages, there is another subset of variables that determine the labour status, but do not directly affect wages. Standard variables included in the selection equation (and not the wage equation) include the presence of children in the household, marital status, and whether the person is the head of the household. The selection equation in this paper is therefore written as a function of age, its square, education, number of children, marital status, and whether the person is the head of the household.

Table 5 presents the new specification results. The first column provides the uncorrected results of the pay gap, while the second column presents the gender wage gap adjusted for selection bias for women. The Mills ratio (also known as the selection parameter) is positive and significant, meaning that there is positive selection into the labour market by women: that is, women participating in the St Lucian labour force show favourable unobservable characteristics (compared with those not in the labour force) that are positively correlated with their wages. Correcting for sample selection bias results in an increase in the estimated gender gap, with the gap moving from 0.242 log points (27.4%) to 0.523 log points (68.8%). This finding corroborates the works of Badel and Peña (2010) and Pacheco *et al.* (2017), who report that correcting for selection bias of women resulted in an increase in the gender wage gap in Colombia and New Zealand, respectively. This result is somewhat expected. Given the implication that non-working women may have less favourable unobservable characteristics (relative to working women), it follows that their predicted wages may be lower. Therefore, the inclusion of these women would further reduce the average wages of women relative to men. Similar to the case of the unadjusted gender gap, the adjusted gap is largely unexplained.

Table 5: Decomposition of the Gender Wage Gap in St Lucia with and without Adjustment for Sample Selection Bias, 2016

	Not Corrected	Adjusted
Total	0.242***	0.524***
Explained	-0.000	0.000
Unexplained	0.242***	0.524***
λ _w	n.a.	0.538

Notes: *** represents statistical significance at the 1% level; sample based on people of working age (that is: aged 25 to 54)

Source: Constructed by authors using 2016 Survey of Living Conditions

CONCLUDING REMARKS

This paper sought to evaluate gender income inequality in St Lucia. As a preliminary step to the estimation of the gender wage gaps, the differences in the determinants of income by gender were presented. A key interest is that failing to transition to University education results in significant income losses for both sexes, but has larger implications for women than for men. The results also suggest that men have larger returns to job tenure than women, women's labour is more likely to be affected by their age, and the wage distribution of both genders is affected by the type of job and industry in which they work.

With respect to the gap, the results suggest that despite women having more favourable occupation types and education endowments than men, and the existence of legal provisions aimed at gender equality, men still earn significantly more than women, on average. In fact, the gender gap

is largely unexplained, as the endowments component of the gap is practically (and statistically) zero. The insignificance of the explained component either suggests that the data available play a limited role in explaining income and/or there is a significant amount of discrimination against women. The results also suggest that sample selection plays a significant role in the size of the gender wage gap for St Lucia. First, the selection is positive and significant, implying that more able women are pulled into the labour force. Then, after controlling for sample selection bias, the size of the gap more than doubled (moving from 27.4% to 68.8%), implying that ignoring non-random selection significantly undermines the true nature of gender inequality in the St Lucian labour market.

The existence of a large significant gender gap in income suggests that there is still quite a bit of work to do in order to meet the objectives of the aforementioned 1991 National Policy on Women and the intent of the Equality of Opportunity and Treatment in Employment Occupation Act (Cap 16.14). This would suggest that there is a need for policy-makers to review the extent to which the legislation is operationalised and policed. One possible solution could be enhanced monitoring of warnings of men and women by government officials. For instance, authorities can collect data on the earnings of men and women by organisation. The resulting database and subsequent reports would allow for a platform for instructive evidence-based discussions.

REFERENCES

- Appleton, S., Hoddinott, J. and Krishnan, P. (1999): The gender wage gap in three African countries. *Economic Development and Cultural Change*, Vol. 47, No. 2, pp.289-312.
- Badel, A. and Peña, X. (2010): Decomposing the gender wage gap with sample selection adjustment: evidence from Colombia. *Revista de Análisis Ecónomico*, Vol. 25, No. 2, pp.169-191.
- Becker, G. (1957): The economics of discrimination. *The American Economic Review*, Vol. 48, No. 3, pp.495-500.
- Bellony, A. and Reilly, B. (2009): An analysis of labour market earnings in St. Lucia. *Social and Economic Studies*, Vol. 58, Nos 3/4, pp.111-147.
- Bellony, A., Hoyos, A. and Ñopo, H. (2010): Gender earnings gaps in the Caribbean: Evidence from Barbados and Jamaica. *IDB Working Paper Series, No 71*. Available at SSRN: https://ssrn.com/abstract=1818749 or https://dx.doi.org/10.2139/ssrn.1818749.
- Blau, F.D. and Kahn, L.M. (2017): The gender wage gap: Extent, trends, and explanations. *Journal of Economic Literature*, Vol. 55, No. 3, pp.789-865.
- Blinder, A.S. (1973): Wage discrimination: Reduced form and structural estimates. *Journal of Human Resources*, Vol. 8, No. 4, pp.436-455.
- Blunch, N.-H. (2018): Just like a woman? New comparative evidence on the gender income gap across Eastern Europe and Central Asia. *IZA Journal of Development and Migration*, Vol. 8, No. 11, pp.1-41.
- Central Statistics Office (2011): 2010 Population and Housing Census Preliminary Report. Retrieved from: https://www.stats.gov.lc/wp-content/uploads/2016/12/StLuciaPreliminaryCensusReport2010.pdf.

- Central Statistics Office (2016): *St Lucia Labour Force Survey*. Retrieved from: https://www.stats.gov.lc/wp-content/uploads/2018/08/Statistical Digest 2016-1.pdf.
- Christofides, L.N., Polycarpou, A. and Vrachimis, K. (2013): Gender wage gaps, 'sticky floors' and 'glass ceilings' in Europe. *Labour Economics*, Vol. 21, pp.86-102.
- Coppin, A. (1996): Male and female earnings in the Caribbean economy of Barbados: A human capital perspective. *The Review of Black Political Economy*, Vol. 25, No. 2, pp.61-75.
- Heckman, J. (1976): The common structure of statistical models of truncation, sample selection and limited dependent variables and a simple estimator for such models. In Berd, S.V. (Ed.), *Annals of Economic and Social Measurement*, Vol. 5, No. 4, pp.475-492. New York, US: National Bureau of Economics Research.
- Heckman, J. (1979): Sample selection bias as a specification error. Econometrics, Vol. 47, No. 1, pp.153-161.
- Hotchkiss, J.L. and Moore, R.E. (1996): Gender compensation differentials in Jamaica. *Economic Development and Cultural Change*, Vol. 44, No. 3, pp.657-676.
- International Labour Organization (2015): *Women in Business Management: Gaining Momentum*. Retrieved from Geneva, Switzerland: https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms 316450.pdf.
- Jann, B. (2008): A Stata implementation of the Blinder-Oaxaca decomposition. *Stata Journal*, Vol. 8, No. 4, pp.453-479.
- Kunze, A. (2018). The gender wage gap in developed countries. In Averett, S.L., Argys, L.M. and Hoffman, S.D. (Eds), *The Oxford Handbook on Women and the Economy* (pp. 369-394). New York, US: Oxford University Press.
- MacKinnon Scott, K. (1992). Female labor force participation and earnings: The case of Jamaica. In Psacharopoulous, G. and Tzannatos, Z. (Eds), *Case Studies on Women's Employment and Pay in Latin America*. Washington, D.C.: The World Bank.
- Mahabir, R. and Ramrattan, D. (2015): Influences on the gender wage gap of Trinidad and Tobago: An economic concept or a social construct? World Journal of Entreprenuership, Management and Sustainable Development, Vol. 11, No. 2, pp.140-151.
- Mandel, H. and Semyonov, M. (2014): Gender pay gap and employment sector: Sources of earnings disparities in the United States, 1970-2010. *Demography*, Vol. 51, No. 5, pp.1597-1618.
- Oaxaca, R. (1973): Male-female wage differentials in urban labor markets. *International Economic Review*, Vol. 14, No. 3, pp.693-709.
- Olsen, R.N. and Coppin, A. (2001): The determinants of gender differences in income in Trinidad and Tobago. *Journal of Development Studies*, Vol. 37, No. 5, pp.31-56.
- Pacheco, G., Li, C. and Cochrane, B. (2017): Empirical evidence of the gender pay gap in New Zealand.

 Retrieved from https://women.govt.nz/sites/public_files/Empirical%20evidence%20of%20GPG%20 in%20NZ%20-%20Mar2017 0.pdf.
- Plantenga, J. and Remery, C. (2006): *The gender pay gap. Origins and policy responses. A comparative review of thirty European countries*. The co-ordinators' synthesis report prepared for the Equality Unit, European Commission.

Tuzemen, D. (2018): Why Are Prime-Age Men Vanishing from the Labor Force? *Federal Reserve Bank of Kansas City Economic Review*, Vol. 103, No. 1, pp.5-30.

United Nations (2015): *Transforming our World: The 2030 Agenda for Sustainable Development*. Retrieved from https://sustainabledevelopment.un.org/post2015/transformingourworld.

Weichselbaumer, D. and Winter-Ebmer, R. (2005): A Meta-Analysis of the International Gender Wage Gap. *Journal of Economic Surveys*, Vol. 19, No. 3, pp.479-511.

Yahmed, S.B. (2018): Formal but less equal: Gender wage gaps in formal and informal jobs in urban Brazil. *World Development*, Vol. 101, pp.73-87.

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