Mauritius
Addressing Inequality through More Equitable Labor Markets
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# Contents

Acknowledgments ........................................................................................................... ix
Abbreviations and Acronyms ............................................................................................. x

**EXECUTIVE SUMMARY** ........................................................................................................1

**INTRODUCTION** ................................................................................................................17

**CHAPTER 1** Inequality in Mauritius: Stylized Facts .......................................................... 25

**CHAPTER 2** Drivers of Growing Inequality in Household Labor Income ......................... 37
  2.1 Trends in Household Demographics ............................................................................ 37
  2.2 Trends in Labor Market Factors ............................................................................... 41
  2.3 Explaining Changes in Equivalent Household Labor Income Inequality ................. 46

**CHAPTER 3** The Role of Gender Inequality ....................................................................... 53
  3.1 Women's Labor Market Participation ......................................................................... 53
  3.2 Working Women: What Do They Do? ......................................................................... 58
  3.3 Gender Wage Gap in the Public and Private Sector .................................................... 66

**CHAPTER 4** Rising Inequality in Wages Among Individuals ............................................. 75
  4.1 Stylized Facts .............................................................................................................. 75
    4.1.1 Trends In Overall Wage Inequality ................................................................. 75
    4.1.2 Inequality Between and Within Demographic Groups .................................... 79
  4.2 Effects of Changes in Wages and Workforce Composition on Rising Inequality .... 82
  4.3 The Role of Labor Market Forces ............................................................................. 86
  4.4 Changes in Workforce Composition ......................................................................... 88
  4.5 The Role of Shifts in the Relative Supply of Labor ..................................................... 92
    4.5.1 The Role of Foreign Labor ................................................................................. 92
  4.6 The Role of Relative Demand Shifts ......................................................................... 96
  4.7 The Role of Remuneration Orders ........................................................................... 101
    4.7.1 The Role of Remuneration Orders on Employment and Working Hours .......... 105
  4.8 Skill Mismatch among the Employed and Rising Unemployment ......................... 107

**REFERENCES** .................................................................................................................. 115

**APPENDIX A** ................................................................................................................... 119

**APPENDIX B** ................................................................................................................... 123

**APPENDIX C** ................................................................................................................... 125

**APPENDIX D** ................................................................................................................... 127

**APPENDIX E** ................................................................................................................... 131
List of Boxes

Box I.1. Household Income: Choices, Markets, and Institutions .................................................18
Box I.2. The Definition of Income ..................................................................................................19
Box 1.1. Do Household Surveys Underestimate Inequality? The Challenge of Top Incomes .................................................................34
Box 3.1. Day-Care Centers and Preprimary Schools ...............................................................58
Box 4.1. The Reweighting Approach ..............................................................................................84
Box 4.2. Relative Labor Supply and Relative Labor Demand: A Simplified Framework ..........90
Box 4.3. Wage Setting in the Private Sector ..................................................................................102
Box 4.4. International Standard Classification of Occupations: Definitions of Skill Levels ..............................................................................107
Box B.1. Data Overview and Definitions of Labor Market Variables .........................................123

List of Figures

Figure ES.1. The Incomes of the Poorer Households Grew, but Less Rapidly Than the Incomes at the Top, 2001–15 .................................................................3
Figure ES.2. Inequality in Household Income Widened, Particularly in Labor Income, 2001–15 ........................................................................................................3
Figure ES.3. Earnings of Heads: The Main Contributor to Expanding Inequality in Household Labor Income, 2001–15 ..................................................................................4
Figure ES.4. Hourly Wage Inequality Widened Mostly in the Upper Tail, Especially among Men, 2001–15 ..................................................................................5
Figure ES.5. Hourly Wages Grew More among the More Highly Educated and Young Men, 2004–15 ..................................................................................6
Figure ES.6. Services, High-Skilled Occupations, and Employment among the More Highly Educated Grew, 2004–15 ..................................................................................7
Figure ES.7. Changes in the Relative Supply of Workers, by Gender, Education, and Experience, 2004–15 ..................................................................................8
Figure ES.8. Index of Shifts in Relative between- and within-Industry Labor Demand, by Gender and Education, 2004–15 ..............................................................9
Figure ES.9. Remuneration Orders Modestly Increased Hourly Wage Inequality, Particularly in the Lower Tail ............................................................. 10
Figure ES.10. Labor Market Participation, by Gender and Educational Attainment among Women, 2004–15 .............................................................................. 11
Figure ES.11. Women Are Paid Unequally in the Private Sector, but Are More Well Paid in the Public Sector, 2004–15 .............................................................. 12
Figure ES.12. The Share of Overeducated Youth Is on the Rise, 2006–15 ............................... 13
Figure ES.13. Youth Unemployment Is High, and Unemployed Youth Are Increasingly More Well Educated, 2006–15 .................................................... 14
Figure BI.1.1. Choices, Markets, and Institutions Affect Labor Income ......................................................... 18
Figure BI.2.1. Density of Log-Household Income with and without Housing Rental Value, 2015 ........................................................................... 20
Figure 1.1. Growth Incidence Curve, Household Consumption and Income, 2001–15 ............................................................................................... 26
Figure 1.2. Inequality in Mauritius and in the Rest of the World, 2000–12 ....................................................... 26
Figure 1.3. Trends of Selected Percentiles of Household Consumption and Income, 2001–15 ............................. 27
Figure 1.4. Measures of Household Income Inequality, 2001–15 ............................................................. 28
Figure 1.5. Gini Coefficient, by Income Source, 2001 and 2015 .................................................................... 29
Figure 1.6. Total Household Income, Changes and Shares of Components, 2001–15 ........................................... 30
Figure 1.7. Total Household Income, Changes and Shares of Components, by Quintile, 2001–15 ............................................................. 31
Figure 1.8. Decomposition of Total Household Income Inequality, by Income Source, 2001–15 ...................... 33
Figure B1.1.1. Top 1 Percent of the Fiscal Income Share, 1999–2011 .................................................................. 34
Figure 2.1. Household Size and Composition, 2001–15 ................................................................................. 38
Figure 2.2. Double Earners and Dispersion of Household Labor Income, by Family Type, 2001–15 .............. 40
Figure 2.3. Labor Force Status of Household Members of Married-Couple Households, 2001–15 ..................... 42
Figure 2.4. Labor Force Status of Household Members of Single-Headed Households, 2001–15 ....................... 44
Figure 2.5. Female Participation Rate, by Age-Group and Family Type, 2001–15 .................................. 45
Figure 2.6. Monthly and Hourly Labor Income, by Gender, 2001 and 2015 ................................................. 46
Figure 2.7. The Gender Gap in Hourly Earnings and Trends in Hours Worked, by Gender and Education, 2001–15 ................................................................. 47
Figure 2.8. Trends in Individual Labor Income Inequality, by Gender, 2001–15 ........................................... 47
Figure 2.9. Trends in Selected Percentiles of Household Labor Income by Family Type, 2001–15 .................. 48
Figure 2.10. Step-Wise Decomposition of Household Labor Income, 2001 and 2015 ........................................ 49
Figure 2.11. Labor Market Status of Spouses, by Quintile of Household Labor Income, 2001–15 ..................... 51
Figure 3.1. Labor Market Participation Rates, Mauritius and the Rest of the World, 2004–15 .......................... 54
Figure 3.2. Labor Market Participation Rates, by Gender and Cohort, 2004–15 .................................. 55
Figure 3.3. Labor Market Participation Rates, by Gender and Age-Group, 2004–15 ................................................................. 56
Figure 3.4. Female Labor Force Participation Rates, by Marital Status, 2004–15 .......... 56
Figure 3.5. Female Labor Force Participation Rates, by Educational Attainment, 2004–15 ........................................................................................................ 57
Figure 3.6. Counterfactual Participation Rate, by Gender, and Oaxaca-Blinder Decomposition of the Gap, 2004–15 ............................................................ 59
Figure 3.7. Employment Ratio and Unemployment Rate, by Gender, 2004–15 ............. 59
Figure 3.8. Employment Ratio and Unemployment Rate, by Gender and Age-Group, 2004–15 ......................................................................................................... 60
Figure 3.9. Employment Category Distribution and Share of Wage Workers in the Public Sector, by Gender, 2004–15 ................................................................. 61
Figure 3.10. Sectoral Distribution of Wage Workers, by Gender, 2004–15 ............... 63
Figure 3.11. Occupational Distribution of Wage Workers, by Gender and Main Sector, 2004–15 ....................................................................................... 64
Figure 3.12. Educational Distribution of Wage Workers, by Gender and Main Sector, 2004–15 ....................................................................................... 67
Figure 3.13. Unconditional Gender Differentials in Hourly Wages, by Quantile and Sector, 2004–15 ....................................................................................... 69
Figure 3.14. Oaxaca-Blinder Decomposition of the Gender Wage Differential at the Mean, by Sector, 2004–15 ................................................................. 70
Figure 3.15. Oaxaca-Blinder Decomposition of the Gender Wage Differential at Selected Percentiles, by Sector, 2004–15 ..................................................... 71
Figure 4.1. Composition of Employment, by Category, and of Household Labor Income, by Source, 2001–15 ................................................................. 76
Figure 4.2. Trends in Monthly Earnings, Weekly Hours Worked, and Hourly Wages, Selected Percentiles, 2004–15 ................................................................. 77
Figure 4.3. Hourly Wage Inequality, by Year, 2001–15 ............................................. 78
Figure 4.4. Hourly Wage Inequality, by Year and Gender, 2001–15 ......................... 79
Figure 4.5. Education, Experience, and Gender Hourly Wage Differentials, 2004–15 ......................................................................................................... 80
Figure 4.6. Changes in Relative Hourly Wages, by Gender and Education, 2004–15 ......................................................................................................... 80
Figure 4.7. Changes in Real Hourly Wages, by Gender and Experience, 2004–15 ......................................................................................................... 81
Figure 4.8. Overall and Residual Wage Inequality, by Year, 2004–15 ....................... 83
Figure 4.9. Actual and Counterfactual Wage Inequality, 2004–15 ........................... 84
Figure 4.10. Actual and Counterfactual Wage Inequality, by Gender, 2004–15 .......... 85
Figure 4.11. Actual and Counterfactual Residual Wage Inequality, 2004–15 .......... 86
Figure 4.12. Distribution of the Employed Population, by Industry, Occupation, and Year, 2001–15 ....................................................................................... 87
Figure 4.13. Distribution of Total (Ages 16+) and Employed Population, by Educational Level and Year, 2001–15 ................................................................. 89
Figure B4.2.1. The Relative Supply and Relative Demand Model.................. 90
Figure 4.14. Changes in the Relative Supply of Workers, by Gender, Education, and Experience, 2004–15 ........................................................................... 91
Figure 4.15. Price Versus Quantity Changes, All Workers, by Period, 2004–15 ....... 93
Figure 4.16. Price Versus Quantity Changes, by Gender, 2004–15 ...................... 93
Figure 4.17. Foreign Workers, Overall and by Sector, 2004–15 .......................... 94
Figure 4.18. Foreign Workers, by Gender, Sector, and Country of Origin, 2004– or 2005–15 ............................................................................... 95
Figure 4.19. Sectoral and Occupational Distribution of Employment, by Demographic Group, Average, 2004–15 .......................................................... 97
Figure 4.20. Sectoral and Occupational Distribution of Total Employment, by Period, 2004–15 and Period Average ......................................................... 98
Figure 4.21. The Between, Within, and Overall Labor Demand Shift Index, by Demographic Group and Period, 2004–15 ..................................................... 99
Figure B4.3.1. Framework for Establishing a Minimum Wages in the Private Sector ............................................................................................................ 102
Figure 4.22. Changes in the Real Hourly Minimum Wage, by RO, 2004–14 ............ 103
Figure 4.23. Changes in Average Real Earned Hourly Wages, by RO, 2004–14 ....... 103
Figure 4.24. Estimates of the Effect of Remuneration Orders on Hourly Wage Inequality, 2004–15 ................................................................. 104
Figure 4.25. Trends in Education Mismatch, 2006–15 ......................................... 108
Figure 4.26. Trends in the Education Mismatch, by Gender and Age-Group, 2006–15 ........................................................................................................ 109
Figure 4.27. Trends in Unemployment Rates, by Age-Group and Gender, 2006–15 .... 109
Figure 4.28. Distribution of Unemployed Youth (Ages 16–29), by Education and Quintile of Household Income, 2006–15 ................................................. 111
Figure B.1. Growth Incidence Curve, Total Household Income: Comparing HBS and CMPHS Data, 2007 and 2012 ................................................................. 124
Figure C.1. Demographic and Labor Market Factors and Changes in Household Labor Income Inequality, 2001–15 ............................................................ 125
Figure D.1. Sectorial Distribution of Wage Workers, by Gender and Main Sector, 2004–15 ................................................................................................ 127
Figure D.2. Educational Distribution of all Wage Workers, 2004–15 .................... 129
Figure E.1. Earned Mean Wages and Legislated Mean RO Wages in Covered Sectors, 2004–14 ................................................................. 131
List of Tables

Table I.1. List of Methodologies Adopted in the Analysis .................................................. 21
Table 2.1. Assortative Mating: Double-Earner Couples, by the Husband and Wife’s Labor Income Decile, 2001 and 2015 ............................................................... 40
Table 4.1. Estimates of the Effects of Minimum Wages on Employment ....................... 105
Table 4.2. Estimates of the Effects of Minimum Wages on Hours Worked .................. 106
Table E.1. Number of Wage Rates Specified within Remuneration Orders, 2016........ 132
Table E.2. Estimation Approach to Determining RO Worker Coverage Using CMPHS Data ...................................................................................................................... 133
Table E.3. The Real Hourly Minimum Wage, by Remuneration Order, 2004–14 ........... 135
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### Abbreviations and Acronyms

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>CMPHS</td>
<td>Continuous Multi-Purpose Household Survey</td>
</tr>
<tr>
<td>GDP</td>
<td>gross domestic product</td>
</tr>
<tr>
<td>ICT</td>
<td>information and communication technology</td>
</tr>
<tr>
<td>NRB</td>
<td>National Remuneration Board</td>
</tr>
<tr>
<td>OECD</td>
<td>Organisation for Economic Co-operation and Development</td>
</tr>
<tr>
<td>RO</td>
<td>remuneration order</td>
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Mauritius is often cited as one of the few African success stories, and with good reason. In the aftermath of independence (1968), this small island nation in the Indian Ocean seemed to be bound for economic failure because of its high poverty rate and numerous vulnerabilities, including high population growth, ethnic tensions, substantial unemployment, and an economy greatly dependent on the production of sugar for international markets. However, Mauritius was successful in diversifying the economy and accomplishing an unprecedented structural transformation. This made steady economic growth possible, and this has significantly reduced poverty and placed the country solidly among the richest in the Africa region.

However, about a decade ago, this economic model encountered initial challenges. This was the by-product of the loss of preferential access of the country’s sugar and textile production to the European Union and U.S. markets and growing international competition for the country’s low-cost industries. The government reacted promptly by implementing a series of liberal economic reforms that temporarily brought the Mauritian economy back on track. However, economic growth began to slow again in 2010.

At the same time, inequality increased, threatening the standards of living of the poor. The Inclusiveness of Growth and Shared Prosperity report (World Bank 2015a) turned the spotlight on the expanding gap of inequality in household incomes that occurred between 2007 and 2012 and on the negative impact on poverty. The report estimates that the incidence of absolute poverty between 2007 and 2012 would have declined twice as quickly had growth been shared more widely and inequality not worsened. Building on these earlier findings, this study investigates the driving forces behind the growing income inequality and identifies policy levers that could mitigate and, in the long run, possibly reverse the upward trend.

This study takes a comprehensive approach to the determinants of inequality by including the role of the choices of households and individuals, markets, and institutions. The period between 2001 and 2015 was characterized by substantial economic growth and yet limited shared prosperity and increasing inequality. The Gini coefficient of household income increased from 0.37 in 2001 to 0.42 in 2015 (+16.4 percent). The income ratio of the 90th percentile of the distribution to the 10th percentile (P90/P10), which measures the distance between the upper bound income value of households in the ninth decile (the richest 10 percent of households) and the lower bound income value of households in the first decile (the poorest 10 percent of households) expanded by about 37 percent. This increase calls attention to the tails of the household income distribution, particularly at the bottom. Among the various sources of household income, income from labor is by far the largest component—representing an average of about 80 percent of household income in 2015—and was the source of income that most contributed to the observed increase in income inequality. Inequality in household labor income is affected by two main groups of factors. First are demographics, including household composition, household mix, household characteristics, and the degree to which individuals marry within their own income group. Second are labor market factors, including labor force participation and inequality in individual labor income. While these factors played a role, the single most important contributor was certainly the expansion in the inequality in individual earnings. The considerable growth in inequality in individual earnings, largely wages, is attributable to the structural changes that have occurred in Mauritius over the last 15 years. The economic structure continued a progressive shift away from traditional sectors, including agriculture and manufacturing, particularly textiles, toward services, notably, professional and financial services. This economic transformation generated a substantial increase in the demand for skilled workers that was not matched by an equally rapid increase in the supply of skilled workers, notwithstanding significant improvements in educational attainment among the Mauritian population. In addition to market forces, labor market institutions, more precisely, the system of remuneration orders (a set of legislated minimum wages, ROs), contributed to the rise in wage inequality at the bottom of the distribution because of small and sporadic adjustments. Though the
rise in women’s participation in the labor market did not turn out to be a large contributor in explaining changes in household income inequality, gender equity is certainly an important policy area that merits attention. Mauritian women are substantially disadvantaged in access and remuneration in the labor market, particularly in the private sector. This appears to be the by-product of two main factors. First, women employed in the private sector have less productive characteristics compared with men; second, the pay structure seems to favor men over women. Meanwhile, the public sector seems to be an attractive avenue for highly skilled women who are, on average, paid more than the corresponding men, thanks to their productive characteristics and to the milder form of unequal treatment. Finally, besides the existence of a skills shortage, which has been identified as the main culprit in rising earnings inequality, the low quality of learning achievements is likely to have generated a growing number of unemployed youth, who are becoming more highly educated, as well as to an expanding educational mismatch among employed youth. In addition to contributing to widening wage inequality, this kind of mismatch can have negative consequences at both the micro- and the macrolevel. First, it can impair the productive potential of youth and therefore influence lifetime patterns of employment and pay; second, it might hinder economic growth, productivity, and competitiveness in the long term.

The increase in total income inequality was mainly attributable to inequality in household labor income. The other components, including income from property and public and private transfers, played a relatively minor role. The Gini coefficient calculated on household labor income rose from 0.41 to 0.50 between 2001 and 2015. The government was successful in curbing the sharp upward trend in inequality through redistribution policies targeted particularly on households at the bottom of the distribution (see figure ES.2). The cornerstone of the redistribution effort was the social protection system. This contributed considerably to reducing poverty and contain inequality. However, despite important steps taken by the government toward greater coordination in social protection programs, further improvements are needed (World Bank 2015a). For example, the basic retirement pension, a universal noncontributory social pension paid to persons above age 60, lacks a focus on the poor because it disproportionately favors well-off households, and funding is low for programs specifically intended to benefit the poor (World Bank 2015a).

Rising Inequality in Wages Is the Main Contributor to Growing Inequality in Household Incomes

The typical Mauritian household is a married-couple household composed of a husband and wife. The share of this type of household declined, particularly the share of married-couple households with children, which declined from 61 percent in 2001 to 46 percent in 2015. By contrast, single-headed households are more common today; in 2015, they made up about 20 percent of all households. This is ascribable to delayed family formation decisions. The aging of the Mauritian population is also important. Single-headed households are typically headed by women (75 percent) in their late 50s or early 60s and without coresident children.

Changes in household types matter for the dynamics of inequality for at least two reasons. First, the family plays a role in providing insurance against individual risk as shown by the wider inequality among single-headed households relative to married-couple households. Therefore, an increase in the share of single-headed households alone...
FIGURE ES.1. The Incomes of the Poorest Households Grew, but Less Rapidly Than the Incomes at the Top, 2001–15
annual growth rate of household income by percentile

Source: Based on data of the Continuous Multi-Purpose Household Survey (CMPHS), Statistics Mauritius.
Note: The red line illustrates the average annual growth rate of household income.

FIGURE ES.2. Inequality in Household Income Widened, Particularly in Labor Income, 2001–15
trends in the P90/P10 of different income aggregates

Source: Based on data of the Continuous Multi-Purpose Household Survey (CMPHS), Statistics Mauritius.
Note: Each line shows the trends in the P90/P10 of an income aggregate.
Mauritius: Addressing Inequality through More Equitable Labor Markets

Skills Shortages Are the Principal Culprit in the Widening Inequality in Individual Wages

Inequality in individual hourly wages expanded rapidly in the second half of the period, between 2008 and 2015. Hourly wage inequality, as measured by the P90/P10 ratio, increased by almost 30 percent. The growth was concentrated in the upper tail as illustrated by the trend in the P90/P50 ratio, while, at the bottom of the distribution, the rise was limited (+4 percent) (figure ES.4, panels a and b). While the rise in wage inequality was wider among men, inequality was still greater among women (figure ES.4, panels c and d).

Growing wage inequality is largely attributable to expanding inequality between groups defined by educational attainment. The upward trend in wage inequality can be attributed to changes in inequality across groups and inequality within groups of workers. Groups of workers are defined by demographic characteristics, including gender, education, and age. The high to low educational attainment ratio in the hourly wage rose by about 18 percent contributes to widening inequality. Second, rising female labor force participation translates into a growing share of married-couple households with a minimum of two workers. This can lead to greater dispersion to the extent that earnings are strongly correlated across spouses.

Earnings from the wage employment of household heads and spouses were the main contributor to growing inequality in household income. The earnings of heads and spouses are the main source of household labor income. In 2015, the earnings of spouses contributed 100 percent of household labor income in 40 percent of Mauritian households and less than 100 percent in 37 percent of the households, while, in 23 percent of the households, heads and spouses did not work. Changes in household labor income inequality are a by-product of a combination of changes in household demographics and the labor market attributes of household members. The growing correlation of the earnings of husbands and wives in married-couple households, joined with a larger increase in female labor force participation among the most affluent households, exerted upward pressure on inequality in household labor incomes. However, the growing inequality in individual earnings was the main factor behind the rising inequality in household labor incomes (figure ES.3).

**FIGURE ES.3.** Earnings of Heads: The Main Contributor to Expanding Inequality in Household Labor Income, 2001–15

*the contribution of demographic and labor market factors to changes in household labor income inequality (P90/P10)*

Source: Based on data of the Continuous Multi-Purpose Household Survey (CMPHS), Statistics Mauritius.
among men and by less than 1 percent among women. In 2015, men with upper-secondary or higher education made about 87 percent more per hour worked than men with up to completed primary education. The premium was about 56 percent in 2004. The hourly wage premium associated with experience fell appreciably among both men and women. For example, in 2004, an average man with 35 plus years of experience was paid about 54 percent more per hour worked than a man with 14 years or less experience, but the premium had dropped to 27 percent by 2015.

Workers with high educational attainment posted large wage increases relative to low educated ones. The trends described above are the result of the wage dynamics of each demographic group. First, the expanding premium for more highly educated workers is attributable to the larger increase in hourly wages relative to workers with low educational attainment, particularly among men between 2007 and 2011 (figure ES.5, panels a and b). Second, the decline in the experience premium was driven by the larger rise in hourly wages among young workers relative to their older counterparts mostly between 2007 and 2010 (figure ES.5, panels c and d). Third, the reduction in the gender gap can be attributed to the more rapid growth of hourly wages among women relative to men.

The shifts observed in relative hourly wages among workers with high or low educational attainment are

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**FIGURE ES.4.** Hourly Wage Inequality Widened Mostly in the Upper Tail, Especially among Men, 2001–15

- **a.** Trends in the P50/P10 ratio
- **b.** Trends in the P90/P50 ratio
- **c.** Men: trends in the P90/P50 ratio
- **d.** Women: trends in the P90/P50 ratio

*Source: Based on data of the Continuous Multi-Purpose Household Survey (CMPSHS), Statistics Mauritius.*
Mauritius: Addressing Inequality through More Equitable Labor Markets

Changes in real hourly wages

Ascribable to structural changes. The population of Mauritius has become increasingly more well educated. In 2001, less than 6 percent of Mauritians ages 16 plus had some postsecondary or tertiary education, but the share has risen fourfold over the last 15 years. The educational level of the employed population also increased considerably. Between 2004 and 2015, the share of workers with postsecondary or tertiary education rose by about 18 percentage points, while the share with completed primary education or less dropped by 14 percentage points (figure ES.6, panel a).

In parallel, the Mauritian economy has continued a transformation away from traditional and largely low-skilled sectors, possibly in line with changes in the structure of product demand, increased international competition, changes in trade agreements, and skill-biased technological change. The share of agricultural employment declined by 2 percentage points, to 6.1 percent, between 2004 and 2015. The share of manufacturing fell by 9 points, to 16.2 percent in 2015. Meanwhile, the relative weight of the services sector expanded (see figure ES.6, panel b). Trade, hotels and restaurants, and transport grew by 1.4, 1.8, and 1.1 points, respectively. The expansion in financial, real estate, and professional services was even larger (4.8 percentage points). A similar transformation occurred within industries. A shift occurred toward high-skill occupations, such as managers and professionals, whose share rose by almost 7 percentage points to reach 23 percent in 2015 (see figure ES.6, panel c). Craft workers, skilled agricultural workers, machine operators, and workers in elementary occupation lost importance, recording a reduction of about 13 percentage points, to 43.5 percent in 2015.
Between 2004 and 2015, there was an increase in the relative demand for more well educated workers, particularly women and a decline in the relative demand for workers with low educational attainment (figure ES.8). Such demand shifts are largely attributable to shifts between industries and occurred, notably, between 2012 and 2015. These changes may have an effect on the allocation of total labor demand across industries and can be ascribed to changes in product demand across industries or changes in the net international trade affecting the domestic share of output, such as the loss of preferential access of Mauritian sugar and textile production to the American and European markets. Within-industry shifts induced a general decline in the demand for less well educated workers, both men and women, and an increase in the demand for more highly educated men. However, the role of within-industry changes

change in the distribution of the employed population

The relative supply of workers with high educational attainment grew rapidly. The labor supply of more highly educated women rose massively (+79 percent), particularly between 2007 and 2010 (figure ES.7, panel a). While the relative supply of low- and mid-educated workers, both men and women, declined considerably (figure ES.7, panel b). These trends may account for the rise in hourly wages among less well educated workers given that their relative labor supply declined. Yet, changes in labor supply do not account for the large growth in hourly wages among more highly educated women because this was accompanied by a parallel and similarly large expansion in the relative labor supply of these women.

The rapid expansion in the relative demand for highly educated labor outpaced the expansion in the relative supply. Between 2004 and 2015, there was an increase in the relative demand for more well educated workers, particularly women and a decline in the relative demand for workers with low educational attainment (figure ES.8). Such demand shifts are largely attributable to shifts between industries and occurred, notably, between 2012 and 2015. These changes may have an effect on the allocation of total labor demand across industries and can be ascribed to changes in product demand across industries or changes in the net international trade affecting the domestic share of output, such as the loss of preferential access of Mauritian sugar and textile production to the American and European markets. Within-industry shifts induced a general decline in the demand for less well educated workers, both men and women, and an increase in the demand for more highly educated men. However, the role of within-industry changes

Source: Based on data of the Continuous Multi-Purpose Household Survey (CMPHS), Statistics Mauritius. Note: The numbers shown in the four panels represent percentage changes in the share of each group in total labor supply, measured in efficiency units. The latter are obtained by multiplying annual hours by the relative wage of the group, averaged over 2004–15.

in labor demand was secondary. These changes affect the relative intensity of the use of production inputs within industries and across occupations, and they are typically attributable to nonneutral technological change, changes in the prices of nonlabor inputs, and outsourcing.

The rise in wage inequality calls for structural responses. The increase in wage inequality was the by-product of structural adjustments of the Mauritian economy. It thus requires long-term adjustments. Policies targeted at closing the skills shortage have the potential to reduce wage inequality and are also beneficial for productivity and economic growth. Key are investments in skills that are in high demand. This requires an accurate assessment of the current and future needs of the country in skills, followed by adjustments in education and training to make sure they address the changing needs in skills. A comprehensive strategy to reduce the skills shortage requires that the quality of public education be secured and demands an approach to providing education that acknowledges the labor market relevance of medium skills (acquired through technical and vocational education) and high skills (acquired through tertiary education). Guaranteeing the relevance of education and training for the labor market means there must be effective channels of communication between education and workplace actors, as well as public-private partnerships.

In the short term, fostering return migration might provide some relief. Mauritius has been historically characterized by significant emigration. About 96,000 Mauritians ages 15
or above were residing abroad in 2000 (IOM 2014). Large Mauritian diasporas have been established in Australia, Canada, France, Italy, South Africa, and the United Kingdom. In addition, every year, an increasing number of Mauritian students go abroad for educational purposes: about 11,000 in 2015, according to Statistics Mauritius. While more evidence is needed on the dimension, pattern, and characteristics of the Mauritian diaspora, it seems that providing incentives to Mauritian abroad to return to the island and simultaneously incentivizing firms that operate in Mauritius to hire returning migrants might contribute to alleviating the skills shortage.

Remuneration Orders Raised Wage Inequality at the Bottom and Had Negative Employment Effects

Remuneration orders (ROs) contributed modestly to increasing inequality, particularly at the bottom of the distribution. In the Mauritian context, a key role is played by ROs. Between 2004 and 2015, changes in legislated RO wages were modest. The (lowest) legislated wages in about a third of the covered sectors declined in real terms between 2004 and 2014, while the vast majority recorded a modest increase. The change in legislated RO wages lagged behind the growth observed in actual wages earned by workers employed in RO-covered sectors. The ratio between legislated RO wages and mean wages earned by covered workers declined because of two factors: intermittent adjustments of legislated RO wages and the shifts documented above in employment in services and in high-skilled occupations. Thus, low-skilled workers employed in traditional RO sectors recorded modest wage gains relative to high-skilled workers employed in services that benefited from large wage gains thanks to the rampant skills shortage. For these reasons, ROs contributed, although modestly, to increasing inequality, particularly in the lower tail and up to the 30th percentile of the hourly wage distribution (figure ES.9). The inequality-increasing effect was larger among men, especially at the bottom of the distribution (below the 20th percentile). The estimated effect is in line with other studies that find that a decline in the real value of the minimum wage has been responsible for part of the rise in inequality in Mexico and the United States as well as in the United Kingdom, where the falling (industry-based) minimum wage contributed to rising inequality in the late 1980s and early 1990s.

ROs are estimated to have had a modest negative employment effect in the covered sectors. An increase of 10 percent in RO-legislated wages is associated with an overall decline in employment of 0.57 percent. The effect differs in magnitude by gender. Employment is estimated to have declined by 0.77 percent among men and by 1.06 percent among women. The larger effect among women may derive from the especially large rise in the legislated RO wage of domestic workers, a sector in which employment
Mauritius: Addressing Inequality through More Equitable Labor Markets

Influencing the gaps in compliance in the developing world (Bhorat, Kanbur, and Mayet 2013). First are institutional factors such as the penalty structure for noncompliance, the complexity of the wage schedule, and the resources allocated to enforcement services. Second, the individual characteristics of inspectors, including their educational attainment, can influence the extent to which they are effective at achieving compliance. Third, firm characteristics, such as size, distance from the enforcement agency, the number of previous violations, and the level of foreign ownership, will influence violations and enforcement. Fourth, local labor market characteristics, such as the unemployment rate, the average wage rate relative to the minimum wage, and unionization, also play a role. In addition, the economic environment and the implementation of collaborative social policies that coincide with minimum wage policies can affect compliance, enforcement, and the overall economic impact of a minimum wage.

A recent study has explored issues of minimum wage coverage and gaps in minimum wage compliance in 11 low- and middle-income countries (DPRU and CSDA 2016). The study shows that simple national minimum wage systems are typically associated with higher compliance rates. The foreseen introduction of a national minimum wage might help simplify the institutional context, increase compliance, and protect low-paid workers if the wage is set meaningfully.

Minimum wage policies are not the most appropriate instrument to help poor and low-income families. The main argument typically offered in favor of a minimum wage is that it helps poor and low-income families. A minimum wage often brings about negative employment effects and therefore creates winners and losers. Moreover, the policy target is frequently wrong, that is, low-wage workers instead of low-income families (if the two groups do not overlap). Many low-income families have no workers. This is the case in Mauritius, where poor families are less likely to have working household members. In 2012, about 73 percent of the poor were unemployed or economically inactive (World Bank 2015a).

Simple and enforceable minimum wage policies set at meaningful levels are key to protecting low-wage workers. Among the key decision areas on a minimum wage system is the level of the minimum, but also the complexity of the wage regime and the intensity of enforcement. Four sets of variables are important in understanding the factors influencing the gaps in compliance in the developing world (Bhorat, Kanbur, and Mayet 2013). First are institutional factors such as the penalty structure for noncompliance, the complexity of the wage schedule, and the resources allocated to enforcement services. Second, the individual characteristics of inspectors, including their educational attainment, can influence the extent to which they are effective at achieving compliance. Third, firm characteristics, such as size, distance from the enforcement agency, the number of previous violations, and the level of foreign ownership, will influence violations and enforcement. Fourth, local labor market characteristics, such as the unemployment rate, the average wage rate relative to the minimum wage, and unionization, also play a role. In addition, the economic environment and the implementation of collaborative social policies that coincide with minimum wage policies can affect compliance, enforcement, and the overall economic impact of a minimum wage.

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Gender Inequality Is Declining, but There Is Still a Long Way to Go

Despite the progress, Mauritian women are still considerably disadvantaged in access to the labor market. The household analysis shows that the disproportionate expansion in the labor force participation of women in the most affluent households, together with the growing correlation between the earnings of husbands and wives, has contributed to the widening in household labor income inequality. If women's employment is to contribute to reducing inequality in household labor incomes, gender gaps in the labor market must decline, and women’s gains must be evenly distributed. Although the female labor force participation rate rose steadily over the decade and had reached 57 percent by 2015, the gender differential is still large, at a staggering 32 percentage points (figure ES.10, panel a). The outlook is optimistic because most of the reduction in the gender gap is attributable to young cohorts of women, particularly women with secondary educational attainment. In addition, educated women are more well entrenched in the labor force than other women. The labor force participation rate among women with postsecondary or tertiary educational attainment is as high as the rate among men (figure ES.10, panel b). Gaps in participation are partly explained by differences in observable characteristics, including age, educational level, marital status, and household demographic structure, including the presence of children or older family members. However, a considerable portion of the observed variation is accounted for by unobservable characteristics. Among these are the availability and cost of child and elderly care services, as well as the cultural values and social norms that assign to women a traditional role as providers of children and elderly care and as responsible for a broad range of non-market activities.

In the private sector, women are also disadvantaged in pay largely because of unequal treatment. Between 2004 and 2015, women employed in the private sector were paid, on average, about 30 percent less than men per hour worked. The gap is larger among low-paid women (33.5 percent at the 10th percentile of the wage distribution in 2015) and up to the median (31.4 percent in 2015), compared with women earning high wages (12.7 percent at the 90th percentile in 2015). The gender gap in the private sector appears to be a consequence of the combination of two factors. First, women have less productive characteristics than men; they are, for example, disproportionately employed in traditional sectors and low-skilled occupations. Second, women are subject to a large negative effect because of what the literature calls the unexplained component (figure ES.11, panel a). This component captures the effect of unobservable characteristics.
young, more well educated cohorts of women. Policies that ease the caring burden borne by women and encourage men to become more involved in home and care duties would be welcome.\textsuperscript{9} Despite the greater labor force participation, women are likely to continue to bear most of the burden in housework and family care.\textsuperscript{10} These activities compete for women's time and energy with the labor market and may oblige women to seek less competitive and less remunerative career paths and greater employment flexibility. Hence, subsidized child and elderly care and work-time regulations that promote flexibility and facilitate part-time work are likely to be effective. For example, guaranteeing women the possibility to switch to part-time schedules in the same jobs after they deliver could help reduce the risk of career disruptions by allowing a smooth transition from maternity leave to employment. Extending paternity leave and making it more flexible are additional tools that could ease the burden of women and reduce the cost of hiring women.

Economic incentives for working women and men need to be aligned. To the extent that the gender pay gap in the private sector is the result of an unequal pay structure, changes need to occur through the education system that place a stronger focus on curbing discriminatory social norms among youth. The public sector could serve as a model of best practice in engaging women in the labor market and promoting more equitable treatment. Awareness campaigns might also help shift norms and biases on the employment of women in high-paying positions.
Unemployment among Educated Youth Highlights the Education Mismatch among the Employed

In addition to a skills shortage, the Mauritian labor market appears to be characterized by an education mismatch, especially among youth. The education mismatch captures the fact that the educational attainment of workers does not match the education required in the jobs they perform. Overall, the share of mismatched workers, either over- or undereducated, was roughly constant at about 47 percent in the last decade. Yet, the share of overeducated workers rose from 8 percent to 13 percent, on average, notably, among youth (figure ES.12). The share of overeducated workers ages 15–29 doubled between 2006 and 2015. Women spearheaded this trend. Besides the negative effects in rising wage inequality, this type of mismatch can have negative consequences at both the micro- and the macrolevel. First, it can impair the productive potential of youth and thus influence lifetime patterns of employment and pay. Second, it may hinder economic growth, productivity, and competitiveness in the long term.

In addition, youth unemployment is on the rise, and unemployed youth are increasingly highly educated. Unemployment among youth ages 15–24 has consistently been three times the overall unemployment rate and significantly higher compared with the rate among individuals in the 25–29 age-group (figure ES.13, panel a). The unemployment rate among the younger age-group rose from about 19 percent in 2008 to 25 percent in 2015. Unemployed youth are increasingly highly educated. In 2006, around 55 percent of unemployed youth ages 16–29 had upper-secondary educational attainment, and less than 7 percent had post-secondary or higher education (figure ES.13, panel b). In 2015, in addition to a reduction in the share of unemployed youth who had, at most, completed primary education, the share of unemployed youth with upper-secondary education had fallen to 42.5 percent, while the share of youth with postsecondary or higher education had jumped to almost 40.0 percent.

Learning achievement often does not match the type and quality of skills required by employers. Of special concern is the combination of three factors: (1) a sizable high-skills shortage is driving the expansion in wage inequality; (2) the education mismatch is becoming worse, as shown by the rising share of overeducated youth; and (3) unemployed youth are increasingly highly educated. This signals a potential inefficiency in the system whereby labor demand does not match labor supply. Although the Mauritian population has achieved considerable progress in education, the education system is not providing workers, especially youth, with the high-quality learning required by employers. This hypothesis finds corroboration in the results of the surveys of the Organisation for Economic Co-operation and Development’s (OECD) Program for International Student Assessment. According to the survey conducted

**FIGURE ES.12.** The Share of Overeducated Youth Is on the Rise, 2006–15

![Graph showing the share of overeducated youth by age-group from 2006 to 2015.](source: Based on data of the Continuous Multi-Purpose Household Survey (CMPHS), Statistics Mauritius.)
**FIGURE ES.13.** Youth Unemployment Is High, and Unemployed Youth Are Increasingly More Well Educated, 2006–15

(a) Unemployment rate, by age-group

(b) Unemployed youth, by educational attainment

Source: Based on data of the Continuous Multi-Purpose Household Survey (CMPHS), Statistics Mauritius.
in 2010, 15-year-old Mauritian students lag behind corresponding students in otherwise comparable countries in learning achievement, including in reading, mathematics, and science literacy (Walker 2011). On the demand side, a series of sector-specific surveys on labor shortages and the skills gap conducted in 2011 indicates that employers face difficulty finding workers with the adequate technical skills, soft skills, and past working experience for the jobs they are offering (HRDC 2012a, b, c, d). Moreover, in 2016, employers reported the educational inadequacy of the workforce as the third most problematic factor in doing business in Mauritius (Schwab 2016).

The education mismatch on the labor market and the rising share of well-educated youth among the unemployed call for a two-pronged strategy. On the one hand, the education mismatch can be addressed through targeted training and retraining programs for undereducated workers, who are mainly middle-age and older workers. The aging Mauritian population renders the adoption of a life-cycle approach to learning key to the success of this strategy. On the other hand, the younger cohorts of workers who are increasingly over-educated for the jobs they perform or who are unemployed despite their high educational attainment are evidence of the need for improvement in the effectiveness of targeted youth employment schemes and well-functioning employment services. The quality of learning needs to be reviewed, and technical and vocational education and training need to be made relevant to the changing needs of the labor market and become more attractive to more youth, who often view such curricula as considerably less valuable because the certificates with which they are associated have not been obtained through an academic education. This requires promotion and communication efforts, accompanied by enhanced and continuous career guidance. The active involvement and ownership by employers in skills development and application are key to making the response more effective. With a view to enhancing efficiency, the government might also review the existing range of incentives—including collective training funds, tax incentives, and payback clauses—and the international evidence on what works.

NOTES

1. For the purpose of this study, total household income is defined as the sum of income from wages and self-employment, property income, and current transfers (public and private) received, excluding income from the production of household services for own consumption (the net value of owner-occupied dwellings). The income aggregate is before taxes because the data do not allow the identification of the amount of taxes paid by each household consistently over time.

2. To capture fully the distributional effects of government redistribution through taxes and transfers, a fiscal incidence analysis is required. This type of analysis consists of allocating taxes, particularly personal income tax and consumption taxes, and public spending, particularly social spending, to households or individuals and comparing incomes before taxes and transfers with incomes after taxes and transfers.

3. Dispersion in individual monthly wages increased substantially between 2004 and 2015, and this was largely driven by wage dynamics rather than by the changes occurring in the number of hours worked.

4. High educational attainment indicates upper-secondary or higher education; low educational attainment includes any schooling up to completed primary education.

5. Work experience represents potential work experience because it is calculated as age-years of education, less 6, which is the initial age of schooling.

6. In addition to the rise in inequality among demographic groups, particularly between high- and low-skilled workers, there was an expansion in within-group inequality, that is, in hourly wage inequality within groups identified by gender, education, and experience. Both between- and within-group inequality is, however, largely ascribable to the effect of changes in the price of labor (hourly wages), rather than to changes in the composition of the workforce.

7. The estimated effect is likely to be an upper bound of the true effect of ROs on inequality (see appendix A).

8. Coverage gaps represent the share of wage earners who are not covered by minimum wage legislation. Compliance gaps represent the share of wage earners who are covered by minimum wage legislation, but still make subminimum wages.

9. However, a considerable portion of the gender gap in participation remains unexplained. While several hypotheses may be proposed, including the accessibility and cost of childcare, the choice of curricula that are less likely to be associated with good job outlets, and social and cultural norms, additional analysis is needed to provide more precise answers.

10. With financing from the World Bank under the multidonor Trust Fund for Statistical Capacity Building, Statistics Mauritius will carry out a living conditions survey that will also collect information on time use. This will help in comparing the time devoted by employed and unemployed men and women to household activities, including routine chores and family care.

11. This analysis relies on a measure of the match between skills and job tasks and duties, the International Standard Classification of Occupations. This normative measure is based on a division of major occupations into broad groups. It assigns a level of education to each occupational group in accordance with the International Standard Classification of Education. Workers in a group who have the assigned level of education are considered well matched. Those who have a higher (lower) level of education are considered overeducated (undereducated). An advantage of the measure resides in the fact that the definition of a mismatch does not change over time; the results are therefore strictly comparable. A disadvantage of the measure is the fact that formal education is only one component of the measurement of skill level and can be subject to measurement error.

Since independence in 1968, Mauritius has posted steady progress in economic performance that is often labeled the Mauritian miracle or the success of Africa. Svirydzenka and Petri (2014) describe how Mauritius transitioned from a low-income monocrop exporter, subject to terms-of-trade and output shocks, high population growth, and ethnic tensions, to a diversified upper-middle-income economy. Mauritius is today one of the strongest economies in Africa, with a per capita income of US$9,780 in 2015, the third highest in Africa (World Bank 2017). Now, the country is aiming to achieve a second economic miracle and aspires to join the group of high-income economies by 2023.

About a decade ago, the Mauritian economic model began encountering the first serious challenges. The loss of preferential access of the country’s sugar and textile production to the European Union and U.S. markets, negative terms of trade, and growing international competition in low-cost industries slowed growth and led to rising unemployment. The government liberalized the economy and unleashed resources in support of expanding sectors. The labor market was reformed; sectors were opened to foreign investment; the business climate improved; and tax compliance was simplified. Thanks to a social contract based on inclusion, redistribution, and private-public dialogue, the effort paid off in more economic growth, employment creation, foreign direct investment, private investment, and a declining public debt ratio.

Since 2010, economic growth has fallen short of the aspirations of the government and the people. Economic growth slowed; job creation is weak; and inequality is widening. The macroeconomic prospects are moderately positive. The economy grew by 3.5 percent in 2015 and by approximately 3.7 percent in 2016. Between 2004 and 2014, the tertiary sector was the main driver of economic growth, posting an overall increase of 11 percent to account for 73.5 percent of total gross domestic product (GDP) in 2014. Within the tertiary sector, finance is the largest and most rapidly growing subsector. Its contribution to GDP rose by 27 percent over the period. Agriculture contracted the most. Its contribution to GDP shrank by half, from 6 percent in 2004 to only 3 percent in 2014. The shares of GDP attributable to primary and secondary sectors declined by 47 percent and 16 percent, respectively. Within the secondary sector, the GDP shares of manufacturing, water, electricity, and construction declined by between 13 percent and 17 percent over the period. Ultimately, a key structural shift has occurred in the Mauritian economy away from primary and secondary production to an economy characterized by the dominance of services.

Economic growth has been accompanied by a considerable reduction in poverty. Absolute poverty, calculated using the 2006/07 relative poverty line as a fixed threshold, declined from 8.5 percent to 6.9 percent between 2007 and 2012 (World Bank 2015a). In parallel, household income inequality, as measured by the Gini coefficient, rose from 0.34 to 0.37 (World Bank 2015a) (box I.1). Households in the middle and top of the income distribution gained more than those at the bottom. Households in the bottom 3 percentiles of the household income distribution saw their income decline by about 1.8 percent a year (World Bank 2015a). The 2015 Mauritius, Inclusiveness of Growth and Shared Prosperity report also illustrates that most of the expansion in household income inequality is ascribable to income from labor, particularly to income from wage jobs, in which most of the Mauritian working-age population is employed (World Bank 2015a). The World Bank (2015a) estimates that the reduction in absolute poverty would have been twice as large if growth had been more equitably shared and if inequality had not widened. At the same time, the country’s comprehensive social protection system helped contain the increase in the Gini coefficient to 4 percentage points (World Bank 2015a). However, despite substantial effort undertaken by the government to instill greater coordination across social protection programs, improvements are needed (World Bank 2015a). For example, the basic retirement pension, a universal noncontributory social pension paid to persons over age 60, lacks a focus on the poor because it disproportionately favors well-off households, and funding is low for programs specifically intended to benefit the poor (World Bank 2015a).

The most recent country partnership framework document identifies three strategic focus areas for the period between fiscal year 2017/18 and fiscal year 2021/22: increasing competitiveness, fostering inclusion, and bolstering resilience.
BOX I.1. Household Income: Choices, Markets, and Institutions

Household equivalent disposable income is the sum of income from labor (both from wages and self-employment), income from assets, and income from transfers (both public and private), minus taxes and social security contributions. Inequality in household equivalent disposable income is the by-product of inequality in each component.

Household labor income is one of the most important components. Markets, institutions, and the choices of households and individuals can have an impact on the level of inequality (figure BI.1.1). For example, the size and the composition of each household have a direct effect on equivalent household labor income and an indirect effect through the labor market choices of household members in the supply of labor on the extensive and intensive margin, that is, respectively, (1) whether to participate in the labor market or not and (2) conditional on participation in the decision, the number of working hours to offer. Labor market forces, captured by the interaction of labor supply and demand, affect the earnings of individuals because they determine the price of labor, the wage. Labor market institutions, including the minimum wage and labor unions, can alter what would otherwise be the price of labor determined by market forces alone.

FIGURE BI.1.1. Choices, Markets, and Institutions Affect Labor Income

Within this context, this study presents the patterns of total household income inequality and the main components of this inequality. Chapter 2 explores the role of household demographics and market factors in household labor income inequality. Chapter 3 takes a deep dive into the role of women in the labor market. Chapter 4 illustrates detailed trends in wage inequality as a driver of inequality in household labor income and investigates the main source of rising wage inequality, particularly a skills shortage.

and sustainability (World Bank 2017). Building on the findings of the World Bank (2015a) and on the country partnership framework’s focus on fostering inclusion, this study analyzes the dynamics of inequality over the longer period 2001–15 with a view to understanding the driving forces behind the growth in inequality and identify possible policy levers that could mitigate and, in the long run, reverse the upward trend in inequality. This objective becomes more relevant given the recent global economic slowdown and terms-of-trade shocks because narrowing inequality is key to fostering economic growth and achieving the twin goals of eliminating extreme poverty and boosting shared prosperity.3

Unravelling the conundrum of the growing income inequality in Mauritius by understanding the main sources and driving factors is important for identifying effective policy levers to mitigate and possibly reverse the upward trends, consolidate recent progress, and ensure Mauritius enters a sustainable track toward high-income-country status.

The report is structured as follows. Chapter 1 sets the stage by presenting stylized facts on the trends in household income inequality between 2001 and 2015, comparing these trends with trends in consumption inequality, and identifying the main culprit behind the rapidly rising inequality in household incomes, that is, household labor income. Chapter 2 supplies a set of descriptive trends of the two groups of factors, namely, household demographics and labor market forces, that contribute to changes in household labor income and follows up with a decomposition exercise on changes in household labor income between 2001 and 2015.
Because the analysis indicates that an unequal increase in female labor force participation and rising inequality in individual earnings are among the main contributors to the expanding inequality in household labor income, Chapter 3 takes a deep dive into the issue of gender inequality in the labor market. The chapter illustrates the gender gap in labor market participation, describes the differences in the activities of working women in the labor market relative to men, and concludes with a detailed analysis of gender gaps in wages separately in the public and private sectors. Chapter 4 resumes the main analysis of the drivers of increasing inequality in individual earnings. The chapter first presents stylized facts about overall inequality in wages and then separates out changes in inequality between and within groups defined by demographic characteristics. The chapter distinguishes the role of changes in prices (or wages) and the role of changes in the composition of the workforce in rising earnings inequality. The second part of the chapter is devoted to the analysis of the role of the main potential drivers of expanding earnings inequality. The possible candidates include the interaction of changes in labor supply and labor demand, giving rise to skills shortages or surpluses, and changes in labor market institutions, namely, remuneration orders (ROs). The chapter concludes with an analysis of an additional source of skills mismatches among the employed population, namely, education mismatches, and advances potential explanations for the coexistence of a substantial skills shortage, overeducation, particularly among youth, and a large share of highly educated youth among the unemployed.

The analysis briefly described above has required the use of a number of different empirical approaches. Box I.2 defines income, and table I.1 summarizes the main methodologies adopted in each chapter, together with the references in the economic literature, and a short, yet exhaustive description of the approach taken each time. Appendix B illustrates a description of the major data sources used throughout the report and the definitions adopted to define labor market variables.

**BOX I.2. The Definition of Income**

The conceptual definition of household income established at the 17th International Conference of Labour Statisticians and adopted by the Canberra Group in the second edition of the handbook published in 2011, is the following:

Household income consists of all receipts whether monetary or in kind (goods and services) that are received by the household or by individual members of the household at annual or more frequent intervals, but excludes windfall gains and other such irregular and typically one-time receipts.

Household income receipts are available for current consumption and do not reduce the net worth of the household through a reduction of its cash, the disposal of its other financial or nonfinancial assets, or an increase in its liabilities.

Household income may be defined to cover: (1) income from employment (both paid and self-employment), (2) property income, (3) income from the production of household services for own consumption, and (4) current transfers received.

Data of the Continuous Multi-Purpose Household Survey (CMPHS) allow the identification of all the components of household income listed above with the exception of income from the production of household services for own consumption, namely, the net value of owner-occupied dwellings. Income from employment is derived from the income module of the survey in which each household member is asked to report the last monthly payment from any wage job and income from self-employment. The income section also provides information about other sources of income, including goods produced for own-consumption or barter (and including vegetables, fruits, eggs, fish, and so on), income from assets, and transfer income. Income from property includes rent from land, buildings, machinery, equipment, and so on. Income from financial assets includes, for example, interest and dividends. Income from transfers is composed of both private and public transfers. Among the first are regular transfers from parents or relatives, regular allowances from social or religious organizations, maintenance allowance or alimony, pension from employers (privately funded and voluntary), and other regular incomes. Public transfers include social security benefits (old-age pensions and others), pension from the National Pension Fund, and widow and children pensions.

The most comprehensive household income measure adopted in this study is total income, which is the sum of income from employment, assets income, and transfer income (for example, see figure BI.2.1). Unfortunately, the information available from the survey does not allow a consistent identification of the amount of taxes paid over time, and therefore a measure of disposable income cannot be constructed.

(continued)
**BOX I.2. The Definition of Income (continued)**

Including the value of the flow of services derived from owner-occupied dwellings would decrease inequality, particularly in the lower tail of the distribution. Using information from the 2015 CMPHS about owner estimates to account for the value of housing services, the Gini coefficient would decline from 42.2 to 39.8 (−5.8 percent) and the income ratio of the 90th percentile of the distribution to the 10th percentile (P90/P10) by 12 percent. The reduction in inequality would be larger in the lower tail. The P50/P10 ratio would fall by 8.4 percent compared with a 3.8 percent reduction in the upper tail (the P90/P50 ratio).

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**TABLE I.1. List of Methodologies Adopted in the Analysis**

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<thead>
<tr>
<th>Chapters</th>
<th>Reference literature</th>
<th>Description of the methods adopted in the study</th>
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<tr>
<td><strong>Chapter 1</strong></td>
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<tr>
<td><strong>Decomposition:</strong> changes in income inequality</td>
<td>Azevedo, Nguyen, and Sanfelice (2012); Azevedo, Sanfelice, and Nguyen (2012)</td>
<td>This method implements a Shapley decomposition of changes in a welfare indicator, the Gini index in this case, by constructing counterfactual distributions for period $t+1$ by substituting the observed level of the indicators in period $t$, one at a time. For each counterfactual distribution, inequality measures can be calculated, and the counterfactuals are interpreted as the inequality level that would have prevailed in the absence of a change in that indicator. The decomposition is path-independent because the methodology calculates the decomposition across all possible paths and then takes the average among them.</td>
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<tr>
<td><strong>Chapter 2</strong></td>
<td>Fortin and Schirle (2006)</td>
<td>This decomposition method is used to gauge the relative contribution to changes in the density of (log equivalent) household labor income of six factors: men’s labor income, female labor force participation, women’s labor income, assortative mating, household mix, and household characteristics. The approach consists of a conditional reweighting decomposition carried out in a series of sequential steps. After each step, the counterfactual densities of household labor income and the corresponding inequality measures are compared with those based on observed household labor income. In the first step, log individual earnings of men in the initial year (2001) are regressed on total hours worked, dummy variables for three education categories (up to completed primary, lower secondary, and upper secondary and above), a quartic in experience and interactions of the experience quartic with education categories, and district fixed effects. Estimated coefficients are applied to the characteristics of a sample of men in the final year (2015) so as to generate a counterfactual men’s earnings distribution for</td>
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TABLE I.1. List of Methodologies Adopted in the Analysis (continued)

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<tr>
<th>Chapters</th>
<th>Reference literature</th>
<th>Description of the methods adopted in the study</th>
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<td>Chapter 3</td>
<td>Blinder (1973); Oaxaca (1973)</td>
<td>The Blinder-Oaxaca decomposition is used to gauge the extent to which differentials in observed outcomes (in our case, labor force participation and hourly wages) between two comparison groups (men and women in the analysis) are ascribable to differences in the observed and unobserved characteristics of the two groups. The effect associated with the first difference constitutes the explained component of the differential, also known as characteristics, composition, or endowment effect, in that it reflects the portion of the differential associated with group differences in individual observable attributes (for example, education, experience, main sector of activity, industry, occupation). The effect related to the second difference is referred to as the unexplained component. This embodies the portion of the outcome gap stemming from the differential valuation of women’s and men’s characteristics in the labor market that arises because of differences in unobservable characteristics or unequal pay structures between the two groups.</td>
</tr>
<tr>
<td>Chapter 4</td>
<td>Autor, Katz, and Kearney (2008)</td>
<td>The compositional adjustment of hourly wages serves the purpose of depurating observed wages from the effect of shifts in the gender, experience, education composition of the workforce over a given period, thus allowing wage comparisons over time that are not mechanically affected by shifts in the sample composition. To derive composition-adjusted wages, the data are sorted into 18 sex-education-experience cells based on the combinations of two sexes, three education categories (up to completed primary, lower secondary, and upper secondary and above), and three potential experience categories (0–14, 15–34, and 35+ years). Log hourly wages of workers ages 16–64 not in education are then regressed for each year and separately by sex, on dummy variables for three education categories, a quartic in experience, and interactions of the experience quartic with education categories. The composition-adjusted mean log hourly wage for each of the 18 cells in a given year is the predicted log hourly wage from these regressions evaluated at the relevant experience level (7, 25, and 40 years depending on the experience group) and educational level. (continued)</td>
</tr>
</tbody>
</table>
Composition-adjusted log hourly wages for broader demographic groups (defined by gender, educational level, or potential experience) in each year are calculated as weighted averages of the relevant composition-adjusted cell means in that year, using a fixed set of weights equal to the cell shares of total hours worked in each macrogroup over 2004–15. By proceeding in this way, the relative employment shares of given demographic groups are held constant across the whole period. For example, in a given year, the composition-adjusted log hourly wage for the macrogroup of women is given by the weighted average of that year’s mean predicted wages in each of the nine underlying education-experience cells for women, where weights are the constant ratios of the hours worked by individuals in each cell to the total number of hours worked by all women, computed over the entire period.

This reweighting approach is employed to assess the extent to which changes in inequality are ascribable to price effects resulting from the interaction of labor demand and labor supply and to compositional effects that mechanically introduce changes in inequality by altering the shares of demographic groups that have more or less dispersion in wages. The approach consists of decomposing the observed density of wages in two time periods, say $t$ and $t’$, into a price function that provides the conditional distribution of wages for given characteristics and time and a composition function that provides the density of characteristics over that time period. It is then possible to construct a counterfactual wage density and counterfactual inequality measures by combining the price function from a period $t$ with the composition function from a different period $t’$. To calculate the counterfactual, it is necessary to reweight the price function at time $t$ by the ratio of the density of characteristics at time $t’$ to the density of the characteristics at time $t$. In practice, the reweighting function can be estimated using a logit or probit model applied to the pooled data from times $t$ and $t’$. 

(continued)
To assess the contribution of shifts in composition and prices to observed changes in overall and residual inequality, the workforce composition data in each year between 2004 and 2015 are applied to the price function from the years 2004, 2008, and 2015. This allows the simulation of a set of hypothetical scenarios wherein workforce composition changes as it actually did over time while prices are held constant at their 2004, 2008, and 2015 level. In the calculation of the reweighting function, a set of demographics characteristics, including dummies for education, a quartic in experience, interactions of the experience quartic with education categories, and dummies for district of residence, are controlled for in regressions run separately by gender. The outlined procedure is applied to the construction of counterfactuals for overall inequality. In the case of residual inequality, the price function is replaced by a residual pricing function obtained by regressing the logarithm of hourly wages in each year on the full set of characteristics described above and replacing the wage observations with corresponding residuals from the ordinary least squares regression. The residual price function is then used to calculate counterfactual residual densities.

### NOTES

1. Over the same period, relative poverty, measured against a poverty line equal to 50 percent of median per adult equivalent household income, expanded from 8.5 to 9.8 percent.
2. The income aggregates derived from CMPHS and HBS data are not strictly comparable as the survey instruments differ between the two surveys.
3. In the United States, the Gini coefficient increased by 4.5 percentage points between 1977 and 1992, the period during which income dispersion has been most often studied (Atkinson 2015).
4. While, in theory, the effect might go either way, and various channels exist through which inequality can be predicted to influence growth, the empirical literature attempting to establish the direction of the relationship does not reach a consensus. Recent research summarized by the World Bank (2016) shows that narrower inequality in disposable income is correlated with more rapid and durable growth for a given level of redistribution. However, these results have been challenged. Other recent studies distinguish between inequality of opportunity, which is expected to have a negative effect on growth, and inequalities arising because of differences in effort that might go in the opposite direction. Recent estimates for countries of the Organisation for Economic Co-operation and Development (OECD) show that inequality is harmful to medium-term growth: a rise in inequality of 3 Gini points would reduce economic growth by 0.35 percentage points a year for 25 years (OECD 2015). Some studies have proposed that this ambiguity may arise because income inequality has different and offsetting effects on growth among population subgroups. Marrero and Rodríguez (2013) find that it is not overall inequality, but inequality of opportunity that has a negative effect on growth because it favors human capital accumulation by individuals with better socioeconomic backgrounds, rather than by the most talented individuals. Van der Weide and Milanovic’ (2014) find that income inequality is bad for the growth prospects of the poor, but good for the rich. Marrero, Rodríguez, and van der Weide (2016) estimate that inequality of opportunity is bad for growth of the poor and that, after controlling for inequality of opportunity, the effect of overall inequality on growth is drastically reduced.

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### TABLE I.1. List of Methodologies Adopted in the Analysis (continued)

<table>
<thead>
<tr>
<th>Chapters</th>
<th>Reference Literature</th>
<th>Description of the methods adopted in the study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remuneration orders: effect on inequality</td>
<td>Autor, Manning, and Smith (2016); Bosch and Manacorda (2010)</td>
<td>See appendix A.</td>
</tr>
<tr>
<td>Remuneration orders: effect on employment and working hours</td>
<td>Gindling and Terrell (2007)</td>
<td>See appendix A.</td>
</tr>
</tbody>
</table>

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a. To enhance precision in the construction of the counterfactual distribution, fitted values are augmented by adding the predicted residuals obtained from an analogous regression carried out on the 2015 subsample.
b. The reweighting function is set to 1 for single individuals and for couples with only one working spouse.
CHAPTER

Inequality in Mauritius: Stylized Facts

As documented in World Bank (2015a), the years between 2007 and 2012 were marked by steady economic growth, but limited shared prosperity, whereby affluent households benefited more from economic growth compared with households at the bottom of the distribution of both consumption and income. A similar pattern emerges if the period of analysis is expanded to the years between 2001 and 2015 (figure 1.1). Households initially in the lowest 5 percentiles of the distribution recorded an average annual income gain of less than 1 percent, whereas households in the top 10 percent posted an average annual income gain of about 3.6 percent. This compares with an annual average growth rate of per adult equivalent income of about 3 percent (figure 1.1, panel b).

The inequality gap in Mauritius is moderate compared with countries at a similar level of economic development and narrower than the inequality gap in South Africa (figure 1.2). Among 216 countries on which data are available, 88 countries (40 percent of the total) are more unequal than Mauritius. However, the inequality in Mauritius has widened substantially over the last 15 years.

The patterns of household income growth are reflected in the trends in inequality. Figure 1.3 shows clearly the fanning out of the distribution of both consumption and income over time. First, the median of the distribution has mirrored a rise in household consumption and income in real terms by 45 percent between 2001 and 2015. Households above the median and, notably, above the 90th and 95th percentiles, recorded a 62 percent increase in consumption and in income. By contrast, households at the bottom, particularly those in the 5th and 10th percentiles, experienced consumption growth of around 22 percent or less. The incomes of the most disadvantaged households have increased by as little as 14 percent over the entire period. Second, changes in inequality were not constant throughout the period. Both income and consumption inequality started to rise significantly at the beginning of the global economic downturn (2008–09) and in the aftermath of the loss of the preferential trade agreements of Mauritius (the Sugar Protocol and the Multi Fibre Arrangement) and continued to expand thereafter, markedly over the course of 2010–15. Third, while business cycle fluctuations can affect the consumption and income distribution, household income is more severely hit by macroeconomic trends relative to household consumption. Households at the bottom of the income distribution experienced a modest decline in income in 2008 relative to the level in 2001, while their consumption level never declined below the level at the beginning of the period.1

Income inequality measured by the Gini coefficient increased from 0.36 in 2001 to 0.42 in 2015 (+16.4 percent), whereas the P90/P10 ratio rose by 36.9 percent over the same period (figure 1.4, panels a and b).2 The differences in the trends of the Gini coefficient and of the P90/P10 ratio suggest substantial changes occurred at the tails of the distribution. Income dispersion expanded more in the lower tail of the distribution: the P50/P10 ratio rose by 18.5 percent, whereas the P90/P50 ratio rose by 15.5 percent (figure 1.4, panels c and d).

Total household income is composed of income from employment, income from assets, and income from public and private transfers (see Introduction, box I.2 for details). Figure 1.4 shows clearly that each dispersion metric varies significantly for each component and that the increase in total income dispersion is largely ascribable to the increase in labor income inequality. Government redistribution, captured by the public transfer income component, serves as a stabilizing force against cyclical fluctuations and plays an important inequality-compressing role, notably, in the lower tail of the distribution both in static and dynamic terms. First, inequality in income before government transfers is always wider than inequality after public transfers. For example, in 2001, the P90/P10 ratio was at 5.7 based on household incomes before government transfers compared with 4.6 in the same year, but calculated based on household
**FIGURE 1.1.** Growth Incidence Curve, Household Consumption and Income, 2001–15

a. Consumption


![Growth Incidence Curve: Consumption](image)

b. Income


![Growth Incidence Curve: Income](image)

Source: Based on data of the Continuous Multi-Purpose Household Survey (CMPHS), Statistics Mauritius.

**FIGURE 1.2.** Inequality in Mauritius and in the Rest of the World, 2000–12

![Inequality Scatterplot](image)

Source: Based on data of the Continuous Multi-Purpose Household Survey (CMPHS), Statistics Mauritius; WDI.

Note: Red dots indicate Mauritius; orange dots indicate South Africa.
Inequality in Mauritius: Stylized Facts

The role of property income, that is, income deriving from asset ownership, was limited. The Gini coefficient of household labor income increased by over 19 percent; yet, the growth in inequality was even stronger at the bottom of the distribution. The P50/P10 ratio has gone up by 167 percent over the last 15 years. The expansion in labor income inequality is concentrated in the second half of the period, between 2008 and 2015. It started in the aftermath of the global economic downturn and trade shocks that hit Mauritius and has continued since. Labor income has had an even more greater influence on inequality over time. While income inequality after government transfers (the P90/P10 ratio) rose by 37 percent between 2001 and 2015, income inequality before government transfers rose by over twice as much (78 percent). The inequality-compressing effect of public transfers in the lower tail of the distribution over the period of analysis is impressive. While the P50/P10 ratio of post-transfer income grew by 18.5 percent, the same indicator calculated on pre-transfer income skyrocketed, recording a 47 percent increase. Thus, in the absence of any form of public transfer, households in the lower tail of the distribution would have experienced an inequality gap 2.5 times larger than the one observed between 2001 and 2015.

Private transfers also had an inequality-containing role, notably in the lower tail. Private transfers include private pensions, alimony, regular transfers from parents and other relatives, regular transfers from social or religious organizations, and other forms of regular income. Figure 1.4, panel c illustrates that the rise in inequality calculated on an income measure that excludes private transfers was as high as 136 percent, which compares with a 47 percent rise in the P50/P10 ratio on household income including private transfers. By contrast, the difference in income inequality with and without private transfers is negligible in the upper tail (figure 1.4, panel d).

The role of property income, that is, income deriving from asset ownership, was limited. The Gini coefficient of household labor income increased by over 19 percent; yet, the growth in inequality was even stronger at the bottom of the distribution. The P50/P10 ratio has gone up by 167 percent over the last 15 years.

The expansion in labor income inequality is concentrated in the second half of the period, between 2008 and 2015. It started in the aftermath of the global economic downturn and trade shocks that hit Mauritius and has continued since. Labor income has had an even more greater influence on inequality. To put things in perspective, the average household labor income in the 10th percentile in 2015 was MUR 1,200 (MUR 2,400 in 2001) compared with MUR 27,300 (MUR 16,900 in 2001) in the 90th percentile.

More formally, an increase in income inequality is the by-product of any combination of three factors: (1) the increasingly unequal distribution of any particular source of income, (2) a rising share of any particular unequally distributed source of income, and (3) the allocation...
of a particular income source in a way that disproportionately favors the most affluent households.

First, the contribution of one particular income source to total income inequality depends not only on the size of the contribution relative to total income, but also on the dispersion. Income from property is more unequally distributed than income from any other source, and, yet, the associated Gini coefficient did not change over time (figure 1.5). Income from public transfers is less unequally distributed than income from private transfers, and the dispersion of both sources of income declined between 2001 and 2013. Labor income is not as unequally distributed as income from property; yet, its dispersion rose substantially over time.

Second, changes in the relative importance of each income component affect inequality. For example, the
Inequality in Mauritius: Stylized Facts

The share of income from property and of income from private transfers declined slightly between 2001 and 2015, when they contributed 0.1 percent and 5.2 percent of total income, respectively. By contrast, the richest 20 percent of the total income distribution received an average of around 89 percent of their total income from labor (compared with 74.4 percent among the poorest 20 percent). Also, among the richest households, the contribution of labor income shrank. However, the reduction was smaller: –4.4 percentage points, compared with –9 percentage points between 2001 and 2015. All the remaining income components play a minor role in total household income among the richest households, with the exception of income from private transfers, which rose substantially, from 3.6 percent to 7.2 percent.

Breaking down inequality in total household income into the four different sources, Figure 1.8, panel a illustrates that income from labor contributed the most to inequality in total income. In 2001, 92 percent of inequality was attributable to labor income, followed by property income (4 percent), private transfers (3 percent), and public transfers (1 percent). Similarly, in 2015, almost 88 percent of total inequality was attributable to inequality in labor income, 6.6 percent to private transfers, 4 percent to property income, and 1.4 percent to public transfers. These findings are in line with results of the World Bank (2015a), which breaks down total household income inequality by income source automatically translate into a higher risk of experiencing falling income because an effective public transfer system is in place that helps protect the most vulnerable households. The shares of income from property and of income from private transfers declined slightly between 2001 and 2015, when they contributed 0.1 percent and 5.2 percent of total income, respectively. By contrast, the richest 20 percent of the total income distribution received an average of around 89 percent of their total income from labor in 2001 (compared with 74.4 percent among the poorest 20 percent). Also, among the richest households, the contribution of labor income shrank. However, the reduction was smaller: –4.4 percentage points, compared with –9 percentage points between 2001 and 2015. All the remaining income components play a minor role in total household income among the richest households, with the exception of income from private transfers, which rose substantially, from 3.6 percent to 7.2 percent.

Income from property contributes around 2 percent of total household income. Its relative importance declined modestly, from 2.1 percent to 1.9 percent, between 2001 and 2015. By contrast, the share of income from public and private transfers rose. Private transfers went up by 2.8 percentage points and reached 6.8 percent in 2015. Government transfers climbed even more, on average: the share of income from public transfers increased from 7.8 percent to 11.1 percent.

These patterns and trends in the various components of total household income have been different across the distribution, and notably so at the bottom quintile and at the top quintile of the total income distribution (figure 1.7). In 2001, the poorest 20 percent of the distribution received an average of about 74 percent of total household income from labor. This share had declined to less than two-thirds by 2015. At the bottom of the income distribution, unemployment and inactivity do not increase in the share of an income component that is extremely unequally distributed may alone lead to widening inequality. Wages and salaries, together with income from self-employment activities, make up the largest share of total household income (figure 1.6, panel a). In 2001, 86 percent of total household income was income from labor. The share of labor income declined, and, in 2015, it contributed, on average, around 80 percent to total household income, a relative reduction of almost 6 percentage points (figure 1.6, panel b). Thus, the most unequally distributed income component lost its relative importance.

FIGURE 1.5. Gini Coefficient, by Income Source, 2001 and 2015

Source: Based on data of the Continuous Multi-Purpose Household Survey (CMPHS), Statistics Mauritius.
FIGURE 1.6. Total Household Income, Changes and Shares of Components, 2001–15

a. Composition, by year

<table>
<thead>
<tr>
<th>Year</th>
<th>Labor income</th>
<th>Property income</th>
<th>Private transfers</th>
<th>Public transfers</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>86.0</td>
<td>4.9</td>
<td>0.1</td>
<td>0.0</td>
</tr>
<tr>
<td>2002</td>
<td>86.2</td>
<td>4.9</td>
<td>0.1</td>
<td>0.0</td>
</tr>
<tr>
<td>2003</td>
<td>86.3</td>
<td>5.1</td>
<td>0.1</td>
<td>0.0</td>
</tr>
<tr>
<td>2004</td>
<td>85.9</td>
<td>5.6</td>
<td>0.1</td>
<td>0.0</td>
</tr>
<tr>
<td>2005</td>
<td>85.3</td>
<td>6.1</td>
<td>0.1</td>
<td>0.0</td>
</tr>
<tr>
<td>2006</td>
<td>84.6</td>
<td>6.8</td>
<td>0.1</td>
<td>0.0</td>
</tr>
<tr>
<td>2007</td>
<td>84.0</td>
<td>6.9</td>
<td>0.1</td>
<td>0.0</td>
</tr>
<tr>
<td>2008</td>
<td>81.0</td>
<td>6.8</td>
<td>0.1</td>
<td>0.0</td>
</tr>
<tr>
<td>2009</td>
<td>84.2</td>
<td>6.9</td>
<td>0.1</td>
<td>0.0</td>
</tr>
<tr>
<td>2010</td>
<td>84.2</td>
<td>6.9</td>
<td>0.1</td>
<td>0.0</td>
</tr>
<tr>
<td>2011</td>
<td>82.0</td>
<td>6.4</td>
<td>0.1</td>
<td>0.0</td>
</tr>
<tr>
<td>2012</td>
<td>82.0</td>
<td>6.4</td>
<td>0.1</td>
<td>0.0</td>
</tr>
<tr>
<td>2013</td>
<td>82.6</td>
<td>6.5</td>
<td>0.1</td>
<td>0.0</td>
</tr>
<tr>
<td>2014</td>
<td>80.1</td>
<td>6.8</td>
<td>0.1</td>
<td>0.0</td>
</tr>
<tr>
<td>2015</td>
<td>80.1</td>
<td>6.8</td>
<td>0.1</td>
<td>0.0</td>
</tr>
</tbody>
</table>


- Property income: 2.79%
- Public transfers: 3.29%
- Labor income: -0.18%
- Private transfers: -5.90%

Source: Based on data of the Continuous Multi-Purpose Household Survey (CMPHS), Statistics Mauritius.
Note: All income measures are expressed as per adult equivalents.
FIGURE 1.7. Total Household Income, Changes and Shares of Components, by Quintile, 2001–15

a. Composition, bottom quintile, by year

b. Composition, top quintile, by year
FIGURE 1.7. Total Household Income, Changes and Shares of Components, by Quintile, 2001–15 (continued)

Source: Based on data of the Continuous Multi-Purpose Household Survey (CMPHS), Statistics Mauritius.

Note: All income measures are expressed in per adult equivalents.
A decomposition of the changes in total household income inequality between 2001 and 2015, as measured by the Gini index, formally corroborates the patterns illustrated in figure 1.4: household labor income was the main culprit behind rising inequality (figure 1.8, panel b). Labor income contributed over 98 percent to the change in total household income inequality, followed by private transfers and property income (20.3 and 10.2 percent, respectively), whereas public transfers had an inequality-narrowing effect (−28.8 percent).

This chapter illustrates the main patterns of household income inequality and its components over the last 15 years. While total household income inequality expanded substantially, especially in the aftermath of the global economic downturn and terms-of-trade shock that hit Mauritius between 2008 and 2015, inequality in household labor income skyrocketed; the Gini index rose from 41.7 in 2001 to 50.0 in 2015. Although it is not the most unequally distributed source of household income, dispersion in household labor income alone explains most of the rising inequality in total household income as observed in Latin America (Azevedo, Inchauste, and Sanfelice 2013).

By contrast, government redistribution was key to mitigating the increase in inequality in total household income, particularly among households in the lower tail of the distribution. The social protection system is comprehensive and contributed considerably to reducing poverty and containing inequality. Despite substantial steps taken by the government to promote greater coordination in social protection programs, improvements are needed (World Bank 2015a). For example, the basic retirement pension, a universal noncontributory social pension paid to persons above age 60, lacks a focus on the poor because it disproportionately favors well-off households, and funding is low for programs specifically intended to benefit the poor (World Bank 2015a). However, to capture fully the distributional effects of government redistribution through taxes and transfers, a fiscal incidence analysis is required. This analysis consists of allocating taxes, particularly personal income tax and consumption taxes, and public spending, particularly social spending, to households or individuals and comparing incomes before taxes and transfers with incomes after taxes and transfers. (The issue of missing top incomes is described in box 1.1.)
The literature on income inequality is torn regarding the sources of data that one should use in the analysis of trends and levels. A large number of studies, ranging from official statistics to academic papers, have made use of income measures from household survey data and constructed several inequality indicators. On the other hand, the literature on top incomes has used administrative record data on personal income tax returns that report estimates of the shares of total income retained by the richest portion of the population. Estimates in studies reflecting the views of the two groups have recently been at odds. Estimates from tax return data show a larger expansion in equality over the last two decades in the United Kingdom and the United States. The divergence in the findings might be partly derived from the different inequality indices and income definitions. Yet, the most important source of discrepancy lies in the fact that household surveys do not do a good job in capturing top incomes, that is, the incomes of the top 1.0 or 0.1 percent of the population.

Jenkins (2016) explains that the undercoverage of top incomes in survey data is attributable to multiple factors. One is underreporting among high-income respondents. (One might think of this as the survey counterpart of tax evasion.) An aspect of this might be top-coding applied by survey administrators to limit the effects of measurement error on aggregates. This possible cause of underreporting implies that data are right-censored. A second source of undercoverage is the sampling of high-income respondents. The respondent community may provide sparse coverage of the top income ranges, the survey might not include any high-income respondents by design, or the survey team may be unable to reach top earners, who may also refuse to participate. (This can be thought as a second survey counterpart of tax evasion.) This additional source of undercoverage translates into a right-truncation of a true distribution.

Regardless of the cause, undercoverage introduces a downward bias in survey estimates of inequality for a given year because there is insufficient income observed in the top income ranges. While the top 0.1 percent or 1.0 percent of the income distribution is barely identifiable on the horizontal axis of a Lorenz curve plot, Atkinson (2007, 19–20) points out that, “if we treat the very top group as infinitesimal in numbers, but with a finite share, $S^*$, of total income, then the Gini coefficient can be approximated by $S^* + (1 – S^*)G$, where $G$ is the Gini coefficient for the rest of the population.”

A number of approaches have been used to estimate inequality, while addressing undercoverage problems. They include techniques entirely based on survey data and deriving an inequality estimate from the richest households by fitting a Pareto type I distribution to the top income observations in the survey data and then estimating total inequality as the sum of inequality within the top group, within the non-top group, and between-group inequality. Others use tax return data and replace the highest income in the survey with cell-mean imputations based on corresponding observations from tax data, or they combine estimates from the two data sources instead of combining data. The latter is the most promising avenue for overcoming the undercoverage issue of survey data.

Recently, a team effort led by Anthony Atkinson and Thomas Piketty produced the World Wealth and Income Database, which provides estimates of top income and wealth shares worldwide by combining fiscal, survey, and national accounts data. In Mauritius, the estimated share of fiscal income held by the top 1 percent increased from around 5 percent in 2001 to over 7 percent in 2011 (figure B1.1.1). In comparison with highly unequal countries such as South Africa and the United States, the share is still relatively low. Yet, the magnitude of the change observed over the last 10 years is comparable. This study does not attempt to combine estimates from CMPSHS data and tax return data, which were not available to the authors at the time of writing, to derive a more precise measure of income inequality. However, for the reasons illustrated so far, it is important to acknowledge that estimates presented in this study are likely to be a lower bound of the true level of income inequality in Mauritius.

**FIGURE B1.1.1.** Top 1 Percent of the Fiscal Income Share, 1999–2011

3. Private pensions make up the largest component of private transfers among the richest households: in 2015 over 90 percent of private transfers were private pensions among households in the richest 20 percent of the income distribution. Among the poorest households, besides income derived from private pensions (about 40 percent of total private transfers), regular allowances from parents and/or relative were the largest component, followed by other sources of regular income, alimonies, and regular allowance from social/religious organizations.

NOTES

1. To characterize fully the trends in income dispersion, a set of different metrics are used because measures of inequality that emphasize the lower tail of the distribution can evolve differently from measures that zoom in on the upper tail of the distribution.

2. The Gini coefficient is a dispersion metric more sensitive to transfers at the center of the distribution than to transfers occurring at the tails.
Drivers of Growing Inequality in Household Labor Income

Chapter 1 illustrates the main patterns of inequality in total household income and its components. Household labor income is, on average, the largest component of total household income: in 2015, it contributed, on average, some 80 percent to total household income. Despite not being the most unequally distributed source of household income, dispersion in household labor income increased sizably between 2001 and 2015 and is the income source that alone explains most of the observed increase in inequality in total household income.

This chapter focuses on the drivers of expanding inequality in equivalized household labor income. First, equivalized measures incorporate household size and composition, and this implies that any change in household size or composition is mechanically reflected in the measure, along with any related measures of the consequence on inequality. Second, household demographics have an indirect effect on equivalized household welfare measures because household demographic structure, household mix (that is, the distribution of different types of households), and household characteristics impact the distribution of income within and across households. Moreover, labor market factors affect inequality in household labor income. Following a strand of research including Burtless (1999), Daly and Valletta (2006), Devereux (2004), Fortin and Schirle (2006), Juhn and Murphy (1997), and Pencavel (2006), the analysis assumes that inequality in household labor income is affected by two main groups of factors: (1) demographics, including household composition, household mix, household characteristics, and assortative mating, that is, the degree to which individuals marry within their own income group, and (2) labor market factors, including dispersion of labor income among men and women and female labor force participation. The chapter first describes changes observed in household demographics and labor market factors; it then assesses the relative contribution of these factors to changes in household labor income inequality.

2.1 Trends in Household Demographics

The typical Mauritian household is a married-couple household, that is, composed of a husband who is virtually always the household head in these households and a wife (spouse) with or without children and other family members (figure 2.1, panel a). In 2001, about 84 percent of households were married-couple households. Their share declined over the last 15 years and reached 80 percent in 2015. The share of married-couple households with children declined from 61 percent in 2001 to 46 percent in 2015, whereas married-couple households with no children increased their relative importance from 23 percent to 35 percent over the same period. Single-headed households are today more common than in the past (20 percent of all households in 2015). These trends are the by-product of two main phenomena: (1) family formation decisions are increasingly delayed, and this leads to a delay in the birth of children, and (2) population aging is accompanied by an increase in the share of single-headed households, typically headed by women (75 percent of these households) in their late 50s or early 60s and without coresident children.

The changes observed in the patterns of household types were to some extent different across quintiles of total household income. The increase in the share of single-headed households, with and without children, was remarkable among the poorest households. In the bottom quintile, they increased by 15 percentage points, whereas in the top quintile their share did not change. In parallel, married-couple households without children increased their weight particularly among the richest households from 34 to 47 percent (figure 2.1, panel c).

The average household size declined across family types: in 2001, the average household was composed of 4.5 members; in 2015 this number was down to 4.2. The reduction
FIGURE 2.1. Household Size and Composition, 2001–15

a. By type and year

b. Distribution, by type and year

(continued)
in size of married-couple households with children from 6.0 to 4.6 members, on average, was considerable and largely ascribable to the decline in the number of children (figure 2.1, panel b). Married-couple households without children recorded a modest decline in size from 3.9 to 3.6 members between 2001 and 2015. By contrast, the change in size of single-headed households with and without children was negligible.

The increase observed in the share of single-headed households and the parallel decline in the share of married-couple households are both relevant in terms of household income labor inequality. First, family plays a role in providing insurance against individual risk, a role that increased over time thanks to the rapid expansion in female labor market participation, which will be discussed extensively in the second part of the chapter. Therefore, an increase in the percentage of single-headed households, which show a higher dispersion in labor income, contributes to the overall rise in income inequality (figure 2.2, panel a). Second, because of increased female labor force participation, a rising fraction of married-couple households have at least two workers, and this reduces dispersion to the extent that labor income is not perfectly correlated across spouses (figure 2.2, panel b).

To study the extent of assortative mating, that is, the increasing correlation in terms of educational, occupational, or income characteristics among spouses, the analysis looks at the degree of correlations of labor income between spouses among double earners couples. Following Fortin and Schirle (2006), assortative mating is defined by the likelihood of a person in labor income decile \(i\) to be married to a spouse in the same labor income decile, according to their respective labor income distribution. Table 2.1 shows the percentage of double earners couples sorted by the husband’s and the wife’s labor income deciles in 2001 and 2015. The degree of assortative mating is captured by the percentage of couples along the main diagonal: an increase in the sum of these shares implies an increase in assortative mating. For example, in 2001 relative to 2015, wives in the bottom two and in the top three deciles were...
Mauritius: Addressing Inequality through More Equitable Labor Markets

Source: Based on data of the Continuous Multi-Purpose Household Survey (CMPHS), Statistics Mauritius.

FIGURE 2.2. Double Earners and Dispersion of Household Labor Income, by Family Type, 2001–15

a. Variance of log household labor income, by family type

b. Double-earner households in married-couple households


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Source: Based on data of the Continuous Multi-Purpose Household Survey (CMPHS), Statistics Mauritius.
less likely to be married to husbands with labor income in their same deciles. Because assortative mating increased over time, the positive effect of increased female labor force participation might be mitigated or even reversed by the higher between-spouse correlation of labor income and therefore contribute to the expansion in household labor income inequality.

2.2 Trends in Labor Market Factors

The second set of factors that might have a large impact on household labor income inequality involves the labor market, more precisely, dispersion in men and women’s labor income and female labor force participation. This subsection starts with a description of trends in the labor force status of household members separately for married-couple and single-headed households. It then briefly describes trends in female labor force participation, which are analyzed in the second part of the chapter, and earnings dispersion of men and women, which are studied in detail in chapters 3 and 4.

The head of married-couple households is virtually always a man. About 80 percent of men heads of married-couple households are employed, and this percentage modestly declined over time (figure 2.3, panel a). Their wives, instead, do not participate by and large in the labor market. This is one of the pivotal issues that characterize the Mauritian labor market and that is likely to be partly ascribable to the role that women have traditionally had in Mauritian society. Married women carry most of the family burden, including child and elderly care and home management, and this housework competes for women’s time and energy with work on the market. While the trend has generally been in the right direction, there is still a long way to go. In 2001, fewer than 40 percent of wives participated in the labor market; by 2015 this share had reached close to 50 percent (figure 2.3, panel b). As to the remaining household members, about half of coresident children are employed, while the rest are inactive (and in education) or unemployed (10 percent). The rest of household members are prevalently inactive, and no significant changes occurred over time to their labor market status.

In the majority of households, the head and spouse’s income from labor contributes to virtually all the labor income of the household. According to figures for the most recent year, heads and spouses’ labor income contributed 100 percent of total household labor income in about 4 households in 10 as opposed to 16 percent of the households where labor income contributed between 99 and 50 percent, and 18 percent of households where the contribution was less than 50 percent. Some 23 percent of households did not have any labor income because the head and spouse were not employed.

In the case of single-headed households, which are typically headed by women, fewer than one head in two is inactive (figure 2.4, panel a). This is partly explained by the age distribution of single-household heads. In 2001, about 40 percent of them were above 60 years of age; this share had increased to 50 percent by 2015. This implies that half of them are likely to be retirees or beneficiaries of public transfers. Among heads of working age (16–64) or below 60 years of age, about one in four in 2015 was inactive and this has not changed since 2001. About 65 percent of coresident children are employed, with a modest increase over time (figure 2.4, panel b). The remaining household members, son or daughter-in-law, coresident parents, and grandchildren, are largely inactive (34 percent) (figure 2.4, panel c).

One important change in the labor market that might affect household labor inequality was the considerable increase in female labor force participation. Between 2001 and 2015, Mauritian women’s participation increased from about 43 percent to 57 percent. These changes are largely ascribable to young and highly educated Mauritian women (figure 2.5). In terms of family type, the largest expansion was observed among married women, whose participation, however, still lags behind that of single women, by about 7 percentage points.

In addition to rising female labor force participation, women also had large gains in labor income relative to men. Figure 2.6 illustrates the considerable gains in women’s earnings, both monthly and hourly, between 2001 and 2015. The 2015 monthly and hourly earnings distribution among women was shifted to the right relative to the 2001 distribution, whereas, in the case of men, the rightward shift was smaller.

Thanks to increases in women’s earnings, women’s mean hourly earnings partially gained on men’s earnings. The woman/man mean log hourly earnings ratio fell from
FIGURE 2.3. Labor Force Status of Household Members of Married-Couple Households, 2001–15

(continued)
FIGURE 2.3. Labor Force Status of Household Members of Married-Couple Households, 2001–15 (continued)

Source: Based on data of the Continuous Multi-Purpose Household Survey (CMPSH), Statistics Mauritius.

a. Head

b. Children

(continued)
Drivers of Growing Inequality in Household Labor Income


Source: Based on data of the Continuous Multi-Purpose Household Survey (CMPHS), Statistics Mauritius.

**FIGURE 2.5.** Female Participation Rate, by Age-Group and Family Type, 2001–15

Source: Based on data of the Continuous Multi-Purpose Household Survey (CMPHS), Statistics Mauritius.
2.3 Explaining Changes in Equivalent Household Labor Income Inequality

Figure 2.9 displays trends in selected percentiles of household labor income by family type: married couples with children, married couples without children, single-headed households with children, and single-headed household without children. Overall, despite an initial period of stagnation until 2004, median household labor income increased by 43 percent between 2001 and 2015. For married-couple households, median labor income grew by 34 percent and 37 percent (households without and with children, respectively), whereas single-headed households with no children experienced a median increase of 41.5 percent, and

The substantial gains among working women were accompanied by rapid increases in labor income inequality. Figure 2.8 shows trends in three indicators of inequality that are sensitive to different shifts in the earnings distribution (P90/P10, P50/P10, and P90/P50). For both men and women, labor income inequality is observed to rise rapidly in the upper tail, particularly among women, whereas inequality at the bottom changed modestly. Given these patterns in women’s labor income inequality, rising female participation might, ex ante, have either a moderating or exacerbating effect on household labor income inequality.
Drivers of Growing Inequality in Household Labor Income

FIGURE 2.7. The Gender Gap in Hourly Earnings and Trends in Hours Worked, by Gender and Education, 2001–15

Source: Based on data of the Continuous Multi-Purpose Household Survey (CMPHS), Statistics Mauritius.

Overall, the percentage change observed in labor income is monotonically increasing as one moves up along the distribution. This means the richest households posted larger gains in percentage terms compared with the poorest ones. Married-couple households with children and single-headed households with no children at the bottom of the distribution saw their labor income declining by 11.0 percent and 2.4 percent, respectively, between 2001 and 2015. The gains in labor income were extraordinarily large among families above the median beginning in 2007, particularly among households in the 90th and 95th percentiles (+60 percent and

FIGURE 2.8. Trends in Individual Labor Income Inequality, by Gender, 2001–15

Source: Based on data of the Continuous Multi-Purpose Household Survey (CMPHS), Statistics Mauritius.
By contrast, the poorest households (5th and 10th percentiles) recorded a modest increase in their labor income, about 0.3 percent and 10.9 percent, respectively. As a result, inequality measured by the P90/P10 ratio rose considerably across all family types and, notably, among married-couple households with children and single-headed households with no children. The P90/P50 ratio expanded considerably, too, whereas inequality at the bottom of the distribution measured by the P50/P10 ratio did not grow as much. This emerges clearly through the time trends of the 5th, 10th, 25th, and 50th percentiles that closely mirror over the entire period (see figure 2.9).

A decomposition method is used to assess the relative contribution of six factors—men’s labor income, female labor force participation, women’s labor income, assortative mating, household mix, and household characteristics—to changes in the density of log equivalent household labor income. The contribution of each factor is evaluated by comparing the unadjusted density of 2015 log equivalent household labor income with the counterfactual obtained by holding sequentially each factor at the 2001 level (figure 2.10, panel h).

Figure 2.10 displays the estimated counterfactual densities that are the result of the decomposition exercise. The original (unadjusted) density of log equivalent household labor income is presented as a solid line in panel a. The counterfactual (adjusted) densities are shown as a dashed line, which becomes the solid line to be adjusted in the next panel. For example, panel a shows the original 2015 density (solid line) and the 2015 density adjusted for men’s

(a) Effect of men’s labor income

(b) Effect of female participation

(c) Effect of women’s labor income

(d) Effect of assortative mating

(e) Effect of family mix

(f) Effect of family characteristics

(continued)
FIGURE 2.10. Step-Wise Decomposition of Household Labor Income, 2001 and 2015 (continued)

labor income (dashed line). Panel b displays the 2015 density (solid line), which is the one adjusted in panel a, and the adjusted 2015 density adjusted for men’s labor income and female labor force participation (dashed line).

Holding the structure of men’s labor income at the 2001 level leads to fewer families at the tails and more families at the center (around the mode) of the distribution. This a consequence of the expansion in men’s wage inequality (see chapter 4). This is largely attributable to the differential trends in the skilled labor demand and skilled labor supply. Overall, changes in the structure of men’s labor income can explain about 140 percent of the increase in the Gini coefficient of equivalized household labor income and about 165 and 95 percent of the rise in upper and lower tail inequality, respectively. This is in line with the location of the bulk of the expansion in men’s wage inequality in the upper tail (chapter 3).

The increase in female labor force participation contributed to increasing inequality among families between 2001 and 2015. By adjusting the 2015 density to hold female labor force participation at the level observed in 2001, one sees that inequality measures generally decline. Thus, had women not entered in increasing proportions into the labor force, inequality in 2015 would have been modestly lower (figure 2.10, panel b). While this factor might appear counterintuitive, a careful look at changes in female labor force participation by family type and by quintile of household labor income reveals the conundrum. The rise in female participation was not constant along the distribution of household labor income (figure 2.11). In the case of married-couple households, which make up the largest share of households in Mauritius, female participation remained roughly stable in the lowest quintile, grew by 17 percentage points in the second quintile, by 11 percentage points in the third quintile, by 18 percentage points in the fourth quintile, and by 13 percentage points in the top quintile. Among single-headed households, which are largely headed by women, the participation of heads declined across all quintiles except for the bottom, where it modestly increased. Had women’s participation been more evenly shared among households along the labor income distribution, inequality could have declined. In parallel and for single-headed households, the receipt of substantial (mostly public) transfers might play against labor market participation.

Meanwhile, changes in the structure of women’s labor income explain a sizable portion of the increase in household labor income inequality between 2001 and 2015. Had women’s labor income inequality remained as it was in 2001, the

Source: Based on data of the Continuous Multi-Purpose Household Survey (CMPHS), Statistics Mauritius.
change in overall inequality (P90/P10) would have been 7 percent lower, and the change in upper-tail inequality (P90/P50) would have been around 36 percent lower than the change that was actually observed.

Assortative mating measures the extent of labor income correlations among husbands and wives. Rising correlation is expected to increase labor income inequality across households. Between 2001 and 2015, the percentage of married-couple households with children in which husbands and wives fall in the same decile increased by about 2 percentage points, while, among corresponding households with no children, the rise was almost 3 points. The fact that the likelihood that husbands and wives had somewhat more similar income in 2015 compared with 2001 implied a movement of some married households from the middle to the upper tail of the distribution. This is reflected in the slight decline (~2.6 percent) in upper-tail inequality if assortative mating had stayed constant at the 2001 level.

Changes in family mix account for shifts in the distribution of family types: married-couple households with and without children and single-headed households with and without children. Between 2001 and 2015, there was an increase in the share of single-headed households. This is reflected in figure 2.10, panel e, which shows that families moved from the middle and upper part of the distribution toward the lower end in the adjusted density plot. This translated into an increase in inequality compared with what would have been observed had the family mix stayed constant at the 2001 level. Changes in family mix accounted for 1.3 percent of the changes in the Gini coefficient.

Figure 2.10, panel f displays the density of log household labor income that accounted for changes in household characteristics. Between 2001 and 2015, men and women heads or spouses grew older and were increasingly more well educated, on average. Therefore, applying 2001 household characteristics to 2015 household labor income would shift the distribution to the left, generating an increase

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**Figure 2.11.** Labor Market Status of Spouses, by Quintile of Household Labor Income, 2001–15

Source: Based on data of the Continuous Multi-Purpose Household Survey (CMPHS), Statistics Mauritius.
in overall inequality, particularly in the lower tail. In terms of inequality, family characteristics accounted for 6 percent of the change in the P90/P10 ratio and for a remarkable 14 percent of the change in lower-tail inequality (P50/P10) between 2001 and 2015.

These findings are in line with some exceptions in the observations on 23 countries of the Organisation for Economic Co-operation and Development (OECD) from the mid-1980s to the mid-2000s (OECD 2011). First, the increase in men’s earnings inequality is the main factor driving household labor income inequality. Second, the contribution of assortative mating and household structural changes to increased household labor income inequality was positive, but much more modest. Third, unlike in the case of Mauritius, the increase in women’s employment had an equalizing effect in all countries.

All the demographic and labor market changes that occurred between 2001 and 2015 explain a significant portion of the shift in the distribution of log equivalent household labor income, particularly in the lower tail. Figure 2.10 clearly illustrates that the changes observed in the six components explain a considerable part of the shift and the change in the shape of the distribution and therefore in inequality measures. The dashed blue line, which represents the density of the counterfactual log equivalent household labor income, is much closer and has a shape more similar to the observed 2001 density (orange solid line) compared with the observed 2015 density (solid blue line). Increasing inequality in men’s labor income was certainly the major contributor to expanding inequality in equilized household labor income. However, other factors, including the disproportionate increase in labor force participation among women in the most affluent households, the relative expansion of single-headed households, and inequality in women’s labor income also played a role.

NOTES

1. The extent of assortative mating observed in labor income might reflect a general pattern of educational (or occupational) sorting.
2. The approach consists of a conditional reweighting decomposition procedure introduced by DiNardo, Fortin, and Lemieux (1996) and applied to the case of household earnings by many scholars, including Daly and Valletta (2010) and Fortin and Schirle (2006). The focus of the decomposition exercise is equivalent household labor income. In the implementation of the analysis, the household sample was restricted to households with nonzero income from labor and with household heads (and spouses in case of married-couple households) of working age (16–64) and employed with nonzero individual labor income and working hours or unemployed/inactive. For more on the decomposition, refer to Fortin and Schirle (2006) and the Introduction, table I.1.
3. The reweighing function is set to 1 for single individuals and for couples with only one working spouse.
4. The reverse order decomposition leads to similar results.
The Role of Gender Inequality

Chapter 2 looks at the role of household demographics and labor market factors in rising household labor income inequality and identifies individual earnings as a major contributor. However, additional factors turned out to be a considerable source of rising inequality: the more rapid increase in labor market participation of the women living in the most affluent households and the growing degree of assortative mating. Nonetheless, despite the rise in female participation, women still suffer from relatively low labor force participation, particularly the least educated and older cohorts of women, and, in the private sector, women also appear to be paid less compared with men.

This chapter takes a deep dive into the issue of gender gaps in labor market access and outcomes. Gender equality in the labor market is important on equity grounds, and it is also smart in economic terms: it can enhance economic efficiency and productivity (World Bank 2011). Gender equality in the labor market has implications in terms of household income. The growth of married women’s participation and the rise in women’s earnings mean that a larger number of wives are contributing to an increasing share of family labor income. The simple expansion in the number of employed wives could reduce household labor income inequality to the extent that such a change is evenly distributed across households. Yet, rising earnings inequality among individuals and an increasing degree of assortative mating can also pull in the opposite direction.

Female participation in the labor force is crucial to the functioning of labor markets for both efficiency and equity reasons. Unleashing additional and valuable human capital resources into the economy contributes to making the economy more productive, thus helping it attain its full potential. As higher female labor market participation leads to more members working within a given household, this can contribute to reducing dispersion in household labor income. The income pooling of heads and spouses reduces inequality as family plays a role in insuring against individual risk in the labor market.

The chapter starts with a description of the main stylized facts concerning women’s role in the labor market. Mauritian women appear to be disadvantaged in terms of access to the labor market according to labor market participation statistics. However, there are important caveats as young generations are increasingly gaining space, particularly the most well educated. The second part of the chapter takes a deep dive into the issue of gender pay gaps by going beyond the description of average wage differentials and comparing the wages of men and women with similar characteristics in a multivariate framework. A decomposition exercise helps separate gender pay differences into a component that is ascribable to different endowments of working men and working women and a component that is a combination of discrimination effects and unobserved characteristics.

3.1 Women’s Labor Market Participation

On average, labor market participation in Mauritius has been around 70 percent over the last decade, a figure in line with participation rates among OECD countries (71.3 percent in 2015). Yet, women are severely disadvantaged in access in the Mauritian labor market. Restricting the sample to individuals of working age (16–64) who are currently not in education, figure 31, panel a shows that only 47 percent of working-age women were active in the labor market in 2004. Female participation increased steadily over the past decade to 57 percent in 2015. Despite the progress, a stark disparity continues to persist between men and women. The average participation gender gap in 2015 was still at a staggering 32 percentage points notwithstanding a significant narrowing by about 12 percentage points since 2004.

Figure 3.1, panel b compares participation rates among women ages 16 years and above across several countries ranked by per capita GDP. First, the plot illustrates that
the labor force participation rate of Mauritian women is around the average for upper-middle-income countries. Second, the participation rate rose steadily throughout the period, from 40.1 percent in 2004 to 46.2 percent in 2015, though still below the OECD average, which, in 2015, registered a rate of 51.4 percent. Mauritius’s female participation rate is also catching up with some other upper-middle-income countries in the region, such as South Africa, which featured a female participation rate of 47.6 percent in 2015, but it is still distant from those of other African countries featuring rates above 60 percent such as Botswana (63.2 in 2013) and Seychelles (67.3 percent in 2015).¹

Average figures hide significant variation across cohorts throughout the life cycle and over time (figure 3.2). Men tend to reach high participation rates well above 90 percent. Younger (older) cohorts increase (decrease) their participation as they enter (leave) the labor market, and the participation of middle cohorts remain stable throughout the mid-life cycle (figure 3.2, panel a). This process appears to unfold over time in a rather homogeneous pattern across cohorts (figure 3.2, panel b). By contrast, female participation trends are characterized by more volatility and, after peaking between 25 and 35 years of age, begin gradually fading out much earlier than men’s. There was also a significant upward shift in participation rates among younger cohorts, which is evident in figure 3.2, panels c and d, indicating a progressive structural expansion of the female labor force across new generations.

The participation gender gap is at a record low among young individuals ages 16–24 and 25–29 (figure 3.3). The former group is associated with the smallest gap, which decreased moderately during the last decade. The latter group appears to be the most affected by the structural change as they experienced the most rapid growth in the female participation rate and, consequently, the most rapid reduction in the gender gap over the period. However, older individuals exhibit a modest reduction in the gender gap and progressively lower participation rates among both women and men. Overall, this indicates a general improvement in equality in labor market access, concentrated especially among younger cohorts of women.

For the purpose of gaining a better understanding of the barriers obstructing women’s entrance in the labor market, figures 3.4 and 3.5 show participation rates by marital status and educational level, a set of sociodemographic characteristics that typically affect participation. Despite having increased their participation slightly more than single women between 2004 and 2015 (by 12 and 9 percentage points among married and single women, respectively), married women’s labor force participation is still considerably lower compared with single women, on average, 20 percentage points lower. This gap is magnified during the early stages of the life cycle, reaching a
The Role of Gender Inequality

peak among single women in their early 20s when their participation rates are similar to those of men. This seems to suggest that marriage, particularly during the school-to-work transition years, may represent a deterrent to women’s entrance into the labor market, while life-cycle events, including pregnancy, impact similarly on the age-profile of participation rates among both single and married women.

Conversely, education emerges as a major driver of women’s participation in the labor force. Figure 3.5, panel a illustrates that female participation increases with educational level. A particularly strong relationship can be observed among women with postsecondary or tertiary education, who participate in the labor market almost as much and as long as men do, reaching rates of around 90 percent. The association, however, is not as strong at lower levels of education, where women are outperformed by men by at least 30 percentage points, suggesting that higher education is one of the key factors that can help close the participation gender gap. However, young women with upper-secondary education reach a relatively high participation rate (up to 75 percent), which then rapidly declines and reaches a plateau at about 50 percent among women.

Source: Based on data of the Continuous Multi-Purpose Household Survey (CMPHS), Statistics Mauritius.
FIGURE 3.3. Labor Market Participation Rates, by Gender and Age-Group, 2004–15

Source: Based on data of the Continuous Multi-Purpose Household Survey (CMPHS), Statistics Mauritius; WDI data.

FIGURE 3.4. Female Labor Force Participation Rates, by Marital Status, 2004–15

Source: Based on data of the Continuous Multi-Purpose Household Survey (CMPHS), Statistics Mauritius.
in their 40s, and, from that point on, it is only modestly higher than the participation rate of women with lower levels of education.

The results of a multivariate analysis of labor force participation confirm the bivariate correlations illustrated so far. Women’s participation increases with age at a decreasing rate, that is, it rises rapidly at young ages to then progressively slow at older ages. Married women are, on average, 16 percent less likely to enter the labor market relative to single women, while divorced or separated women are relatively more likely (about 10 percent) to do so. Family age composition also plays a key role: the presence of children up to 5 years of age can significantly restrain participation rates (~6.5 percent), and the same is observed, although to a lesser degree (~1 percent), with the presence of elderly people (ages 65+). In this respect, the supply of day-care centers and preprimary schools can help attenuate women’s family burdens (box 3.1). This means that caring for children or older family members can represent a remarkable obstacle to women’s access to the labor market. By contrast, the presence of children ages 6–15 has a modest positive effect (4.3 percent) on the probability of participating in the labor market, which might be partially ascribable to the role that children in that age-group can have in complementing the housework of mothers. A major role in shaping women’s participation decisions is also played by educational attainment. In particular, a strong difference in the probability of entering the labor market is associated with postsecondary or tertiary education (31.4 percent) and, to a smaller extent, also with upper-secondary schooling (7.6 percent), while lower levels of education appear to be mostly insignificant or even to exert a mildly negative impact (up to ~5 percent).

Overall, all the individual and household characteristics controlled for in the analysis are not able to account for most of the variation observed in female labor force participation. Even if women had exactly the same characteristics observed among men in age, educational level, marital status, and so on, for example, the participation rate predicted by means of the multivariate regression would not be as high as that of men (figure 3.6, panels a and b). This finding is corroborated by a Blinder-Oaxaca decomposition of the participation differential on a sample of men and women, as displayed in panel c.

Nearly all the gender difference in participation rates is driven by the unexplained component. While the regression does not control for differences in the supply and cost of child and elderly care services within districts, which could account for some of the unexplained component, the relevance of the component may be interpreted as suggestive that women’s access to the labor market critically hinges on factors other than socioeconomic and demographic characteristics. Cultural values and social norms that assign to women a traditional role as the main providers of child and elderly care, household chores, and other nonmarket activities, dominate the empowering effect of education among women with less than postsecondary educational attainment.


BOX 3.1. Day-Care Centers and Preprimary Schools

Unpaid care work encompasses three aspects: direct care of persons, housework, and unpaid community work (Esquivel 2014). Balancing work and childcare may be particularly difficult for low-income women who have access to a limited range of childcare services. In this respect, policy guidelines, the National Early Childhood Development policy paper (0- to 3-year-olds), was approved by Parliament in 1998 and has been implemented to improve children's overall development through the introduction and adoption of integrated and holistic approaches to early child development. The Institutions for Welfare and Protection of Children Regulations 2000, under the Child Protection Act, with established norms and standards, was enacted in December 2000 to regulate childcare services, including home-based facilities. It is mandatory for all day-care centers to be registered with the Ministry of Gender Equality, Child Development and Family Welfare.

Publicly funded day-care centers have been set up by the ministry to provide free childcare facilities to vulnerable families in deprived regions. Thus, the Mauritius Family Planning and Welfare Association has been offering day-care services at La Tour Koenig, Surinam, and Rivière du Rempart since 1988, 1989, and 1991, respectively. It has provided child day-care and family planning services in depressed areas for more than 20 years. The La Tour Koenig day-care center has adopted an integrated approach to providing day care, babysitting facilities, and sexual and reproductive health services to mothers working in the industrial sector. It aims to offer services in a conducive and child-friendly environment for the optimum development of the child.

Services offered at the day-care center include baby care (infants from 3 months to 3 years), babysitting (children over age 3) before and after school hours and during school vacation, medical and pediatric care, and recreational activities and excursions. Services offered to parents include educational sessions on children's issues (nutrition, development, health, and so on), counseling sessions (children's behavior, individual welfare, couple relationships, sexual and reproductive health issues), contraceptive supply, specialized sexual and reproductive health services (pap smears, echography, electrocardiography, gynecology, and so on), laboratory services, and HIV counseling and testing. The center has the capacity to cater for 50 infants on a full-time basis. Babysitting facilities are offered for some 40 primary-school children.

There is a need for day-care services to help mothers effectively manage their different roles at home, at work, and in the community. Childcare facilities for children ages 0–3 are predominantly offered in Mauritius by for-fee private day-care centers. The number of registered private day-care centers stands at 105 in 2017. The highest share of day-care centers are in the region of Plaines-Wilhems (29 percent), followed by Port-Louis (17 percent) and Flacq (14 percent).

Children ages 3–6 also have free access to public preprimary schooling. Most preprimary schools are administered by private individuals, though there are still preprimary schools under municipalities or village councils that are under the purview of local governments. These are also run by the Early Childhood Care and Education Authority, which operates under the aegis of the Ministry of Education and Human Resources, Tertiary Education, and Scientific Research. The authority seeks to provide equal access for all children to quality preschooling, including children at risk of delayed development and disabilities and children living in conditions of vulnerability, through a child-centered and play-based approach with the involvement of the parents.

Over the years, there has been a slight decline in the total number of preprimary schools across the various districts. Financial support for childcare is also provided under the National Pensions Act and the Social Aid Act targeted at needy families. In 2013, the government introduced the child allowance (MUR 750 per child), a conditional cash transfer scheme aiming at reducing drop-out rates in primary school. However, there are no data available to assess the impact of this scheme. For example, a child allowance is payable to the children of beneficiaries of a basic widow's pension or basic invalid's pension and beneficiaries of social aid, unemployment hardship relief, and income support. The child should normally be under ages 15 or 20 if in full-time education.

3.2 Working Women: What Do They Do?

The trends observed in access to the labor market are largely reflected in the condition of women who actively participate. The employment-to-population ratio of women is systematically lower compared with men (figure 3.7, panel a). In 2004, the female employment ratio was at 40.6 percent, whereas, among men, it was as high as 86.1 percent, translating to a gap of 45.5 percentage points, though there was a reduction over time: the employment gap was still at 33.2 percentage points as of 2015. As women find it difficult to get a job, their unemployment rates are notably larger than men’s figure 3.7, panel b). Yet, between 2005 and 2015, the unemployment gender gap dropped from 3.3 to 1.5 percentage points.

This is most markedly so at the middle of the life cycle, where unemployment gender differentials are, on average, 3.2 percentage points and increasing among individuals ages 25–29, while the average among individuals ages 30–44 is 4.2 percentage points and slowly decreasing (figure 3.8, panel b). To a certain extent, earlier stages of the
FIGURE 3.6. Counterfactual Participation Rate, by Gender, and Oaxaca-Blinder Decomposition of the Gap, 2004–15

- a. Counterfactual female participation rates
- b. Counterfactual female and actual male participation rates
- c. Oaxaca-Blinder decomposition of the participation gap

Source: Based on data of the Continuous Multi-Purpose Household Survey (CMPHS), Statistics Mauritius.

FIGURE 3.7. Employment Ratio and Unemployment Rate, by Gender, 2004–15

- a. Employment-to-population ratio
- b. Unemployment rate

Source: Based on data of the Continuous Multi-Purpose Household Survey (CMPHS), Statistics Mauritius.
FIGURE 3.8. Employment Ratio and Unemployment Rate, by Gender and Age-Group, 2004–15

a. Employment to population ratio

- 16–24
- 25–29
- 30–44
- 45–64

b. Unemployment rate

- 16–24
- 25–29
- 30–44
- 45–64

Source: Based on data of the Continuous Multi-Purpose Household Survey (CMPHS), Statistics Mauritius.
life cycle have also been characterized by a widening of the unemployment gender gap, particularly in recent years, which have witnessed a sustained rise in the differential, from 0.6 percentage points in 2010 to 4.3 percentage points in 2015.

While these stylized facts clearly indicate the presence of significant labor market entry barriers among young women, the last stage of the life cycle (45–64), when women move out of the labor market, is associated with negligible unemployment gender differentials (on average, 0.5 percentage points).

Figure 3.9, panel a illustrates the employment category distribution among working women and men. The overwhelming majority of workers are employed for a wage (85 percent), while the remaining 15 percent are composed almost exclusively of the self-employed and employers. The share of the employer and self-employed is 7 percentage points larger among men than women, which might indicate a gap in the ability to access entrepreneurial and autonomous professions that favors men. However, without loss of generality, the rest of the analysis is restricted to men and women wage workers.

Among wage workers, a stable share of about 20 percent work in the public sector (see figure 3.9, panel b). Throughout the period, the share of men was an average 8 percent larger than the share of women among wage workers employed in the public sector. This gap shrank during the last decade, but only modestly, by around 1.5 percent.

Figure 3.10 offers a more comprehensive view on the sectorial distribution of women and men employees. Overall, during the last decade, agriculture shrank by approximately 3 percentage points, while textile manufacturing underwent a major contraction of around 9 percentage points. The reduction in the agricultural sector was of similar magnitude across genders. The drop in the employment share of textile manufacturing was instead much more pronounced among women (down by 20 percentage points) than men (decreasing by 5 percentage points). Conversely, the shares of other

**FIGURE 3.9. Employment Category Distribution and Share of Wage Workers in the Public Sector, by Gender, 2004–15**

<table>
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<tr>
<td>2015</td>
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(continued)
Mauritius: Addressing Inequality through More Equitable Labor Markets

...and, together with technicians (30 percent), contribute over 50 percent of all employed women in the public sector. The shares of women managers and professionals increased slightly during the last decade, while the shares of women technicians and clerks steadily declined. In comparison, a much smaller—about 20 percent cumulatively—and rather stable share of women in the public sector are employed in services, sales, and elementary occupations. Compared with men in the public sector, women are overrepresented in the top three occupations; by contrast, men have a larger share in services, sales, and elementary occupations.

A quite different scenario arises if one looks at the private sector. Here, about one-quarter of women perform elementary occupations, and a sizable portion are machine operators (figure 3.11, panel c). The latter, however, sharply declined, from 23.5 percent in 2004 to 6.8 percent in 2015, which is largely ascribable to the reduction in the relative...
FIGURE 3.10. Sectoral Distribution of Wage Workers, by Gender, 2004–15

Source: Based on data of the Continuous Multi-Purpose Household Survey (CMPHS), Statistics Mauritius.
FIGURE 3.11. Occupational Distribution of Wage Workers, by Gender and Main Sector, 2004–15

(a) Women wage workers, public sector

(b) Men wage workers, public sector

(continued)
FIGURE 3.11. Occupational Distribution of Wage Workers, by Gender and Main Sector, 2004–15 (continued)

c. Women wage workers, private sector

d. Men wage workers, private sector

Source: Based on data of the Continuous Multi-Purpose Household Survey (CMRPHS), Statistics Mauritius.
3.3 Gender Wage Gap in the Public and Private Sector

The socioeconomic differences introduced in the subsection above are, as one would expect, reflected by the unconditional wage differentials illustrated in figure 3.13. A positive wage differential of up to 22 percent is observed between women and men employed in the public sector in 2004. Conversely, a negative and larger gap is found among private sector employees, which ranged from as much as −25 to −30 percent in the low and middle portions of the wage distribution to about −10 to −15 percent in the upper tail in 2015.

The unconditional gender wage gap, that is, the gender difference in hourly wages without accounting for employed characteristics, is not necessarily a good indicator. This is because women and men working in either the public or the private sector might well be endowed with a set of different characteristics, some of which were described earlier in this section, that make them more or less productive. The conditional gender wage differentials, that is the wage gaps obtained after controlling for a set of worker characteristics and estimated through a standard wage equation, are reported in figure 3.14. The results show that, all else being equal, women in the private sector are paid hourly wages significantly lower compared with men. The gap is estimated at about 25 to 30 percent, on average, and has been roughly constant over time. In the public sector, women received an hourly wage premium of about 7 percent in 2015.

Estimates from a Blinder-Oaxaca decomposition indicate the extent to which the differences observed in hourly wages between men and women are ascribable to differences in the observable characteristics of the two groups or the explained component, to different treatments of men and women, or to unobserved characteristics (or the unexplained component) (see figure 3.14).

In the public sector, the explained and unexplained components work in opposite directions. Differences in observable characteristics (or the explained component) exert a positive action on the gender wage premium that tends to shore it up in favor of women. Among observable characteristics, occupation and education are capable of narrowing the gender wage gap, while others such as demographics, industrial sector, and job characteristics appear to disadvantage women. This is in line with the stylized facts presented above, whereby women in the public sector are relatively more concentrated in high-end occupations and have, on average, a higher educational level. By contrast, the unexplained component drags the wage differential down toward negative territory. This component is associated with a different wage structure or to unobserved characteristics that would, on average, make men more productive than women.

In the private sector, the decomposition results unveil a sizable and negative wage differential at around 30 percent. The two components (explained and unexplained) run in the same direction, and almost all the hourly wage
FIGURE 3.12. Educational Distribution of Wage Workers, by Gender and Main Sector, 2004–15

a. Women wage workers, public sector

b. Men wage workers, public sector
FIGURE 3.12. Educational Distribution of Wage Workers, by Gender and Main Sector, 2004–15 (continued)

**c. Women wage workers, private sector**

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**d. Men wage workers, private sector**

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Source: Based on data of the Continuous Multi-Purpose Household Survey (CMPHS), Statistics Mauritius.
The unconditional gender wage differential does not appear to be constant across the distribution. 6 It becomes clear now that the great bulk of the wage difference in the public sector is concentrated in the lower half of the distribution (figure 3.15, panels a, b, and c). A positive wage difference ranging between 10 percent and 15 percent is estimated at the 10th and 50th percentiles, while, at the 75th percentile, the premium fell to about 8 percent in 2015 and was not significant at the 90th percentile. The Oaxaca-Blinder
decomposition shows that, in the upper part of the distribution, the two components diverge, and the unexplained component is more negative (figure 3.15, panel c). Thus, while, in the bottom and middle of the distribution, the negative effect exerted upon the differential by the unexplained component is outdone by a positive composition effect, the opposite is true in the upper tail. This highlights that the mitigating effect of factors advantaging women, such as occupation, education and, to some extent, demographic characteristics, becomes progressively weaker relative to the different wage structure or unobservables. This ultimately results in a worsening of the gender wage differential toward the higher end of the public sector wage distribution.

In the private sector, a large and pervasive negative gender wage differential is estimated along the distribution and across all years (figure 3.15, panels d, e, and f). In this case, the gender wage gap becomes larger as one moves down the wage distribution, where it wavers at around 35 percent (as opposed to 10-20 percent at the 75th and 90th percentiles). The wage gap estimated in the private sector narrowed over time, particularly in the upper tail. Between 2004 and 2015, the gap declined at the 90th percentile from 20 percent to 13 percent; it dropped at the median from 55 percent to 36 percent; and it shrank modestly at the 10th percentile from 43 percent to 39 percent. The decomposition results on this sector show that
the explained and unexplained components are always negative, and the wage structure (or unexplained) effect was larger than the composition effect at all times. This translates into broad gender pay gaps at the bottom and in the middle of the distribution largely because of different wage structures. At the 90th percentile, there was both a slight improvement in the composition effect stemming from women’s occupational and industry characteristics and, in some years, also education, and there was a marked reduction in the wage structure effect, especially in more recent years. This led to progressively more moderate trends in gender wage differentials in the upper tail of the wage distribution of private sector employees.

Despite the considerable progress made over the last decade, Mauritian women are still disadvantaged in the labor market. At 57 percent in 2015, female labor force participation was still 32 percentage points below male participation. Young women with secondary education contributed the most to narrowing the average gap in participation; single women showed a substantially higher participation rate relative to married women. In addition to low participation, working women were also penalized in the returns to work in the private sector. Although, in the private sector, the gender wage gap was to some extent ascribable to systematic differences in the observed productive endowments men and women bring to the labor market, the main factor behind
the wage gap appears to have been related to differences in unobservable characteristics or in the pay structure, that is, an unequal pay structure to the disadvantage of women. By contrast, women in the public sector received a modest wage premium relative to men thanks to their considerably more productive endowments and even though the unexplained component operates in favor of men.

Women’s participation has the potential to increase further and contribute to narrowing inequality in household labor income and achieving the full potential of the economy to the extent that the income will be more evenly shared across households. In the decades ahead, female participation is expected to continue following the trends observed over the last 10 years because the pattern was largely driven by young and more well educated cohorts of women. However, a considerable portion of the gender differential remains unexplained. While some hypotheses can be posited, including access to and the cost of childcare, choice of curricula that are less likely to have more successful job outlets, social and cultural norms, and so on, additional analysis is needed to provide more fitting answers.

The public sector appears to be absorbing the most productive women who benefit from a wage premium with respect to their men counterparts. For both equity and efficiency reasons, the substantial gender gap in the private sector, notably in the lower tail of the distribution, cannot remain unaddressed. Despite their increased labor force participation, Mauritian women are likely to continue to bear most
of the household burden in terms of housework and family care. These activities compete for women’s time and energy with work on the labor market and might force women to look for less competitive and less remunerative career paths and greater flexibility at work. This might prevent women from obtaining access to jobs that reward long and inflexible working hours. Policies aimed at easing the caring burden borne by women and encourage men to get more actively involved in housework are certainly welcome. Subsidized child and elderly care and work-time regulations that promote flexibility and facilitate part-time work may be effective. This is particularly important because married women are less likely to participate in the labor market after pregnancy. Thus, for example, guaranteeing the possibility for women to switch to a part-time schedule in the same job after they have given birth might help reduce the risk of career interruptions by allowing a smooth transition from maternity leave to employment. Extending paternity leave and making it more flexible is an additional instrument aimed at easing the burden borne by women and reducing the cost of hiring women.

To the extent that the gender pay gap in the private sector is the result of an unequal pay structure, the change needs to pass through the education system, which should place a strong emphasis on curbing discriminatory social norms among youth. In this respect, the public sector could be an example of the best practice in encouraging women’s
engagement in the labor market and more equitable treatment. Awareness campaigns might also help shift norms regarding the employment of women in high-pay positions.

NOTES

1. These estimates are based on models of the International Labour Organization.
2. A linear probability model was fit by regressing a dummy for participation—taking value of 1 if a woman participates in the labor market and 0 otherwise—onto a set of individual and household characteristics, including a second-degree polynomial in age, dummies for year-of-birth cohort, dummies for residing in each of the Mauritius districts, marital status, educational level, family age composition, and quintiles of household consumption.
3. A probit regression was estimated by regressing the participation dummy upon the same set of controls employed in the linear probability model. Estimated coefficients were then used to generate a prediction of the probability of women participating in the labor market as if they had men’s characteristics, that is, counterfactual female participation rates were predicted by applying coefficients estimated for women onto the distribution of men’s characteristics.
4. Figure 3.10 is a close approximation of the sectorial distributions within the private sector because the public sector covers a more restricted number of industries that exhibit negligible gender differences (see appendix C, figure C.1).
5. Regressions control for second-degree polynomials in age and tenure and individual dummies for each year-of-birth cohort, educational level, district of residence, occupation, industry and sectoral category, that is, the domain of employment in the public sector (central or local government, publicly owned or controlled enterprises) and in the private sector (export- or nonexport-oriented privately owned businesses, private household services, cooperative enterprises).
6. To estimate the size of this gap and its effect along the distribution, an unconditional quantile regression is estimated at selected percentiles using the rifreg command in Stata.
7. With financing from the World Bank under the Multi Donor Trust Fund for Statistical Capacity Building, Statistics Mauritius will carry out a living conditions survey that will also collect information on time use. This will help compare the time devoted by employed and unemployed men and women to household activities, including chores and family care.
Rising Inequality in Wages among Individuals

Chapter 1 shows that the observed expansion in total household income inequality is largely ascribable to rising inequality in household labor income, while government redistribution helped contain the adverse effects of labor market forces. Chapter 2 looks at the role of household demographics and labor market factors in rising labor income inequality among households and identifies the earnings of individuals as the major contributor.

This chapter first examines wage inequality among individuals by (1) presenting stylized facts on the wage structure, (2) pinpointing the principal sources of rising wage dispersion, and (3) separating out the effect of the price of labor and of workforce composition on wage inequality. The second part of the chapter investigates the role of changes in labor supply and labor demand in explaining the expansion in wage inequality. Beyond labor market forces, institutions can be linked to the dynamics of the wage structure. The chapter then investigates the effect of the complex system of ROs on wage inequality and on employment. The last part of the chapter looks beyond the skills shortage, whereby demand (or supply) for a particular type of skills exceeds the supply (or demand) of people with those skills, to address another side of the skills problem: the mismatch between worker educational endowments and job skill requirements, that is, overeducation and undereducation.

In high- and middle-income countries, labor markets are typically characterized by a large share of wage employment. Mauritius is no exception. Wage workers contributed over 80 percent of total employment over the last decade; self-employment (including employers) accounts for less than 20 percent; and the rest of the employed population is largely composed of contributing family workers (2 percent) and apprentices (0.2 percent) (figure 4.1, pane a). Wage employment is not only the principal employment category in the labor market, it is also the main source of household income from labor (figure 4.1, panel b). About 85 percent of household labor income in 2015 (81 percent in 2001) derived from the employment of household members in wage jobs.

4.1 Stylized Facts

4.1.1 TRENDS IN OVERALL WAGE INEQUALITY

Figure 4.2, panel a displays trends in selected percentiles of the logarithm of real monthly earnings for all wage workers between 2004 and 2015. It shows a steady expansion of monthly earnings inequality. Thus, the earnings of 90th percentile earners rose by 46 percent, while 10th percentile earners experienced an increase of a scant 7 percent. The dynamic of hourly wages is mechanically the by-product of the dynamics observed in monthly earnings and in working time.

There was a reduction in the number of working hours (measured by the number of hours worked during the week preceding the interview) at both the bottom and the top of the distribution of log monthly earnings, notably between 2010 and 2015 (figure 4.2, panel b). Workers in the 10th percentile suffered the largest reduction in hours worked. Coupled with the modest increase in their monthly wages, this led to a rise in their hourly wages moderately larger than the increase in their monthly wages. The dynamics observed in monthly earnings and weekly working hours suggests that hourly earnings (or wages for the sake of simplicity) are expected to show a pattern similar to that of monthly earnings or slightly less unequal because of the large decline in working hours at the bottom of the distribution of monthly earnings. Figure 4.2, panel c displays trends among the percentiles of hourly wages over the same period ranked according to the distribution of monthly wages. As expected, the gradual fanning out of the distribution over time is more limited compared with what occurred with monthly wages. For example, 10th percentile earners recorded a 19 percent rise in hourly wages relative to a 65 percent increase among earners in the 90th percentile.

a. Distribution of employment, by type and year

b. Distribution of labor income, by source and year

Source: Based on data of the Continuous Multi-Purpose Household Survey (CMFPS), Statistics Mauritius.
Note: All income measures are expressed in per adult equivalents.
In hourly wages, overall inequality can be broken down into components, namely, between-group inequality and within-group (or residual) inequality. Overall inequality, measured by the Gini coefficient, expanded by 6 percent in 2004–15, while the P90/P10 ratio increased by almost 29 percent, notably between 2008 and 2015 (figure 4.3, panels a and b). The rise in inequality was concentrated in the upper tail of the distribution. The P90/P50 ratio rose by about 24 percent, whereas, at the bottom of the distribution, wage inequality widened by less than 4 percent over the entire period (figure 4.3, panels c and d).

Overall wage inequality widened more rapidly among men than women; yet, the level of inequality remained higher among the latter (figure 4.4). The Gini coefficient increased by 5 percent among women (0.48 in 2015) and by 7 percent among men, reaching 0.44 in 2015. The P90/P10 ratio rose more sizably, by 42 percent among men and by half as much among women. Different trends are uncovered in the bottom and top halves of the distribution. Among women, inequality grew more rapidly in the lower tail: the P50/P10 ratio rose by almost 13 percent relative to a growth of 7.3 percent in the P90/P50 ratio (figure 4.4,

**FIGURE 4.2.** Trends in Monthly Earnings, Weekly Hours Worked, and Hourly Wages, Selected Percentiles, 2004–15

![Graphs showing trends in monthly earnings, weekly hours worked, and hourly wages.](image-url)
panels a and b). The inequality patterns among men contrast with those among women. Among men, the P50/P10 ratio recorded a growth of 10 percent relative to a growth of almost 30 percent in the P90/P50 ratio (figure 4.4, panels c and d).

An understanding of the sources of the rise in wage inequality fully requires an analysis of the role of key observable demographic factors, such as educational attainments, age, and gender. Figure 4.5 displays the education, experience, and gender hourly wage premium. The education wage premium has a distinct gender pattern (figure 4.5, panel a). Among men workers, the premium rose by 18 percent between 2004 and 2015, whereas, among women, it did not increase sizably, though it was considerably larger than the corresponding premium among men. To add perspective, in 2004, men workers with upper-secondary or higher education made, on average, about 56 percent more per hour of work than men workers with up to completed primary education. This premium expanded to almost 87 percent in 2015. Conversely, highly educated women workers were paid substantially more than their low-educated counterparts (about 1.3 times in 2015), and the premium did not change much between 2004 and 2015.

The experience premium, calculated as the ratio between the average hourly wage of workers with 35 or more years of potential experience and the average hourly wage of workers with up to 14 years of potential experience, declined substantially among both men and women (figure 4.5, panel b). Nonetheless, in 2015, an average man worker with 35 plus years of experience still made about
Rising Inequality in Wages among Individuals

FIGURE 4.4. Hourly Wage Inequality, by Year and Gender, 2001–15

27 percent more per hour relative to a man with up to 14 years of experience. By contrast, more experienced women experienced a wage penalty relative to young women, and the penalty rose from about 20 percent in 2004 to about 33 percent in 2015. The average women’s hourly wage gap in both the public and private sectors declined modestly, from −28 percent in 2004 to −24 percent in 2015 (figure 4.5, panel c).

4.1.2 INEQUALITY BETWEEN AND WITHIN DEMOGRAPHIC GROUPS


Three key facts emerge about trends in hourly wages by group from figures 4.6 and 4.7. First, hourly wages rose more rapidly among women (29.5 percent over 2004–15) compared with men (22.6 percent). The increase among women was remarkable during the more recent years (2011–15): 25.5 percent compared with 19.9 percent among men. In the first period, 2004–06, men recorded a small decline (−1.8 percent), while women experienced a modest growth in hourly wages (+1 percent).

Second, the rise in the wage premium among workers with upper-secondary or higher education is attributable to the large increase in hourly wages among these workers relative
FIGURE 4.5. Education, Experience, and Gender Hourly Wage Differentials, 2004–15

a. Upper-secondary education premium, by year

b. Experience premium, by year

c. Women’s wage gap

Source: Based on data of the Continuous Multi-Purpose Household Survey (CMPHS), Statistics Mauritius.

FIGURE 4.6. Changes in Relative Hourly Wages, by Gender and Education, 2004–15

a. Changes, overall and by gender

b. Changes, by educational level, all

(continued)

(a) Changes by experience, all

(b) Changes by experience, women

(c) Changes by experience, men

(d) Changes, by educational level, men

(e) Changes, by educational level, women

Source: Based on data of the Continuous Multi-Purpose Household Survey (CMPS), Statistics Mauritius.

FIGURE 4.7. Changes in Real Hourly Wages, by Gender and Experience, 2004–15

Source: Based on data of the Continuous Multi-Purpose Household Survey (CMPS), Statistics Mauritius.
to low-educated workers. Over 2004–15, hourly wages among highly educated workers increased by 31 percent, compared with 22.2 percent and 15.8 percent among workers with lower-secondary and up to completed primary education, respectively (figure 4.6, panel b). The gap in the rate of change was, in this case, larger during 2007–11 relative to more recent years. Among men, the overall period change in hourly wages among highly educated workers was as high as 31.4 percent, which compares with a 10.0 percent and 21.5 percent change among men with lower-secondary and up to completed primary education, respectively (figure 4.6, panel d). Among women, the gap in hourly wage growth was much smaller: between 2004 and 2015, highly educated women posted an hourly wage increase of 30.5 percent; women with up to completed primary education experienced a rise of 29.3 percent, and women with lower-secondary education had, on average, a growth of 24 percent (figure 4.6, panel c).

Third, young workers received larger wage increases with respect to middle-age and older workers (figure 4.7). Overall, young workers gained 36 percent between 2004 and 2015, which compares with an increase of 24.1 percent and 11.4 percent among workers ages 15–34 and 35 and above years of experience. The large wage growth gap is mainly attributable to the dynamics observed between 2007 and 2010, whereas, during the first period and the most recent period, the differences in the growth rate were smaller. Young men and women both experienced a wage increase considerably larger relative to older workers (figure 4.7, panels b and c). However, while young women gained relative to both middle-age and older workers, young men had a large gain relative to old workers and a wage growth similar to the wage growth among workers with 15–34 years of experience.

Demographics account for up to one-third of the differences in hourly wages across workers. There is thus room for relative hourly wage changes within these groups. Dispersion within gender, education, and experience cells can be used as a measure of within-group or residual inequality. Overall residual wage inequality expanded sizably in 2004–15, and the expansion accelerated over the second half of the period so that the gap between total and residual inequality at the end of the period (28 percent) was smaller than at the beginning (46 percent) (figure 4.8, panel a). Upper-tail residual inequality expanded by about 27.0 percent, compared with a rise of 15.6 percent in lower-tail inequality (figure 4.8, panels b and c). The pattern was similar among men and women, although the expansion was considerably larger among men. Residual inequality among men rose by almost 53.0 percent, compared with 38.7 percent among women. Upper-tail residual inequality went up by 29.0 percent among men and 19.6 percent among women. Such increases in hourly wage inequality within groups implies that there was a wage loss among the less well educated and the less experienced and also among the least well educated and the least experienced within each category.

### 4.2 Effects of Changes in Wages and Workforce Composition on Rising Inequality

Changes in workforce composition may help explain the changes documented in wage inequality. Changes in the composition of the workforce that induce an increase in the share of workers with more unequally distributed wages can increase wage inequality even if wages (the price of labor) are kept constant. Workers with a larger number of years of working experience typically show less wage dispersion relative to younger workers; hourly wage dispersion is typically higher among highly educated workers relative to less well educated workers. These are two examples of the reason changes in the education or experience composition of the employed population could lead to changes in wage dispersion. These compositional effects are separate from price effects that are the result of shifts in labor demand and labor supply (market forces), plus institutional factors. If wages are held constant, such compositional effects can mechanically raise or reduce overall and residual wage inequality through the effects on the distribution of workers with different characteristics that have more or less dispersed wages.

Price effects, holding workforce composition constant, are measured by the vertical distance across series in a given year (figure 4.9; box 4.1). The effects of changes in composition (holding prices at their 2004, 2010, or 2015 levels) capture changes in the level of each series (figure 4.9).

Overall inequality, measured by the P90/P10 ratio, widened by about 29 percent between 2004 and 2015. If workforce composition is held constant at the level of 2004, 2010, or 2015, the rise in overall inequality would still have been remarkable and at least 60 percent as large as the growth in unadjusted inequality. Similarly, growth in upper-tail inequality would have been moderately lower, but still at least 80 percent as large as the observed upper-tail inequality.
Rising Inequality in Wages among Individuals

FIGURE 4.8. Overall and Residual Wage Inequality, by Year, 2004–15

By contrast, compositional effects played a large role in lower-tail inequality. Had workforce composition stayed at the level of 2004 or 2010, P50/P10 would have risen by less than 1 percent or stayed constant. If the characteristics of the employed population had remained at the level of the end of the period the whole time, lower-tail inequality would have declined by 2.5 percent.

Breaking down the analysis by gender indicates that most of the compositional effect drives the change observed in inequality among women (figure 4.10, panels a and b). Yet, it fails to explain a large part of the changes observed in wage inequality among men. Figure 4.10, panels c and d show that, in the case of men, upper- and lower-tail inequality would have been 65 percent as large as the observed inequalities had the workforce composition been held constant at the level of 2004, 2010, or 2015. In the case of women, lower-tail inequality would have widened by only about 4 percent relative to the actual 12 percent increase observed between 2004 and 2015.

Residual hourly wage inequality is responsible for a substantial part of the rise in total inequality. For this reason, one might investigate the extent to which the effect is attributable to changes in the composition of the workforce as opposed to changes in prices. Figures 4.11 displays observed and counterfactual residual wage inequality for all workers. Overall residual inequality, measured by the P90/P10 ratio, rose by about 47 percent between 2004 and 2015. If workforce composition is held constant at the


**FIGURE 4.9. Actual and Counterfactual Wage Inequality, 2004–15**

- **a. P90/P10**
  - Observed
  - Counterfactual (2004)
  - Counterfactual (2010)
  - Counterfactual (2015)

- **b. P50/P10**
  - Observed
  - Counterfactual (2004)
  - Counterfactual (2010)
  - Counterfactual (2015)

- **c. P90/P50**
  - Observed
  - Counterfactual (2004)
  - Counterfactual (2010)
  - Counterfactual (2015)

Source: Based on data of the Continuous Multi-Purpose Household Survey (CMPHS), Statistics Mauritius.

**BOX 4.1. The Reweighting Approach**

A reweighting approach is employed to assess the extent to which changes in equality are ascribable to price effects resulting from the interaction of labor demand and labor supply or to compositional effects that mechanically introduce changes in inequality by altering the share of demographic groups that experience more or less dispersion in wages.

The approach was introduced by DiNardo, Fortin, and Lemieux (1996). It consists of decomposing the observed density of wages in two time periods, say \( t \) and \( t' \), into a price function that provides the conditional distribution of wages for given characteristics and time period and a composition function that provides the density of characteristics in the same time period.

A counterfactual wage density and counterfactual inequality measures may be constructed using this decomposition by combining the price function from a period \( t \) with the composition function from a different period \( t' \). To calculate the counterfactual, the price function at time \( t \) must be reweighted by the ratio of the density of characteristics at time \( t' \) and time \( t \).

In practice, such a reweighting function can be estimated using a logit/probit model applied to the pooled data from times \( t \) and \( t' \). The validity of the exercise rests on the assumption of partial equilibrium; thus, prices and quantities can be viewed as independent,
Rising Inequality in Wages among Individuals

BOX 4.1. The Reweighting Approach (continued)

and changes in labor market quantities do not affect labor market prices. The assumption is not appealing given the changes in labor supply; yet, it might be viewed as an informative exercise.

To assess the contribution of shifts in composition and prices to observed changes in overall and residual inequality, the workforce composition data in each year between 2004 and 2015 are applied to the price functions from the years 2004, 2008, and 2015. This allows a set of hypothetical scenarios to be simulated whereby workforce composition changes as it actually did over time, while prices are held constant at the levels in 2004, 2008, and 2015. In the calculation of the reweighting function, a set of demographic characteristics, including dummies for education, a quartic in experience, interactions of the experience quartic with education categories, and dummies for district of residence, are controlled for in regressions run separately by gender.

The procedure outlined above is applied to the construction of counterfactuals for overall inequality. In the case of residual inequality, the price function is replaced by a residual pricing function obtained by regressing the logarithm of hourly wages in each year on the full set of characteristics described above and replacing the wage observations with corresponding residuals from the ordinary least squares regression. The residual price function is then used to calculate counterfactual residual densities.

FIGURE 4.10. Actual and Counterfactual Wage Inequality, by Gender, 2004–15

Source: Based on data of the Continuous Multi-Purpose Household Survey (CMPHS), Statistics Mauritius.
level of 2004, 2010, or 2015, the rise in overall inequality would still have been remarkable and at least 70 percent as large as the growth in unadjusted residual inequality. Similarly, growth in upper- and lower-tail inequality would have been moderately lower, but still at least 70 percent as large as the observed lower-tail inequality.

### 4.3 The Role of Labor Market Forces

Chapter 3 shows that income from wage employment is the largest contributor to labor income among households. It also identifies between-group inequality as the main source of the rise in overall wage inequality in 2004–15. Despite large shifts in workforce composition, the evidence pinpoints price effects that are a by-product of the interaction of labor supply and labor demand as the principal culprit behind widening between-group inequality. By contrast, compositional changes had only second-order effects.

This chapter examines the skills mismatch or skills shortage whereby the demand for or supply of a particular type of skill exceeds the supply of or demand for people with that skill. It examines the extent to which this contributed to rising between-group wage inequality. In addition, labor market institutions can be linked to the dynamics of the wage structure. The chapter’s analysis therefore investigates...
Rising Inequality in Wages among Individuals

the effect of the complex system of ROs currently in place in Mauritius on wage inequality and on employment. Lastly, the chapter addresses another side of the skills mismatch that appears to have had an impact: the mismatch between job market requirements and worker educational endowments, that is, the education mismatch that is given by the sum of over- and undereducation.10

Mauritius is an export-oriented and highly diversified economy producing textiles, tourism, and financial and information and communication technology (ICT) services and in which agriculture accounts for less than 3 percent of GDP. Despite the recent slower growth and rising unemployment following reductions in trade opportunities, including the end of the Sugar Protocol and the Multi Fibre Arrangement, and the lower prices for sugar and textile exports, structural transformation has continued. In employment, the agricultural share that was slightly above 10.0 percent of total employment in 2001 declined and was at 7.5 percent in 2015 (figure 4.12, panel a). Manufacturing recorded a larger reduction in relative terms, from 26 percent in 2001 to 15 percent in 2015. Construction remained stable at about 10 percent, while the service sector grew in relative importance. The share of trade, hotels and restaurants, and transport expanded, and the expansion of financial, real estate, and professional services (from 5.8 percent to 11.2 percent) was remarkable.

A similar transformation occurred within industries in terms of occupations (figure 4.12, panel b). The share of managers and professionals almost doubled between 2001 and 2015 (from 8.4 percent to 14.4 percent), and technicians and clerks gained in importance, together with service workers. By contrast, low-end occupations, including craftworkers, skilled agricultural workers, and machine operators, and elementary occupations, recorded a reduction in relative share from 58.7 percent to 45.7 percent. Thus, over the last 15 years, the economy continued a transformation away from agriculture, other traditional sectors, and low-end occupations toward modern sectors, including services, particularly professional services, ICT, and tourism with a parallel increase in the share of high-skilled occupations.


(continued)

In parallel, the population became increasingly more well educated. In 2015, less than 5 percent of the population ages 16 or above had no schooling or only preprimary education; around 7 percent had some education, but less than completed primary. The increase in the share of workers with secondary, postsecondary, or tertiary education was remarkable. In 2001, less than 6 percent of Mauritians ages 16 or above had postsecondary or tertiary education. Thus, the share had risen almost fourfold over the course of only 15 years (figure 4.13, panel a). The changes in the educational attainment of the employed population were even more striking, corroborating the theory that shifts in labor demand and labor supply translated into a net positive shift toward more skilled workers at the expense of less skilled workers, particularly workers with less than upper-secondary education (figure 4.13, panel b; box 4.2). The share of workers with postsecondary or tertiary education rose from about 7 percent in 2001 to almost 30 percent in 2015, while the share of workers with less than upper-secondary and those with upper-secondary education declined by 15.0 and 5.3 percentage points, respectively.

4.4 Changes in Workforce Composition

The trends in overall and between-group inequality are certainly affected by the relative supply of workers with different characteristics. Over the course of the past decade, Mauritius witnessed important changes in the supply of labor. Overall, there was a sizable rise in the relative supply of women, which increased by 58 percent, and a decline in the relative supply of men by almost 11 percent. The expansion (reduction) of women’s (men’s) relative labor supply has steadily grown over time. The largest change was observed between 2011 and 2015.

One of the important factors affecting wage inequality is, without doubt, the relative supply of labor at different levels of education and experience. In Mauritius, education opportunities improved notably over the years, and primary- and secondary-school enrollments are now comparable with those in upper-middle- and high-income countries.
FIGURE 4.13. Distribution of Total (Ages 16+) and Employed Population, by Educational Level and Year, 2001–15

a. Population ages 16+

b. Employment population

Source: Based on data of the Continuous Multi-Purpose Household Survey (CMPHS), Statistics Mauritius.
BOX 4.2. Relative Labor Supply and Relative Labor Demand: A Simplified Framework

A pure supply and demand approach to the analysis of changes in the wage structure is adopted in this study. This approach assumes that changes in the wage structure are largely driven by changes in competitive forces (Freeman 1975; Katz and Murphy 1992; Murphy and Welch 1992). It thus does not account for the role of changes in institutional factors.

Workers belong to one of two skill groups—skilled (sk) and unskilled (uk)—that are considered two separate labor inputs. The relative wages of these groups are generated by the interaction of the relative supplies of the labor of the groups and an aggregate production function with associated demand schedules. The framework is partial equilibrium because it does not model the determinants of relative factor supplies. The key assumption is that observed factor prices and quantities are on the demand curve.

Assume that there are two periods of time and that the relative wage and relative employment of the skilled group expand over time. Under the assumption of inelastic short-run relative supplies, the increase in the relative employment of skilled workers is reflected by a rightward shift in the relative supply of skilled workers (from S0 to S1 in figure B4.2.1). If the relative demand were stable, the relative wages of skilled workers would decline (from the initial point A to point D). If, instead, the relative wages are observed to go up (by assumption), an outward shift in the relative demand for skilled workers (from D0 to D1) must have determined the rise in the relative wage (from point A to point B).

To test the role of relative labor supply within this simplified framework with two labor inputs and two time periods, t and t', under the assumption of stable relative factor demand, an increase in the relative supply of a group must lead to a reduction in the relative wage of the same group.

\[ (W_t - W_t') \left( X_t - X_t' \right) \leq 0 \]  

(B4.2.1)

Time periods in which the above inequality is satisfied could, in theory, be explained by a pure supply shift scenario. Positive inner products, however, reject a stable factor demand hypothesis and require an investigation into changes in relative labor demand. In practice, a combination of shifts in relative supply and relative demand is likely to be at play and to be responsible for changes in relative wages.

Relative labor demand shifts can be thought of as arising from two types of changes, as follows:

- Shifts between industries change the allocation of total labor demand across industries at fixed relative wages (for example, shifts in product demand across industries, shifts in net international trade that affect the domestic share of output at fixed relative wages, and so on).
- Shifts within industries change relative factor intensities within industries at fixed relative wages (for example, changes in the prices of nonlabor inputs, outsourcing, and so on).

To measure the role of changes in relative demand, the following demand shift indicator is constructed:

\[ \Delta X_{ij} = \frac{\Delta D_{ij}}{E_i} = \sum \alpha_j \Delta E_j \]  

(B4.2.2)

where \( k \) indicates demographic group, and \( j \) indexes a combination of industry and occupation. The overall demand shift index is constructed by combining industry and occupation \( j = \text{industry} \times \text{occupation} \); the between-industry demand shift index is calculated over industry; and the within-industry index is the difference between the overall demand shift and the between-industry shift indexes and reflects changes in employment among occupations within industries.
Rising Inequality in Wages among Individuals (World Bank 2015b). The gender gap has closed: girls have passed boys in enrollments in secondary education. Such exceptionally important changes occurring among the population are reflected in the shifts in the relative supply of labor. Figure 4.14, panels a and b illustrate a massive growth, by 79 percent, in the relative supply of highly educated (upper-secondary or higher education) women between 2004 and 2015. The largest push in the increase in the relative supply occurred in the most recent period (2011–15), when the expansion was by about 28 percent, compared with 1.6 percent in 2004–06 and 14.2 percent in 2007–10. In parallel, the relative supply of women with up to completed primary education declined by 40 percent over the entire period. The bulk of the reduction was concentrated in 2011–15. By contrast, women with lower-secondary education did not experience large changes in relative labor supply (−0.5 percent in 2004–15). However, the first and the last subperiods saw the relative supply drop by about 22.5 percent and 29.0 percent, respectively, a reduction that was offset by the strong gain observed in 2007–10 (+58 percent). The relative labor supply of men followed a different pattern. Although the relative supply of low- and mid-educated men declined as observed among women (by 48 percent and 27 percent, respectively, in 2004–15), the relative supply of highly educated men did not exhibit an increase as large as the one observed among women. Over the entire past decade, this relative supply rose by a meager 2.5 percent.

**FIGURE 4.14.** Changes in the Relative Supply of Workers, by Gender, Education, and Experience, 2004–15

<table>
<thead>
<tr>
<th>A. Changes in relative supply by education, women</th>
<th>B. Changes in relative supply by education, men</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Graph" /></td>
<td><img src="image2.png" alt="Graph" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>C. Changes in relative supply by experience, women</th>
<th>D. Changes in relative supply by experience, men</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image3.png" alt="Graph" /></td>
<td><img src="image4.png" alt="Graph" /></td>
</tr>
</tbody>
</table>

Source: Based on data of the Continuous Multi-Purpose Household Survey (CMPHS), Statistics Mauritius. Note: The numbers in the panels represent percentage changes in the share of each group in total labor supply measured in efficiency units. Labor supply in efficiency units is calculated by multiplying annual hours by the relative wage of the group in 2004–15.
While the changes in the relative supply of low- and mid-educated workers could explain the trends observed in the relevant wages, the impressive expansion in the supply of highly educated women seems to be at odds with the equally large wage gains of this group. A possible explanation might be related to what occurred on the demand side: substantial shifts in labor demand for this type of worker need to have happened to reconcile the observed trends in labor supply and wages.

The Mauritian population is aging. This is reflected in the shifts in relative labor supply among workers with different numbers of years of potential experience. The relative supply of the least experienced workers (0–14 years of experience) and the most experienced workers (35+ years) rose considerably among women, whereas the relative supply of workers with 15–34 years of experience expanded less, and it declined considerably among men (figure 4.14, panels c and d). As in the case of education groups, the largest changes are observed in the most recent years, that is, in 2011–15. Overall, the relative supply of experienced women increased by over 100 percent in 2004–15, and the growth was rapid over the last five years (44 percent). The relative supply of middle-experienced women increased by about 50 percent. This compares with a growth by 63 percent among the youngest women. Among men, the overall increase in the supply of the most and least experienced workers was substantially smaller (34.7 percent and 11.4 percent, respectively), whereas the labor supply of workers with 15–34 years of potential experience fell by 25 percent. These changes in the age structure of the supply of labor might be an important explanation for the modest increase in the wages of older workers. However, the strong wage gains posted by younger women cannot be accounted for solely by the large expansion in their relative supply.

4.5 The Role of Shifts in the Relative Supply of Labor

Following the definition of demographic groups described above, workers are categorized in groups defined by gender, educational level, and potential work experience. Changes in relative supply against changes in relative wages are plotted in figure 4.15. Panel a shows the relation between changes in relative quantities and changes in relative wages for the full period (2004–06 to 2012/15), while panels b and c display the same relationship for 2004/06 to 2007/11 and 2007/11 to 2012/15, respectively. For the whole period and particularly for 2007/11 to 2012/15, the groups with the largest increases in relative supply had the smallest increases in relative wages. This means that differences in supply growth have the potential to explain the observed changes in relative wages.

Breaking down these patterns by gender shows that differences across groups in relative supply growth played a major role among women (figure 4.16, panels a and b). Over the whole period, the groups of women with the largest increases in relative supply, particularly women with lower- or upper-secondary education and over 35 years of experience, exhibited the smallest increases (or a decline) in relative wages. Conversely, changes in the relative supply of men workers do not have the potential to explain much of the changes observed in relative wages, with the exception of highly educated men with significant experience. However, in the case of men, the product of the relative changes in supply and the relative changes in wages is barely different from zero. In the case of both men and women, a pure supply shift scenario is unlikely to be able to account fully for the observed changes in wages. It is, rather, a combination of relative supply and relative demand shifts that have contributed to the wage inequality patterns.

4.5.1 The Role of Foreign Labor

It is important to take into account the role of foreign labor in the analysis of changes in labor supply. Mauritius, as a small open economy, has been increasingly relying on immigrant labor. According to data of Statistics Mauritius, the number of valid work permits increased from around 24,700 in 2004 to 36,800 in 2015. Despite this substantial rise in number, the share of work permits in total employment changed only modestly, from 5.0 percent to 6.5 percent between 2004 and 2015 (figure 4.17, panel a).

A large majority of all work permits in 2015 were issued to workers employed in manufacturing (79.7 percent) and construction (12.3 percent) (figure 4.17, panel b). The remaining permits are issued mostly to immigrants working...
FIGURE 4.15. Price Versus Quantity Changes, All Workers, by Period, 2004–15

Source: Based on data of the Continuous Multi-Purpose Household Survey (CMPSH), Statistics Mauritius.

FIGURE 4.16. Price Versus Quantity Changes, by Gender, 2004–15

Source: Based on data of the Continuous Multi-Purpose Household Survey (CMPSH), Statistics Mauritius.
This pattern has been relatively stable. Thus, in 2004, manufacturing contributed around 77.0 percent of total work permits, and construction accounted for 9.4 percent, while services accounted for a larger share in 2004 than in 2015, 12.8 percent and 7.6 percent, respectively.

Most foreign workers take up jobs in low-skilled occupations. Over 80 percent of valid work permits as of December 2015 and December 2016 were held by workers employed in elementary occupations, including machine operator, masons, carpenters, plumbers, and electricians.

The largest share of immigrant workers consists of men, who accounted for over two-thirds of total foreign labor in 2015. With the exception of manufacturing, notably textiles, where some 50 percent of immigrant workers were women in 2004, the rest of the sectors employ a small share of women foreign workers (figure 4.18, panel a). In services, women accounted for about 16 percent of foreign labor,

a. Share of women foreign workers, by sector

Source: Based on Statistics Mauritius data.

Note: The number of foreign workers is captured by the number of valid work permits.
whereas, in agriculture and construction, they contributed less than 3 percent and 1 percent, respectively.

There was a change in the patterns of country of origin (figure 4.18, panel b). First, over 95 percent of foreign labor arrives from eight countries: Bangladesh, China, India, France, Madagascar, South Africa, Sri Lanka, and the United Kingdom. Second, the relative contribution of these top sending countries changed dramatically over the decade. In 2004, India was the first foreign labor contributor, with a share of over 60 percent, followed by China, Sri Lanka, and Bangladesh; in 2015, Bangladesh climbed the ranking and contributed 55 percent, while the share of India was reduced to slightly above 20 percent.

Overall, foreign labor in Mauritius accounts for only a modest share of total employment, is predominantly low-skilled, and is employed in elementary occupations in manufacturing and construction. It may marginally moderate the effect of the changes in the labor supply of workers with low education. Certainly, accounting in the analysis for the contribution of foreign labor would not alter the direction of the findings.

### 4.6 The Role of Relative Demand Shifts

Shifts in relative labor supply can partially account for the observed changes in the wage structure and therefore in between-inequality. However, substantial changes in relative labor demand occurred over the course of the 2004 to 2015 period. There are a number of factors that may have contributed to changes in relative labor demand. Among the most frequently cited in the literature are changes in the structure of product demand, increased international competition (or changes in the terms of trade because of shocks in trade agreements), and skill-biased technological change. All these potential factors may explain shifts in labor demand in favor of more well educated workers.

Following the approach of Katz and Murphy (1992), relative labor demand shifts can be divided into changes that occur within industries and changes that occur between industries. Within-industry shifts are changes that affect the relative intensities of the use of production inputs within industries; between-industry shifts impact the allocation of total labor demand between industries. Examples of within-industry shifts are nonneutral technological change, changes in the prices of nonlabor inputs, and outsourcing. Examples of between-industry shifts in demand are shifts in product demand across industries and shifts in net international trade affecting the domestic share of output.

The effect of between-industry changes in labor demand clearly depends on differences across demographic groups in the distribution of sectoral (or industrial) employment. Think, for example, of a case in which all working women with upper-secondary or higher education are employed in manufacturing. Under this scenario, a shift in labor demand across industries, especially between manufacturing and other industrial sectors, would enormously affect the relative wages of that group of workers.

There are considerable differences in the sectoral and occupational distribution of each demographic group defined by gender and educational attainment. Figure 4.19, panel a illustrates the distribution of employment across nine industrial sectors. Figure 4.19, panel b displays the distribution of employment across three major occupational categories among six demographic groups defined by gender and education. Women with up to completed primary education are concentrated in manufacturing (39.4 percent), trade (13.1 percent), agriculture (11.9 percent), and services, mostly household services (20.9 percent), while low-educated men are largely employed in construction (22.5 percent), manufacturing (19.2 percent), and agriculture (13.9 percent). Conversely, professional activities, public administration, and trade and other services in the case of women attract most highly educated workers, that is, workers with, at minimum, an upper-secondary education.

The patterns are even more striking if one considers the occupational distribution of workers in different demographic groups. Between 73 percent and 80 percent of women and men with low education are employed in craftwork, production, and elementary occupations, whereas highly educated workers, notably, women, take up professional, technical, and managerial occupations. About one woman in two with lower-secondary education is employed in low-end occupations, and 40 percent in clerical, sales, and service occupations. By contrast, men with the same educational attainment are primarily engaged in elementary occupations (74.6 percent).

Because different demographic groups are not evenly distributed across sectors and occupations, any change in the sectoral or occupational distribution of employment will have a different impact on each group. Figure 4.20, panel c delineates a clear trend of movement out of traditional
FIGURE 4.19. Sectoral and Occupational Distribution of Employment, by Demographic Group, Average, 2004–15

Source: Based on data of the Continuous Multi-Purpose Household Survey (CMPHS), Statistics Mauritius.
sectors, including manufacturing, construction, and agriculture, toward services, notably, professional activities, tourism-related activities, and trade, over the entire period 2004–15. In parallel, there was also a decline in the relative importance of production workers in favor of sales and service workers, professional activities, and managers. These patterns are indicative of a demand shift in favor of highly educated workers and against low-educated workers, particularly among men.

Subdividing the economy into industry-occupation categories that are treated as different sectors facilitates an assessment of the magnitude of between- and within-industry shifts in relative labor demand. The advantage of this approach is that it allows one to look at within-industry shifts in labor demand that are captured by changes in occupations within each industry, in addition to between-industry changes, which are measured by changes across industries.

In 2004–15, the overall indicator of demand shifts increased monotonically by educational level among both women and men workers and, within each educational level except the lowest, shifted in favor of women (figure 4.21, panels a and b). Overall labor demand shifts generated a rise in the demand for men and women workers with upper-secondary education by 13 percent and 16 percent and a decline in the
FIGURE 4.21. The Between, Within, and Overall Labor Demand Shift Index, by Demographic Group and Period, 2004–15

a. Women, 2004–15

b. Men, 2004–15

c. Women, 2004–06
d. Men, 2004–06

e. Women, 2012–15

f. Men, 2012–15

Source: Based on data of the Continuous Multi-Purpose Household Survey (CMPHS), Statistics Mauritius.
demand for low-educated workers, namely, workers with some primary education or with a certificate of primary education, by almost 5 percent for both men and women. Between-industry shifts raised the demand for workers with upper-secondary or higher education significantly more than the demand for workers with lower-secondary education, notably so in the case of women. These differences are ascribable to the higher concentration of highly educated women in expanding industries such as trade, professional activities, and other services. By contrast, within-industry shifts induced a modest decline in the demand for men and women workers in general, but particularly for the least well educated, and generated an increase in the demand for highly educated men workers. This is attributable to the reduction in the relative importance of production occupations where large shares of low- and mid-educated workers are employed. The size of the demand shifts for highly educated workers is, however, smaller than the growth of relative labor supply in the case of women. This means significant within-industry and within-occupation demand shifts in favor of highly educated women workers are the driving factor behind the large increase in the relative demand for these women workers.

The patterns in overall demand shifts present differences. The size of the demand shifts favoring workers with upper-secondary education grew. For example, overall demand shifts in favor of highly educated women were larger during 2007–11 and 2012–15. A similar time pattern is observed among highly educated men. This reflects the acceleration in the expansion of trade, hotels and restaurants, professional activities, and high-skill occupations during 2007–15. Between-industry demand growth in favor of highly educated workers accelerated between 2004 and 2011 and then lost steam between 2012 and 2015. By contrast, a within-industry shift acted against highly educated workers between 2004 and 2011, but then turned in their favor between 2012 and 2015.

These findings mirror explanations of the steady decline in income inequality in Latin America since the 2000s (Rodríguez-Castelán et al. 2016). There, the decline in labor income inequality was associated with more rapid growth rates in the earnings of less well paid jobs relative to labor incomes among more well paid earners. The drop in the higher educational attainment premium relative to primary educational attainment and the acceleration in the decline of the secondary-school premium relative to primary educational attainment are part of the scenario in the reduction of labor income inequality.

The observed increase in wage inequality can be explained by changes in the inequality between groups of workers defined by demographic characteristics, including gender, education, and age. First, the expanding premium for highly educated workers is attributable to the larger increase in the hourly wages of these workers relative to low-educated workers, particularly among men between 2007 and 2011. Second, the decline in the experience premium was driven by the larger rise in the hourly wages of young workers relative to their older counterparts mostly between 2007 and 2010. In addition to the rise in between-group inequality, particularly between high- and low-skilled workers, there was an increase in inequality within groups, that is, an increased in the inequality in hourly wages within groups defined by gender, education, or experience.

Changes observed in the relative hourly wages of high- and low-skilled workers and older and younger workers are attributable to structural changes in the economy that generated considerable shifts in relative labor supply and demand. Thus, the rapid expansion in the relative demand for high-skilled labor outpaced the expansion in the relative supply of this labor. Likewise, there was massive growth in the relative supply of highly educated women, particularly between 2007 and 2010, but the relative supply of low- and mid-educated workers, both men and women, declined appreciably.

While relative shifts in labor supply can account for the rise in hourly wages among low-educated workers if their relative supply declined, the supply shift scenario is not able to explain the large growth in hourly wages among highly educated women because this was accompanied by a parallel and similarly large expansion in the relative supply of these women workers.

Changes in relative labor demand can square the circle. Between 2004 and 2015, there was an increase in the relative demand for highly educated workers, particularly women, and a decline in the relative demand for low-educated workers. Such demand shifts are largely attributable to changes occurring between industries, notably in 2012–15.

Policies targeted at closing the skills shortage have the potential to reduce wage inequality and are also beneficial in terms of productivity and economic growth. Key are investments in skills that are in high demand. This calls for accurate assessments of the country’s current and future skill needs, followed by adjustments in education and training systems to ensure they are responsive to changing
skill needs. A comprehensive strategy to reduce the skills shortage requires, first, securing good-quality public education. This calls for an approach to providing education that acknowledges the labor market relevance of both medium skills (acquired through technical and vocational education) and high skills (acquired through tertiary education). Guaranteeing the relevance of education and training for the labor market means there must be effective channels of communication between education and workplace actors, as well as public-private partnerships.

Mauritius has been historically characterized by significant emigration. According to OECD data, about 96,000 Mauritian ages 15 or above resided abroad in 2000 (IOM 2014). Large Mauritian diasporas have been established in Australia, Canada, France, Italy, South Africa, and the United Kingdom. Every year, an increasing number of Mauritian students go abroad for educational purposes: about 11,000 in 2015 according to Statistics Mauritius. While more evidence is needed on the size, pattern, and characteristics of the Mauritian diaspora, providing incentives to Mauritian, who emigrated abroad for educational reasons, to return to the island and simultaneously incentivizing firms that operate in Mauritius to hire these returning migrants might contribute to reducing the skills shortage.

4.7 The Role of Remuneration Orders

In Mauritius, wages and conditions of employment for a large portion of the workforce are still determined centrally rather than by the employer firms. This applies to workers in both the public and private sectors, where separate wage-setting mechanisms specify wage grids and the duties of every type of worker in the firm in great detail. Therefore, wages do not necessarily reflect the productivity of individual firms.

There are three key wage determination institutions in the country. The Pay Research Bureau is a permanent body responsible for reviewing the pay and grading structures and conditions of service in the public sector. The National Remuneration Board (NRB) is a quasi-judicial body responsible for determining the minimum wage and conditions of employment in various sectors and industries in the private sector. The National Tripartite Committee is a high-level committee responsible for making annual pay adjustments based on cost-of-living indicators. The adjustments are applicable in both the private and the public sectors. The complex system of ROs in place in the private sector is described in box 4.3.

Appendix E, tables E.1 and E.2 clearly illustrate the sectoral and occupational variations in legislated wages that underlie this complex wage system. Appendix E, table E.2 illustrates the complexity of the system by showing the number of job title categories and the total number of wage rates specified within each RO in 2016. Overall, over 2000 individual wage rates were specified in that year.

In real terms, legislated minimum wages have fallen over time in most of the RO sectors. Appendix E, table E.3 shows the real hourly legislated minimum wage for each of the 30 ROs over 2004–14. The log of the real minimum wage for each RO, defined as the lowest stipulated wage rate for each RO, is shown for the 2004–14 period relative to the value in 2004 in figure 4.22.

For some of the ROs, the real minimum wage was lower in 2014 than in 2004. Among these are ROs for attorney and notary workers, workers in the baking industry, in retail trades, in newspapers and periodicals, in printing, among security guards, and in the sugar (nonagricultural) industry. For the ROs that had higher real minimum wages in 2014, only three of the minimum wages are more than 20 percent higher than in 2004, namely, the ROs for domestic workers, livestock workers, and public transport workers (+65 percent). However, of the three key RO categories in terms of numbers of covered workers employed (distributive trades, construction, and manufacturing), the construction and the manufacturing ROs (comprising the factory and export enterprise ROs) have seen legislated minimum wage increases over the period.

Trends in the actual mean wages earned by workers in these RO groups are varied. The mean wage earned by workers employed in these RO sectors relative to the mean wage in 2004 is shown in figure 4.23. Changes in average earned wages are more erratic and do not seem to be consistent with the trends in the legislated minimum wage. Average worker wages in more than half the RO-covered sectors increased over the period (18 of the 30 RO categories). Average wages have declined in real terms in distributive trade and construction, two of the three key RO categories in terms of number of covered workers. The third category, manufacturing, which comprises both the factory and export enterprise ROs, is the only major RO sector to have seen both average earned income and legislated minimum wage increases in real terms over the period.
The framework for setting the minimum wage and conditions of employment in the private sector is determined by the remuneration regulations of the NRB, collective agreement, or an award of the Employment Relations Tribunal (figure B4.3.1). The NRB acts as a specialized wage committee or advisory body on wages. The minimum wage is set based on the consumer price index. The consumer price index of the last reviewed base year is chosen and then compared to the wages in the specific sector to determine the level of loss in terms of real wages. The percentage for compensation is calculated and applied to the last minimum wage of the worker. The NRB is also guided by the principles set out in Section 97 of the Employment Rights Act. The other important factors taken into consideration by the NRB are the need to promote decent work and living standards; the need to promote gender equality and to fix wages on the basis of job content; the need to ensure the continued ability of the government to finance development programs and recurrent expenditures in the public sector; the capacity of enterprises to pay; the need to develop payment schemes based on results, and, as far as possible, the need to relate increased remuneration to increased labor productivity.

**FIGURE B4.3.1. Framework for Establishing a Minimum Wage in the Private Sector**

Minimum wage rates and working conditions among private sector employees are set by the NRB through ROs. There is no systematic, established time interval for reviewing ROs. For example, of the 30 ROs, only seven have been updated in the last five years. Others, such as the ROs for export-oriented industries and private secondary-school teachers have not been updated in over 30 years. The minimum wage rates specified in the ROs are, however, automatically adjusted every year in line with the salary compensation paid to employees following tripartite negotiations and enacted in the Additional Remuneration Act.

Thirty ROs are currently applied both at the sectoral and occupational level, stipulating different wages to workers covered by each order. This complexity is further compounded by the fact that some ROs are set for an industry or sector with variations in occupations, while others are set by occupations that vary in the associated occupations. Thus, an office messenger in the sugar industry could potentially be covered by the sectoral RO or the general RO for office assistants. Under the current minimum wage architecture, multiple coverage among workers is therefore common.

A further layer of complexity is added by the fact that, in many occupations or occupational categories, wages are stipulated by number of years of work experience.

A vertical division has been established between organized sectors in which wages are regulated by collective bargaining and sectors in which the government considers that workers do not have the real bargaining power necessary to fix minimum wages. The fixing of minimum wages by collective bargaining can be provided for by law or result from national practice. After a collective bargaining process, a collective agreement is reached. However, the collective agreement cannot contain a provision reducing the wage below that provided in the ROs. Workers covered by the ROs can also be covered by collective agreements. If a collective agreement is not reached, the matter is referred to the Commission for Conciliation and Mediation. The sectors covered by a collective agreement in Mauritius are the sugar industry, bus transport, construction, port services, hotels, and catering services.

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**References:**

a. The NRB is a quasi-judicial body formerly recognized under Section 45 of the Repealed Industrial Relations Act, but now deemed to have been established under Section 90 of the Employment Relations Act 2008.

b. The salary compensation system in Mauritius is a cost-of-living adjustment mechanism. The mechanism for salary compensation takes into account the rate of inflation. Every year, the government issues a decree fixing minimum wage increases that apply to all workers, even those not covered by ROs. The increase in wages is higher among those workers in the lower-wage brackets and lower among those workers at the upper end of the distribution. The salary compensation system focuses on supporting low wages and caters for the vulnerable segments of society by raising purchasing power. Furthermore, the quantum for salary compensation is fixed after various tripartite consultations.

c. Wages among public sector workers (namely, those working in parastatals and local authorities) and workers in the finance and banking sector are excluded from these ROs. Furthermore, managerial positions in all sectors are excluded.

d. The collective agreement can be drawn up wherever a recognized trade union, a group of recognized trade unions, or a joint negotiating panel and an employer reach an agreement on the terms and conditions of employment.

Source: Based on data of the Continuous Multi-Purpose Household Survey (CMPHS), Statistics Mauritius.
Note: Wages are expressed in 2012 prices. Four ROs with a small number of identified workers are omitted from this figure. These ROs are banks fishermen, cinema employees, salt workers, and travel agent employees.

FIGURE 4.23. Changes in Average Real Earned Hourly Wages, by RO, 2004–14

Source: Based on data of the Continuous Multi-Purpose Household Survey (CMPHS), Statistics Mauritius.
Note: Wages are expressed in 2012 prices.
Legislated RO wages have lagged behind the actual wages earned by RO workers (see appendix E, figure E.1). For example, in 2014, the average legislated RO wage in Mauritius across all the published ROs was MUR 7,200. This was 71 percent and 85 percent below, respectively, the actual average and median wages earned by wage workers in RO covered sectors. This sluggish growth in legislated wages arises from a combination of factors, namely, these wages are adjusted intermittently, and, between wage revisions, workers only receive inflationary adjustments. However, this disparity reflects an economy in which labor demand has become increasingly skill-biased in that it rewards high-skilled non–RO-covered wage workers more often than less-skilled RO-covered wage workers.

The estimated effect throughout the distribution of hourly wages in the RO-covered sectors indicates that RO wages had a significant positive effect on inequality, particularly in the lower tail up to the 30th percentile (figure 4.24, panel a). There is also a positive relationship between RO wages and upper-tail inequality. However, this is more likely attributable to bias in the estimates.15 The inequality-increasing effect is larger among men, particularly at the bottom of the distribution (below the 20th percentile).


<table>
<thead>
<tr>
<th></th>
<th>All workers</th>
<th>Women</th>
<th>Men</th>
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<tbody>
<tr>
<td>a.</td>
<td><img src="image1" alt="Graph" /></td>
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<td>b.</td>
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<td><img src="image8" alt="Graph" /></td>
<td><img src="image9" alt="Graph" /></td>
</tr>
</tbody>
</table>

Source: Based on data of the Continuous Multi-Purpose Household Survey (CMPHS), Statistics Mauritius. Note: Inequality is measured as the distance between each percentile and the 70th percentile and is a function of the gap between the legislated RO wage and the 70th percentile. The 70th percentile has been chosen as a level of earnings unaffected by legislated RO wages. A positive marginal effect indicates that an increase in legislated RO wages is associated with an increase in wage inequality in the covered sectors.
4.7.1 THE ROLE OF REMUNERATION ORDERS ON EMPLOYMENT AND WORKING HOURS

While the debate and the analysis of the impact of the minimum wage regime on the labor market in the United States have been extensive, there is little research in developing countries. However, a review of 98 studies covered in Neumark and Wascher (2007), along with 17 more recent studies focused on low- and middle-income countries, has found a number of employment effects, typically elasticities (DPRU and CSDA 2016). The results include aggregate impacts among all workers, coupled with the employment impacts among specific demographic groups, regions, and sectors. Overall, employment elasticities in the studies reviewed range from 2.17 to –4.60. The mean and median of all of the cumulative elasticities are –0.22 and –0.11, respectively, suggesting that, on average, the impacts of various minimum wage hikes in the countries under review were marginally negative. Minimum wage-employment elasticity estimates found in 11 low- and middle-income countries range from a negative value of –1.3 to a positive value of 1.0. The median elasticity was –0.08 and the mean elasticity was –0.11.

Based on the sample of 59 developed and 32 developing country estimates reviewed in the study, 81 percent of the elasticities were negative, while 19 percent were positive. Furthermore, the absolute value of these coefficients was small, on average. This suggests that, in general, increases in wages will have either benign or only slightly negative employment effects.

With respect to the impact on hours worked, Gindling and Terrell (2007) note that the expected sign of this impact is ambiguous both in theory and in the empirical literature. Higher costs of employment could result in cost-minimizing employers reducing the number of workers employed at a fixed monthly or weekly rate and increasing the hours of the fewer workers that they do employ. However, employers may also respond to increases in wage rates by either reducing employment at the extensive (cutting the number of employees) or intensive margin (reducing total hours worked). The regulatory-induced costs of firing workers would be one reason, for example, why employers may choose to keep the wage bill and headcount of employees constant, but reduce the number of hours worked.

In the case of Mauritius, the estimates point to a negative employment effect arising from RO wages across the board. A 10 percent increase in the RO wage is associated with a decline in employment in the covered sector by 0.57 percent (table 4.1). Among men, the effect associated with a 10 percent increase is a decline of employment of 0.77 percent, while, among women, the effect associated with a 10 percent increase is a decline of 1.06 percent in women’s employment in the covered sector.

In terms of hours of work, the results indicate that a 10 percent increase in RO wages is associated with a 2.3 percent increase in average work hours among men in the covered sector, but a 1.8 percent decline in average work hours among women in the covered sector (table 4.2). This suggests that industries in which women are more likely to be represented, such as domestic work and services, may be responding to increased minimum wages by decreasing the number of hours worked by women employees rather than firing workers, despite the overall positive employment effect. In the uncovered sector, a significant overall effect is found, with a 10 percent increase in the minimum wage associated with an increase in the average number of hours worked of 4.2 percent. The effect is driven by an increase in average work hours among men workers in the uncovered sector.

The elasticity of –0.057 is within the range shown for a number of low- and middle-income countries in the review (DPRU and CSDA 2016). This indicates that increases in minimum wages have a small negative employment effect. While the overall estimated employment effects seem to be

### TABLE 4.1. Estimates of the Effects of Minimum Wages on Employment

<table>
<thead>
<tr>
<th>Employment</th>
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<th>Men</th>
<th>Women</th>
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<td>–0.0766*</td>
<td>–0.106***</td>
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<td>(0.0400)</td>
<td>(0.0353)</td>
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</tr>
<tr>
<td>Constant</td>
<td>0.889***</td>
<td>1.039***</td>
<td>0.699***</td>
</tr>
<tr>
<td>(0.130)</td>
<td>(0.192)</td>
<td>(0.226)</td>
<td></td>
</tr>
<tr>
<td>Observations</td>
<td>92,871</td>
<td>58,070</td>
<td>34,801</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.163</td>
<td>0.163</td>
<td>0.182</td>
</tr>
</tbody>
</table>

Note: Explanatory variables in the regressions also include years of education, age, age squared, age cubed, gender, dummies for RO categories, dummies for years, and value added by broad industry. The covered sector is wage-earning workers in the private sector. The uncovered sector are employers and own-account workers in the RO sectors covering wage-earning employees, as well as the unemployed who have worked in these sectors at one time. Reported significance levels are based on robust standard errors.

** * p < 0.01 ** p < 0.05 * p < 0.1
negative, this may be the result of context-specific factors that interact with the minimum wage to ensure that the effects are small, on average (Bhorat, Kanbur, and Stanwix 2015). Ultimately, the impact of any enforced change in wage levels on any particular sector depends on a range of factors. These include the level of the minimum wage relative to average wages, the size of the wage increase, the sector under consideration, the timing of wage changes, the change post-law in worker productivity levels, and finally, enforcement and compliance.

The main argument typically offered in favor of a minimum wage is that it helps poor and low-income families. However, minimum wages often bring about some negative employment effects and therefore create winners and losers. If the gains are large and concentrated among low-income families, some losses can be acceptable to some policy makers. Empirical evidence on the United States has shown that minimum wages are not a good instrument to help the poor. This is either because the policy target is wrong, that is, low-wage workers instead of low-income families when the two groups do not overlap, or because many low-income families have no workers. The latter is certainly the case of Mauritius, where poor families are less likely to have working household members: in 2012, about 73 percent of the poor were unemployed or inactive (World Bank 2015a).

Among the key decisions around a minimum wage system is not only the level of a minimum wage, but also the complexity of the wage regime and the intensity of enforcement. A recent study has explored issues of minimum wage coverage and gaps in minimum wage compliance in 11 low- and middle-income countries (Rani et al. 2013). The study shows that simple national minimum wage systems are typically associated with higher compliance rates. There are also countries that combine a national minimum wage with sectoral minimum wages, and their compliance has grown thanks to increasing awareness of the rates that apply in each case among both employers and workers.

There are four sets of variables that are important in understanding the factors influencing a gap in compliance in the developing world (Bhorat, Kanbur, and Mayet 2013). There are, first, institutional factors such as the penalty structure for noncompliance, the complexity of the wage schedule, and the resources allocated to enforcement services. Second, the individual characteristics of inspectors, including their level of education, can influence the extent to which they are effective at achieving compliance. Third, firm characteristics such as size, distance from the enforcement agency, the number of previous violations, and the level of foreign ownership will affect the levels of enforcement and violation. Finally, local labor market characteristics such as the unemployment rate, the average wage rate relative to the minimum wage, and the levels of unionization also play a role.

In addition, the economic environment and the implementation of collaborative social policies that coincide with minimum wage policy can greatly influence compliance and enforcement as well as the overall economic impact of minimum wages.

### TABLE 4.2. Estimates of the Effects of Minimum Wages on Hours Worked

<table>
<thead>
<tr>
<th>Variables</th>
<th>Covered, all Log hours</th>
<th>Covered, men Log hours</th>
<th>Covered, women Log hours</th>
<th>Uncovered, all Log hours</th>
<th>Uncovered, men Log hours</th>
<th>Uncovered, women Log hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Log RO</td>
<td>0.0429</td>
<td>0.232***</td>
<td>0.181***</td>
<td>0.419***</td>
<td>0.414***</td>
<td>0.0631</td>
</tr>
<tr>
<td></td>
<td>0.0376</td>
<td>-0.0389</td>
<td>-0.0575</td>
<td>-0.0953</td>
<td>-0.0989</td>
<td>-0.343</td>
</tr>
<tr>
<td>Constant</td>
<td>3.647***</td>
<td>2.232***</td>
<td>5.138***</td>
<td>0.454</td>
<td>1.049**</td>
<td>1.648</td>
</tr>
<tr>
<td></td>
<td>0.165</td>
<td>-0.167</td>
<td>-0.334</td>
<td>-0.453</td>
<td>-0.466</td>
<td>1.972</td>
</tr>
<tr>
<td>Observations</td>
<td>67,548</td>
<td>41,345</td>
<td>26,203</td>
<td>17,719</td>
<td>13,436</td>
<td>4,283</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.333</td>
<td>0.157</td>
<td>0.358</td>
<td>0.16</td>
<td>0.077</td>
<td>0.191</td>
</tr>
</tbody>
</table>

Note: Explanatory variables in the regressions also include years of education, age, age squared, age cubed, gender, dummies for RO categories, dummies for years, and value added by broad industry. The covered sector is wage-earning workers in the private sector. The uncovered sector are employers and own-account workers in the RO sectors covering wage-earning employees, as well as the unemployed who have worked in these sectors at one time. Reported significance levels are based on robust standard errors.

*** p < 0.01 ** p < 0.05 * p < 0.1
4.8 Skill Mismatch among the Employed and Rising Unemployment

Besides skills shortage, an additional increasingly relevant source of skill mismatch is attributable to the difference between the educational level that the employed have and the educational level required in the jobs or tasks they perform, the education mismatch (box 4.4). An education mismatch can take the form of under- or overeducation. The first occurs if workers are employed in jobs that require an educational level higher relative to the level they hold; by contrast, the latter is realized if workers hold an educational level higher relative to the level necessary to perform the jobs they do. This type of mismatch is on the rise in Mauritius and could, in the long run, prevent the country from realizing the full potential of its labor force and ultimately constrain productivity and economic growth.

Overall, the share of mismatched workers, either over- or undereducated, was roughly constant over the last decade at about 47 percent (figure 4.25). However, there was an increase in the share of overeducated workers from 8 percent to 13 percent and a decline in the share of the undereducated (from 38 percent to 34 percent).

While the share of undereducated workers in total employment declined across all age-groups and notably among workers ages 15–29, the share of overeducated workers increased substantially among youth from about 10 percent in 2006 to over 20 percent in 2015 (figure 4.26, panels a and b). Women are spearheading such trends. Working women are increasingly more well educated than their job requires. In 2006, about 6 percent of young working women were overeducated; this figure was almost four times as high in 2015 (around 23 percent) (figure 4.26, panels c). It appears that, despite their high educational attainment, young cohorts of workers encounter increasing difficulties in obtaining jobs that match their educational level.

In parallel, unemployment is on the rise, markedly among youth (figure 4.27, panel a). The unemployment rate among youth ages 15–24 has regularly been three times as high as the overall unemployment rate and significantly higher compared with the unemployment among individuals ages 25–29. The unemployment rate among youth increased from about 19 percent in 2008 to 25 percent in 2015. The latter compares with about 11 percent among the

**BOX 4.4. International Standard Classification of Occupations: Definitions of Skill Levels**

- **Skill Level 1.** Occupations at skill level 1 typically require the performance of simple and routine physical or manual tasks. They may require the use of hand held tools, such as shovels, or of simple electrical equipment, such as vacuum cleaners. They involve tasks such as cleaning; digging; lifting and carrying materials by hand; sorting, storing or assembling goods by hand (sometimes in the context of mechanized operations): operating nonmotorized vehicles; and picking fruits and vegetables. Many occupations at skill level 1 may require physical strength and endurance. For some jobs, basic skills in literacy and numeracy may be required. If required, these skills would not be a major part of the job.

- **Skill Level 2.** Occupations at skill level 2 typically involve the performance of tasks such as operating machinery and electronic equipment; driving vehicles; maintenance and repair of electrical and mechanical equipment; and manipulation, ordering, and storage of information. For almost all occupations at skill level 2, the ability to read information such as safety instructions, to make written records of work completed, and to perform simple arithmetical calculations accurately is essential. Many occupations at this skill level require relatively advanced literacy and numeracy skills and good interpersonal communication skills. In some occupations, these skills are required for a major part of the work. Many occupations at this skill level require a high level of manual dexterity.

- **Skill Level 3.** Occupations at skill level 3 typically involve the performance of complex technical and practical tasks that require an extensive body of factual, technical, and procedural knowledge in a specialized field. Occupations at this skill level generally require a high level of literacy and numeracy and well-developed interpersonal communication skills. These skills may include the ability to understand complex written material, prepare factual reports, and communicate with people who are distressed.

- **Skill Level 4.** Occupations at skill level 4 typically involve the performance of tasks that require complex problem solving and decision making based on an extensive body of theoretical and factual knowledge in a specialized field. The tasks performed typically include analysis and research to extend the body of human knowledge in a particular field, diagnosis and treatment of disease, imparting knowledge to others, design of structures or machinery and of processes for construction and production. Occupations at this skill level generally require extended levels of literacy and numeracy, sometimes at a high level, and excellent interpersonal communication skills. These skills generally include the ability to understand complex written material and communicate complex ideas in media such as books, reports, and oral presentations.

Source: ILO 2012.
FIGURE 4.25. Trends in Education Mismatch, 2006–15

Source: Based on data of the Continuous Multi-Purpose Household Survey (CMPHS), Statistics Mauritius.
Note: The time period is restricted to 2006–15 because of the lack of detailed information on education qualifications according to the International Standard Classification of Education before 2006.


a. Overeducated workers, by age-group

b. Undereducated workers, by age-group

(continued)

c. Overeducated workers, by gender and age-group
d. Undereducated workers, by gender and age-group

Source: Based on data of the Continuous Multi-Purpose Household Survey (CMPHS), Statistics Mauritius.

FIGURE 4.27. Trends in Unemployment Rates, by Age-Group and Gender, 2006–15

a. Unemployment rate, by age-group
b. Unemployment rate, by gender, ages 16–24
c. Unemployment rate, by gender, ages 25–29
d. Unemployment rate, by gender, ages 30–44

Source: Based on data of the Continuous Multi-Purpose Household Survey (CMPHS), Statistics Mauritius.
25–29 age-group, 5 percent among the 30–44 age-group, and less than 2.5 percent among the oldest age-group (45–64). The unemployment rate is consistently higher among women across all age-groups. Yet, among young girls, the gender gap has increased over the last five years and reached 10 percentage points in 2015 (figure 4.27, panels b, c, and d).

Unemployed youth are increasingly more well educated. In 2006, more than 25 percent of unemployed youth (ages 16–29) held, at most, a primary-school certificate; around 10 percent had lower-secondary education; and most of the rest had upper-secondary education (figure 4.28, panel a). In 2015, the share of unemployed youth with up to completed primary education had dropped to 5 percent. This was accompanied by a significant contraction in the share of unemployed youth with upper secondary (down from 55.1 percent in 2006 to 42.5 percent in 2015) and a highly marked increase in the share of youth with post-secondary (12.6 percent) or tertiary education (26.9 percent).

A number of explanations can be advanced to explain the patterns observed so far, namely, an increasing skills shortage, growing overeducation among workers, notably youth, and rising unemployment, particularly among the highest educated youth. One way to address this conundrum is to introduce a distinction between voluntarily and involuntarily unemployment. Individuals may be unemployed if they have a high reservation wage and are not able to find job offers satisfying their requests or the jobs they are offered do not match their expectations in terms of working conditions, working hours, benefits, and so on. This is sometimes observed among youth with a high socioeconomic background, that is, among youth from affluent families who can afford to wait for the job that best fits their ambitions. However, this situation might also be common among less well off households that receive considerable public transfers, in the form of noncontributory pensions, for example. Figure 4.28, panel b displays the distribution of unemployed youth by quintile of household income. About 60 percent of youth looking for a job belong to the two poorest quintiles, whereas youth from the most well off households contribute less than 10 percent to total youth unemployment. Overall, the hypothesis of voluntarily unemployment does not seem compelling in the case of Mauritius, at least among the richest youth. It is possible that households benefiting from public transfers might allow their youngest members to wait for their preferred job. However, it is likely that the answer lies elsewhere or is a combination of multiple factors.

An additional hypothesis can be advanced: the unemployed do not have the skills needed to get a job. In other words, although the Mauritian population has made considerable improvement in educational attainment, the formal education system might not be providing youth with the high-quality learning that is required in the labor market. According to the results of the OECD Program for International Student Assessment conducted in 2010, Mauritius is behind the OECD average and also some middle-income countries in terms of learning achievements. Mauritius attained a mean score of 407 on the reading literacy scale, below the OECD average (493) and below that of Costa Rica, Mexico, Malaysia, Colombia, and Brazil. Only 33 percent of students were estimated to have a proficiency in reading literacy that is at or above the baseline level needed to participate effectively and productively in life. As to the mathematical literacy scale, Mauritius attained a score of 420, which is the same as Chile and Mexico, the two lowest performing OECD countries, and below that of Azerbaijan. In terms of scientific literacy, the attained score was 417 compared with the OECD average of 501 and the score of Mexico, but below the scores of Chile, Costa Rica, and Malaysia. About 53 percent of students were proficient in science to the baseline level that is considered necessary to demonstrate competencies that enable people to participate actively in life situations related to science and technology. Girls had a 12-point higher score in scientific literacy compared with boys. Although these figures concern students who were 15 years old in 2010, they potentially reflect the level of formal learning achievements of large segments of the population that has developed over the course of the years their educational background under the same system and that appears to lack adequate literacy and mathematical and scientific skills needed in the labor market.

The lack of a workforce with adequate skills is also reflected in the responses of enterprises surveyed for the World Economic Forum’s Global Competitiveness Report 2016–2017 (Schwab 2016). Respondents were asked to select the five most problematic factors for doing business in their countries and to rank these factors between 1 (most problematic) and 5. About 14 percent of the enterprises surveyed identified an inadequately educated workforce as the third most problematic factor (after insufficient government bureaucracy and insufficient capacity to innovate).

A series of surveys on the labor shortage and the skills gap were conducted in 2011 among selected industries, including agriculture, financial intermediation, ICT, manufacturing,

a. By educational level

b. By quintile of household income

Source: Based on data of the Continuous Multi-Purpose Household Survey (CMPHS), Statistics Mauritius.
and export-oriented enterprises (HRDC 2012a–2012d). Between 17 percent and 52 percent of surveyed employers, depending on the sector, reported a labor shortage in their organizations: the highest percentage was in export-oriented enterprises, and the lowest in agriculture. At least 60 percent of employers in all sectors described labor shortage as a lack of workers with qualifications and past working experience. By contrast, labor shortage means lack of workers with qualifications only to a minority of employers, typically less than 10 percent. Employers value not only technical skills, but also soft skills, including the ability to work on a team, communication skills, the ability to understand the needs of customers, and ability to innovate and create.

When asked about the main reasons for the labor shortage, most employers report difficulty in finding people with proficiency in technical skills, the fact that training and education systems do not meet market demands, insufficient proficiency in languages, lack of adequate attitudes toward work, unfavorable conditions with respect to other sectors, unavailability to work in shifts or overtime or use flexible work, unfavorable conditions with respect to other sectors, proficiency in languages, lack of adequate attitudes toward proficiency in technical skills, the fact that training and most employers report difficulty in finding people with needs of customers, and ability to innovate and create.

The Mauritian population is aging. This means it is even more important to adopt a life-cycle approach to learning. By contrast, young cohorts of workers who are overeducated for their jobs or unemployed are calling for improvements in the effectiveness of targeted youth employment policies and the functioning of employment services. Medium skills acquired through technical and vocational education and training need to be made attractive and relevant to the changing needs of the labor market because they are often viewed as considerably less prestigious than academic education certificates. This requires a promotion and communication effort, accompanied by enhanced and continuous career guidance. The active involvement and ownership of employers in skills development and utilization are key and make the response more likely to be effective. Moreover, with a view to enhancing efficiency, the government could review the existing range of incentives, including collective training funds, tax incentives, and payback clauses, as well as the international evidence on what works.

NOTES

1. The analysis is restricted to 2004–15, the period of the most rapid increase in household labor income inequality.
2. For an extensive discussion of the types and the measurement of the skills mismatch, see Bartlett (2012); Cedep (2010); Johansen and Gazelli (2012).
3. The labor module of the CMPHS requires individuals who report to have worked at least one hour during the reference week to report their total income, including overtime pay, derived from their job during the previous month. The module also asks about individuals with jobs who are temporarily absent from work.
4. The variance in earnings is equal to the variance in wages, plus the variance in hours, plus twice the covariance between wages and hours.
5. Hourly earnings are calculated by dividing monthly earnings by the number of hours worked during the week preceding the interview, multiplied by 4.33. This does not give a precise measure of the amount of time worked each month by wage workers. However, information from the Survey of Employment and Earnings indicates that the share of wage workers paid by the month increased and was as high as 87 percent in 2014; the rest were paid by the day (8 percent) or by the hour (3 percent). For inequality, what matters is the distribution of these workers along the distribution of earnings. Wage workers paid by the hour or by the day and not employed full time every week of each month are likely concentrated in the bottom of the earnings distribution. This means the pattern of hourly wage inequality shown here is probably an upper-bound estimate of the true distribution of hourly wages that would prevail if working time could be fully observed in hours, days, weeks, and months worked.
6. The hourly wage premiums illustrated in figure 4.5 are calculated using composition-adjusted hourly wages. The adjustment holds constant the relative employment shares of demographic groups defined by gender, educational attainment, and potential experience across all years between 2004 and 2015, thus making sure the premiums are not mechanically affected by shifts in the gender, experience, and education composition of the workforce. The data are sorted into sex, education, and experience groups of two sexes, three education categories (up to completed primary, lower secondary, and upper secondary and above), and three potential experience categories (0–14, 15–34, and 35+ years). Log hourly wages of workers ages 16–64 not in education are regressed in each year separately by sex on dummy variables for the three education categories, a quartic in experience, and interactions of the experience quartic with the education categories. The composition-adjusted mean log hourly wage for each of the 18 groups in a given year is the predicted log hourly wage from these regressions evaluated at the relevant experience level (7, 25, and 40 years, depending on the experience group) and educational level. Mean log hourly wages for broader groups in each year are calculated as weighted averages of the relevant composition-adjusted cell means using a fixed set of weights, equal to the mean share of total hours worked by each group over 2004–15.
7. Residual wage inequality is calculated on the distribution of residuals from a regression of log hourly wages on dummy variables for three education categories, a quartic in experience, and interactions of the experience quartic with education categories separately by gender. The distribution of residuals measures the dispersion of wages within the demographic groups.
8. To assess the impact of prices and composition effects on overall and residual wage inequality, a reweighting approach is employed (see box 4.1). The composition of the workforce in each year between 2004 and 2015 is applied to a price function from the years 2004,
2010, and 2015. This allows a hypothetical set of cases to be simulated whereby the composition of the employed population changes as it actually did over time, while labor market prices are held as they were at the beginning of the period (2004), the middle of the period (2010), and the end of period (2015).

9. The validity of the exercise resides on the assumption of partial equilibrium: prices and quantities can be viewed as independent. Thus, changes in labor market quantities do not affect labor market prices. The assumption is not appealing given the changes in labor supply; yet, it may be viewed as an informative exercise.

10. For a detailed discussion of the skills mismatch, see Bartlett (2012); Cedefop (2010); Johansen and Gatelli (2012).

11. The framework is clearly partial equilibrium because the determinants of relative factor supplies are not specified. The only requirement is that observed prices and quantities lie on the demand schedule.

12. Changes in labor quantities, net of demand shifts, and changes in wages must negatively covary if observed wages and quantities lie on the labor demand schedule.

13. To reduce the number of computations (216 = 18 groups * 12 years) and minimize the effect of measurement error, the 12 single-year observations over 2004–15 are aggregated into three three-year intervals, and average labor supply and wages are calculated for these time intervals. Inner products of changes in these measures of supply and wages are calculated between each pair of these three time intervals.

14. The CMPHS data cover only the Mauritian resident population and may therefore exclude immigrant workers who are in the country on work permits for short periods of time.

15. These estimates are likely to be upward biased because the percentile \( p \) in both the left- and right-hand side of the equation and transitory fluctuations in percentile \( p \) are correlated with the gap between the RO wages and \( p \). The correlation is likely to fade as one moves further from the percentile \( p \). See appendix A for details.

16. Where a given study produced elasticity estimates for more than one cohort of workers, the authors included each estimate separately.

17. Coverage gaps represent the proportion of wage earners that are not covered by minimum wage legislation. Compliance gaps represent the proportion of wage earners who are covered by minimum wage legislation, but still make subminimum wages.

18. This analysis relies on a measure of the match between skills and job tasks and duties, the International Standard Classification of Occupations (box 4.4). This normative measure is based on a division of major occupations into broad groups. It assigns a level of education to each occupational group in accordance with the International Standard Classification of Education. Workers in a group who have the assigned level of education are considered well matched. Those who have a higher (lower) level of education are considered overeducated (undereducated). An advantage of the measure resides in the fact that the definition of a mismatch does not change over time; the results are therefore strictly comparable. A disadvantage of the measure is that, by construction, it does not allow for overeducation in major groups 1–3 or undereducation in major group 9. Moreover, formal education is only one component of the measurement of skill level and can be subject to measurement error.

19. The primary data source is a survey questionnaire administered to a number of companies and stakeholders backed up by qualitative data through face-to-face semistructured interviews of a few major players in local industry. The final number of interviews, conducted between July and October 2001, was 100 in agriculture and 46 in the agroprocessing subsector, 185 in manufacturing, 97 in the export-oriented enterprise sector, 90 in the financial intermediation sector, and 95 in ICT.


Identification Strategy: Remuneration Orders and Wage Inequality

To identify the effect of ROs on wage inequality, the analysis follows the approach implemented in Autor, Manning, and Smith (2016) and Bosch and Manacorda (2010). The analysis focuses on earnings differentials across ROs that are subject to different ROs. The model presented here defines a function for the latent wage distribution, that is, the wage that would be observed in the absence of ROs. Let us define $\omega^*_{qr}$ as the logarithm of wages at percentile $q$ in RO $r$ at time $t$, and let $\omega^*_{qr}$ be the latent percentile. The specification below consists of a censoring model in that it assumes that individuals with latent earnings below the minimum wage are paid exactly the minimum wage, whereas those with earnings above the minimum wage are unaffected. Let $p$ be a percentile sufficiently high so that for percentiles $s \geq p$, wages are unaffected by ROs, that is, $\omega^*_{sr} = \omega^*_{sr}$. Then, the model can be written as follows:

$$\omega^*_q - \omega^*_p = \omega^*_q - \omega^*_p$$ if $\omega^*_q \geq RO_q$, \hspace{1cm} (A.1)

$$\omega^*_q - \omega^*_p = (RO_q - \omega^*_p)$$ if $\omega^*_q < RO_q$, \hspace{1cm} (A.2)

where $RO_q$ is the log wage for RO $r$. The set of equations above state that the $q$ to $p$ differential of the actual log earnings distribution for RO $r$ will be equal to the latent differential if the latent $q$-th percentile is above the RO wage; otherwise, it will be equal to the difference between the RO wage and the $p$-th percentile. The actual $p$-th percentile is substituted in place of the latent counterpart based on the assumption that, at percentiles $s \geq p$, wages are unaffected by the ROs.

The $q$ to $p$ percentile gap is estimated as a function of the effective RO wage:

$$\omega^*_q - \omega^*_p = \beta^1 (RO_q - \omega^*_p) + \beta^2 (RO_n - \omega^*_n) \gamma + \alpha^q + \alpha^p + \delta \ast time_t + \varepsilon_{nq},$$ \hspace{1cm} (A.3)

which consists of a quadratic function of the difference between the log RO wage ($RO_q$) and the $p$-th percentile of the actual log earnings distribution. The quadratic term is important in capturing the idea that a change in ROs is likely to have more impact on the wage distribution where it is more binding. The term “effective” is used owing to the fact that it expresses the RO wage relative to some level of local earnings that are unaffected by the RO wage itself and thus effectively proxies for the real RO wage. The specification also includes a time-invariant percentile-specific RO fixed effect ($\alpha^q$), a time fixed effect associated to percentile $q$ ($\alpha^q$), and a RO-specific linear time trend ($\delta \ast time_t$), while $\varepsilon_{nq}$ is the idiosyncratic component of the wage percentile differential.

To operationalize the estimation, preliminary evidence indicates that earnings at or above the 70th percentile are not affected by ROs. For this reason, in the analysis, one imposes that $p = 70$ as log RO wages reach well beyond the median of log actual earnings distribution in some sectors covered by ROs.

One difficulty with the ordinary least squares estimation of equation (3) is that any measurement error in the $q$-th percentile of the wage distribution will lead to a spurious positive correlation between different measures of inequality and the effective RO, possibly leading to upward biased estimates of the effect of the minimum wage. Lacking any credible instrument, the estimates will need to be taken with caution and as indicative of an upper bound of the true effect of ROs on wage inequality.

Identification Strategy: Remuneration Orders, Employment, and Working Hours

The methodology combines a series of individual-level cross-sectional data for the years between 2004 and 2014 from the Continuous Multi-Purpose Household Survey (CMPHS). The sample is restricted to include only employed individuals and those with nonzero reported earnings. Self-employed, employers, and unemployed who have worked before are included in the analysis as the uncovered sector in the estimation of minimum wage effects. For this estimation, only workers who are in the covered RO sectors and the self-employed, employers, and unemployed in or last
employed in the RO covered sectors are considered. To retrieve the effect of minimum wages on the employment of workers and number of hours worked, holding constant other factors that might affect wages, the following equation is estimated:

\[ E_{it} = \alpha + \beta \ln MW_{it} + X_{it} + \gamma V A_{zt} + D_{it} + D_{t} + \varepsilon_{it} \] (A.4)

where

- \( E_{it} = 1 \) if individual \( i \) is employed in the covered sector at time \( t \)
- \( E_{it} = 0 \) if individual \( i \) at time \( t \) is an own-account worker, an employer, or an unemployed who has worked in the past
- \( X_{it} \) = individual characteristics include gender, experience, educational level, and interactions
- \( \ln MW_{it} \) = logarithm of real hourly RO wage that applies to individual \( i \) at time \( t \)
- \( D_{i} \) = a set of dummies for industry/occupation
- \( D_{t} \) = a set of year dummies
- \( V A_{zt} \) = value added of sector \( z \) at time \( t \)

The coefficient \( \beta \) is an estimate of the effect on employment in the covered sector of changes in the RO wage. The RO wage is assigned to each worker based on their RO category. It was not possible to assign specific wages based on job title and years of experience. The matching exercise has taken the lowest stipulated wage in each RO for that category of RO workers as the binding RO wage for each RO category regardless of job title and number of years of experience.

A set of dummy variables for each RO category are included to control for RO category specific fixed effects and for the endogenous correlation of employment and RO wages across RO categories. Value added for each broad industry category is included to control for changes in demand over time. To control for endogenous changes in yearly average minimum wages as well as other year-specific factors, a dummy variable is included for each year.

Equation (A.1) can be consistently estimated through a linear probability model provided there is no correlation between the error term and the regressors. The introduction of year and RO categories dummies allows to exploit the within-year within-RO variation in the level of the minimum wage to identify its effect on employment, while controlling for a host of individual-level characteristics. Controlling for the level of value added at the level of broad industrial sector allows to capture changes in employment with output fixed. Equation (1) is similar to a difference-in-difference model that compares employment in RO sectors wherein there was a change in the level of the minimum wage with employment in RO sectors where the legislated minimum wage did not change over time.

Equation (1) is first estimated to test for an employment effect of legal minimum wages in the covered sector. Then, the same equation is used to estimate, via ordinary least squares, the effect of minimum wages on the number of hours worked per week in the covered and uncovered by substituting the log of hours worked for the EMP variable.

One drawback in our estimation strategy is that, due to data limitations, it is not possible to assign the exact RO wage schedule within the broader RO category to each worker in the sample. The preferred choice was to take the
NOTES

1. Four RO categories are excluded, namely, banks fishermen, cinema employees, salt workers, and travel agent employees, for which only a small number of covered workers (fewer than 50 covered workers identified in any year) is identified in the dataset.

2. This approach is similar to a number of approaches in the literature, including, most notably, that of Gindling and Terrell (2007), who estimate employment effects for a similarly complex system of minimum wages in Costa Rica.

3. Minimum wages are set in hourly, daily, or monthly terms. Where they are not in hourly terms, they have been standardized to a real hourly minimum wage using 8 hours as the reference number of hours for a workday and 168 hours as the reference number of hours for a work month. All real wages are in 2012 prices.

4. Note that this specification, including self-employed and unemployed workers who have worked before in the covered sectors, assumes that workers who lose their jobs in the covered sectors either become unemployed or self-employed in those covered sectors they left. If some workers who lose their jobs in the covered sector find employment in a different RO sector, these estimates are affected.

5. See appendix E, table E.1, which shows the number of wage rates there were in 2016. Ideally, each worker would be assigned the exact minimum wage rate to fully exploit the variation in minimum wages in the complex system of ROs.

6. This was true for only two RO categories: tailors and office attendants. These are however not categories with a significant number of identified RO-covered workers.
Data Sources (Box B.1)

- **Continuous Multi-Purpose Household Survey (CMPHS):** data from 2001 to 2015
- **Administrative data: work permits**

**BOX B.1. Data Overview and Definitions of Labor Market Variables**

| Data | The main dataset employed in this analysis is derived from the Continuous Multi-Purpose Household Survey (CMPHS) for the years 2001–2015. In each wave of the survey, questionnaires were administered to 11,280 households through face-to-face interviews covering about 40,000 individuals. The CMPHS is a continuous survey, strongly comparable over time in terms of labor market variables, that therefore does not pose seasonality issues. Furthermore, its design allows for time-consistent definitions of labor market indicators. |
| Employment | The definition of employment is based on three filter questions asked to all respondents aged 12 and above. Individuals are classified as employed if, during the reference period consisting of the 7 days preceding the interview, they either:
  1. worked for pay, profit or family gain, even if it was only for one hour;
  2. performed other activities for sale or pay;
  3. were temporarily absent from a job or business because of holidays, sickness or any other reason. |
| Unemployment | Individuals are defined as unemployed if they have not worked during the reference period and they have been looking for work or trying to set up a business during the 4 weeks prior to the interview. |
| Labor force participation | All individuals who fall into either the employment or unemployment category are defined as actively participating in the labor force. Otherwise, they are classified as inactive, that is, not in the labor force. |
| Working hours | The measure of working hours employed in the analysis refers to the total number of hours (including overtime) worked at the main job during the reference period. |
| Employment category | The list of self-reported employment categories includes wage worker, employer, self-employed, contributing family worker, apprentice/intern, and other. |
| Earnings | Individual earnings, received during the last month preceding the interview, are made up of three components:
  1. income from paid employment (including bonus, overtime, and so on)
  2. income from self-employment (trade, business, plantation, and so on)
  3. income from backyard-produced goods (vegetables, fruits, eggs, fish, and so on)

Earnings are expressed in 2015 prices. |
| Hourly wages | Among wage workers, hourly wages are constructed by dividing monthly wages from the main wage job by the product of working hours (as defined above) and the maximum possible number of working weeks in a month (that is, 4.33, due to the lack of information on the number of weeks worked over the last month). Hourly wages are expressed in 2015 prices. |

Growth incidence curves; 2007–2012
Household total income (per adult equivalent)

Source: Based on data of the Continuous Multi-Purpose Household Survey (CMPHS) and Household Budget Survey (HBS), Statistics Mauritius.
FIGURE C.1. Demographic and Labor Market Factors and Changes in Household Labor Income Inequality, 2001–15

Source: Based on data of the Continuous Multi-Purpose Household Survey (CMPHS), Statistics Mauritius.
FIGURE D.1. Sectorial Distribution of Wage Workers, by Gender and Main Sector, 2004–15

a. Women wage workers, public sector

(continued)
<table>
<thead>
<tr>
<th>Year</th>
<th>Agriculture</th>
<th>Textile manufacturing</th>
<th>Other manufacturing</th>
<th>Information and communication</th>
<th>Professional activities</th>
<th>Other services</th>
<th>Hotels and restaurants</th>
<th>Public administration</th>
<th>Other secondary</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>5.5</td>
<td>0.0</td>
<td>10.2</td>
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<td>1.7</td>
<td>6.5</td>
</tr>
<tr>
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<td>0.9</td>
<td>7.9</td>
<td>2.0</td>
<td>7.3</td>
</tr>
<tr>
<td>2006</td>
<td>4.8</td>
<td>0.0</td>
<td>10.3</td>
<td>0.7</td>
<td>15.3</td>
<td>0.7</td>
<td>9.1</td>
<td>2.6</td>
<td>7.8</td>
</tr>
<tr>
<td>2007</td>
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<td>15.9</td>
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<td>1.3</td>
<td>8.6</td>
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<td>1.6</td>
<td>13.5</td>
</tr>
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<td>16.2</td>
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<td>10.8</td>
<td>2.2</td>
<td>13.8</td>
</tr>
<tr>
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<td>0.0</td>
<td>10.0</td>
<td>1.4</td>
<td>19.3</td>
<td>1.4</td>
<td>9.9</td>
<td>1.1</td>
<td>13.9</td>
</tr>
<tr>
<td>2012</td>
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<td>0.0</td>
<td>18.5</td>
<td>1.1</td>
<td>21.3</td>
<td>1.1</td>
<td>10.4</td>
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<td>2013</td>
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<td>16.4</td>
<td>1.7</td>
<td>19.9</td>
<td>1.7</td>
<td>10.8</td>
<td>1.9</td>
<td>13.6</td>
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<tr>
<td>2015</td>
<td>2.3</td>
<td>0.0</td>
<td>14.2</td>
<td>1.3</td>
<td>19.0</td>
<td>1.3</td>
<td>11.1</td>
<td>2.2</td>
<td>16.2</td>
</tr>
</tbody>
</table>

**FIGURE D.1. Sectorial Distribution of Wage Workers, by Gender and Main Sector, 2004–15 (continued)**

### b. Women wage workers, private sector

<table>
<thead>
<tr>
<th>Year</th>
<th>Agriculture</th>
<th>Textile manufacturing</th>
<th>Other manufacturing</th>
<th>Information and communication</th>
<th>Professional activities</th>
<th>Other services</th>
<th>Hotels and restaurants</th>
<th>Public administration</th>
<th>Other secondary</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>3.3</td>
<td>0.1</td>
<td>0.5</td>
<td>9.4</td>
<td>13.4</td>
<td>0.1</td>
<td>3.4</td>
<td>5.4</td>
<td>0.0</td>
</tr>
<tr>
<td>2005</td>
<td>2.4</td>
<td>0.1</td>
<td>0.4</td>
<td>9.6</td>
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<td>0.2</td>
<td>3.5</td>
<td>4.0</td>
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</tr>
<tr>
<td>2006</td>
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<td>13.1</td>
<td>0.1</td>
<td>3.5</td>
<td>3.1</td>
<td>0.0</td>
</tr>
<tr>
<td>2007</td>
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<td>0.1</td>
<td>0.9</td>
<td>9.6</td>
<td>15.0</td>
<td>0.8</td>
<td>3.3</td>
<td>4.5</td>
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<tr>
<td>2008</td>
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<td>6.6</td>
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<td>0.0</td>
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<tr>
<td>2009</td>
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<td>0.7</td>
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<td>6.7</td>
<td>0.0</td>
</tr>
<tr>
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<td>0.4</td>
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</tr>
<tr>
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<td>0.0</td>
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<tr>
<td>2012</td>
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<td>0.9</td>
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<td>11.3</td>
<td>0.2</td>
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<tr>
<td>2013</td>
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<td>13.6</td>
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<td>0.3</td>
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</table>

### c. Men wage workers, public sector

<table>
<thead>
<tr>
<th>Year</th>
<th>Agriculture</th>
<th>Textile manufacturing</th>
<th>Other manufacturing</th>
<th>Information and communication</th>
<th>Professional activities</th>
<th>Other services</th>
<th>Hotels and restaurants</th>
<th>Public administration</th>
<th>Other secondary</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>4.0</td>
<td>0.0</td>
<td>13.6</td>
<td>0.0</td>
<td>11.7</td>
<td>0.2</td>
<td>7.6</td>
<td>0.0</td>
<td>18.0</td>
</tr>
<tr>
<td>2005</td>
<td>3.0</td>
<td>0.0</td>
<td>15.0</td>
<td>0.0</td>
<td>11.3</td>
<td>0.2</td>
<td>7.8</td>
<td>0.0</td>
<td>17.3</td>
</tr>
<tr>
<td>2006</td>
<td>3.0</td>
<td>0.0</td>
<td>14.3</td>
<td>0.0</td>
<td>10.6</td>
<td>0.2</td>
<td>6.3</td>
<td>0.0</td>
<td>19.3</td>
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<tr>
<td>2007</td>
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<td>12.4</td>
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<td>0.2</td>
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<td>0.2</td>
<td>7.4</td>
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<tr>
<td>2009</td>
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<td>13.5</td>
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</tr>
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<td>2011</td>
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<td>0.0</td>
<td>6.6</td>
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<td>0.2</td>
<td>4.3</td>
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<td>19.6</td>
</tr>
<tr>
<td>2012</td>
<td>3.0</td>
<td>0.0</td>
<td>9.6</td>
<td>0.0</td>
<td>15.0</td>
<td>0.2</td>
<td>8.3</td>
<td>0.0</td>
<td>19.2</td>
</tr>
<tr>
<td>2013</td>
<td>2.5</td>
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<td>10.5</td>
<td>0.0</td>
<td>13.1</td>
<td>0.2</td>
<td>8.5</td>
<td>0.0</td>
<td>20.0</td>
</tr>
<tr>
<td>2014</td>
<td>2.5</td>
<td>0.0</td>
<td>9.6</td>
<td>0.0</td>
<td>13.5</td>
<td>0.2</td>
<td>2.5</td>
<td>4.0</td>
<td>18.3</td>
</tr>
<tr>
<td>2015</td>
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<td>0.0</td>
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<td>8.4</td>
<td>5.4</td>
<td>18.2</td>
</tr>
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</table>
FIGURE D.1. Sectorial Distribution of Wage Workers, by Gender and Main Sector, 2004–15 (continued)

d. Men wage workers, private sector

Source: Based on data of the Continuous Multi-Purpose Household Survey (CMPHS), Statistics Mauritius.

FIGURE D.2. Educational Distribution of all Wage Workers, 2004–15

Source: Based on data of the Continuous Multi-Purpose Household Survey (CMPHS), Statistics Mauritius.

Note: Wages are measured in 2012 prices.
### TABLE E.1. Number of Wage Rates Specified within Remuneration Orders, 2016

<table>
<thead>
<tr>
<th>RO category</th>
<th>Corresponding broad industry sector</th>
<th>Number of job title categories</th>
<th>Years of experience categories per job title</th>
<th>Total number of wage rates specified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attorney and notary employees</td>
<td>Finance and professional services (administration and support)</td>
<td>2</td>
<td>15 years (clerk), 20 years (secretary)</td>
<td>35</td>
</tr>
<tr>
<td>Baking industry</td>
<td>Manufacturing</td>
<td>24</td>
<td>3 job titles specified by years of experience; up to 8 years</td>
<td>39</td>
</tr>
<tr>
<td>Banks fisherman and frigo-workers</td>
<td>Agriculture, forestry and fishing</td>
<td>2</td>
<td>NA</td>
<td>2</td>
</tr>
<tr>
<td>Block-making and construction</td>
<td>Construction (Possibly, mining and quarrying)</td>
<td>26</td>
<td>Most job titles specified by year; up to 8 years</td>
<td>100</td>
</tr>
<tr>
<td>Catering and tourism</td>
<td>Transport, food, accommodation and ICT (food and accommodation); CSP (Arts, entertainment and recreation)</td>
<td>52</td>
<td>Most job titles specified by year: up to 7 years; 4 years for most</td>
<td>196</td>
</tr>
<tr>
<td>Cinema employees</td>
<td>CSP (Arts, entertainment and recreation)</td>
<td>12</td>
<td>NA; rates for some by number of shows per month</td>
<td>19</td>
</tr>
<tr>
<td>Cleaning enterprises</td>
<td>Across all sectors</td>
<td>13</td>
<td>8 years for all</td>
<td>104</td>
</tr>
<tr>
<td>Retail trades</td>
<td>Wholesale and retail</td>
<td>34</td>
<td>8 years for all</td>
<td>272</td>
</tr>
<tr>
<td>Domestic workers</td>
<td>Private households</td>
<td>8</td>
<td>NA</td>
<td>8</td>
</tr>
<tr>
<td>Electrical, engineering, mechanical</td>
<td>Manufacturing</td>
<td>11</td>
<td>Most job titles specified by year; up to 7 years</td>
<td>63</td>
</tr>
<tr>
<td>Export enterprises</td>
<td>Manufacturing</td>
<td>11</td>
<td>Most job titles specified by year; up to 9 years</td>
<td>47</td>
</tr>
<tr>
<td>Factory employees</td>
<td>Manufacturing</td>
<td>10</td>
<td>Most job titles specified by year; up to 8 years</td>
<td>70</td>
</tr>
<tr>
<td>Field crop and orchard workers</td>
<td>Agriculture, forestry and fishing</td>
<td>6</td>
<td>NA</td>
<td>6</td>
</tr>
<tr>
<td>Light metal and wooden furniture</td>
<td>Manufacturing</td>
<td>11</td>
<td>All job titles specified by year; up to 8 years</td>
<td>64</td>
</tr>
<tr>
<td>Livestock workers</td>
<td>Agriculture, forestry and fishing</td>
<td>4</td>
<td>Supervisor specified by year (5 years)</td>
<td>8</td>
</tr>
<tr>
<td>Newspapers and periodicals</td>
<td>Manufacturing</td>
<td>10</td>
<td>All job titles specified by year; up to 15 years</td>
<td>90</td>
</tr>
<tr>
<td>Nursing homes</td>
<td>CSP (Health)</td>
<td>16</td>
<td>Most job titles specified by year; up to 10 years</td>
<td>74</td>
</tr>
<tr>
<td>Office attendants</td>
<td>Finance and professional services (admin and support); CSP (admin)</td>
<td>2</td>
<td>Both job titles specified by year (10 years)</td>
<td>20</td>
</tr>
<tr>
<td>Pre-primary school employees</td>
<td>CSP (Education)</td>
<td>7</td>
<td>Most job titles specified by year; up to 10 years</td>
<td>26</td>
</tr>
<tr>
<td>Printing industry</td>
<td>Manufacturing</td>
<td>16</td>
<td>Most job titles specified by year; up to 10 years</td>
<td>85</td>
</tr>
<tr>
<td>Private secondary school</td>
<td>CSP (Education)</td>
<td>13</td>
<td>Most job titles specified by year; up to 15 years</td>
<td>111</td>
</tr>
<tr>
<td>Public transport (buses)</td>
<td>Transport, food, accommodation and ICT (transport and storage)</td>
<td>35</td>
<td>Most job titles specified by year; up to 10 years</td>
<td>322</td>
</tr>
<tr>
<td>Road haulage industry</td>
<td>Transport, food, accommodation and ICT (transport and storage)</td>
<td>6</td>
<td>All job titles specified by year; 8 years</td>
<td>48</td>
</tr>
<tr>
<td>Salt manufacturing industry</td>
<td>Manufacturing</td>
<td>7</td>
<td>NA</td>
<td>7</td>
</tr>
<tr>
<td>Security guards</td>
<td>Across all sectors</td>
<td>1</td>
<td>8 years</td>
<td>8</td>
</tr>
</tbody>
</table>

(continued)
**TABLE E.1. Number of Wage Rates Specified within Remuneration Orders, 2016 (continued)**

<table>
<thead>
<tr>
<th>RO category</th>
<th>Corresponding broad industry sector</th>
<th>Number of job title categories</th>
<th>Years of experience categories per job title</th>
<th>Total number of wage rates specified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sugar industry (agricultural)</td>
<td>Agriculture, forestry and fishing</td>
<td>18</td>
<td>NA</td>
<td>18</td>
</tr>
<tr>
<td>Sugar industry (nonagricultural)</td>
<td>Manufacturing</td>
<td>35</td>
<td>Many job titles specified by year; up to 6 year. Some job titles further categorised acc to grade</td>
<td>58</td>
</tr>
<tr>
<td>Tailoring trade</td>
<td>Manufacturing</td>
<td>5</td>
<td>Learner specified by year; 5 years</td>
<td>9</td>
</tr>
<tr>
<td>Tea industry</td>
<td>Agriculture, forestry and fishing, manufacturing</td>
<td>32</td>
<td>NA</td>
<td>32</td>
</tr>
<tr>
<td>Travel agents and tour operators</td>
<td>Finance and professional services (administration and support)</td>
<td>17</td>
<td>All except Trainee and Watchman specified by year; 4 years</td>
<td>62</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>446</strong></td>
<td><strong>2003</strong></td>
<td></td>
</tr>
</tbody>
</table>


Note: NA = not available.

**TABLE E.2. Estimation Approach to Determining RO Worker Coverage Using CMPHS Data**

<table>
<thead>
<tr>
<th>Remuneration order</th>
<th>Relevant occupations and/or broad occupation groups*</th>
<th>Relevant activity, industry or sector**</th>
</tr>
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<tbody>
<tr>
<td>Attorney and notary employees (RO) regulations (last revised 2010)</td>
<td>Specific occupations: various legal clerk and legal secretary related occupations</td>
<td>Attorney, notary</td>
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<tr>
<td>Baking industry (RO) regulations (last revised 2003)</td>
<td>Craft workers, operators and assemblers</td>
<td>Bread (with or without pastry), pastries and cakes, other bakery products</td>
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<td>Banks fisherman and frigo-workers (RO) regulation (last revised 1997)</td>
<td>Craft workers, operators and assemblers, elementary</td>
<td>Banks fishers</td>
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<tr>
<td>Block-making, construction, stone crushing and related industries (RO) regulations (last revised 2008)</td>
<td>Technicians, clerks, craft workers, operators and assemblers</td>
<td>Construction (industry), stone, stone-crushing, manufacture of articles of cement, stone cutting, shaping, and finishing</td>
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<tr>
<td>Catering and tourism industries (RO) regulations (last revised 2004)</td>
<td>Clerks, services/sales, craft, operators/ assemblers, elementary; specific occupations: chefs, skippers, masseurs, gardeners, entertainers</td>
<td>Various hotel, accommodation, restaurant and food related activities</td>
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<tr>
<td>Cinema employees (RO) regulations (last revised 2005)</td>
<td>Technicians, service/sales, operators/ assemblers, elementary</td>
<td>Motion picture projection</td>
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<td>Cleaning enterprises (RO) regulations (last revised 2013)</td>
<td>Clerks, operators/assemblers, elementary</td>
<td>Refuse disposal, building-cleaning activities, cleaning services, care and maintenance activities</td>
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<td>Distributive trades (RO) regulations (last revised 2007)</td>
<td>Clerks, service/sales, operators/ assemblers, elementary</td>
<td>Wholesale and retail (industry)</td>
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<td>Domestic workers (RO) regulations (last revised 2010)</td>
<td>Service/sales, operator/assembler, elementary; specific occupations: gardener</td>
<td>Private households</td>
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<tr>
<td>Electrical, engineering and mechanical workshops (RO) regulations (last revised 2013)</td>
<td>Clerks, craft, operators/assemblers, elementary</td>
<td>Various maintenance and repair-related activities</td>
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<tr>
<td>Export enterprises (RO) regulations (last revised 2003)</td>
<td>Clerks, operators/assemblers, specific occupation: cashier, watchman</td>
<td>A number of activities that are export oriented. These include activities which fall under the general scope of the following: yarn and thread spinning, weaving and dyeing, knitting, fabrics, textiles and garments</td>
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<td>Factory employees (RO) regulations (last revised 2001)</td>
<td>Clerks, operators/assemblers, elementary; specific occupation: watchman</td>
<td>A number of activities which have a substantial amount of factory workers (apart from those covered by the export enterprises RO above). These include activities which fall under the general scope of the following: clothing, jewelry, fish processing, and chemical manufacturing</td>
</tr>
<tr>
<td>Remuneration order</td>
<td>Relevant occupations and/or broad occupation groups*</td>
<td>Relevant activity, industry or sector**</td>
</tr>
<tr>
<td>--------------------</td>
<td>-----------------------------------------------------</td>
<td>----------------------------------------</td>
</tr>
<tr>
<td>Field-crop and orchard workers (RO) regulations (last revised 2008)</td>
<td>Elementary</td>
<td>Various crop, flower and fruit related activities</td>
</tr>
<tr>
<td>Light Metal and Wooden Furniture Workshops (RO) Regulations (Last revised 2002)</td>
<td>Clerks, craft, operators/assemblers; specific occupation: watchman</td>
<td>Manufacture of bodies for motor vehicles, furniture (wooden), furniture (metal), furniture (other, not plastic)</td>
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<tr>
<td>Livestock workers (RO) regulations (last revised 2008)</td>
<td>Elementary; specific occupations: livestock farmer</td>
<td>Various livestock related activities</td>
</tr>
<tr>
<td>Newspapers and periodicals employees (RO) regulations (last revised 2001)</td>
<td>Professionals, clerks, operators/assemblers; specific occupation: cashier</td>
<td>Various publishing related activities</td>
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<tr>
<td>Nursing homes (RO) regulations (last revised 1990)</td>
<td>Technicians, service/sales, operators/assemblers, elementary; specific occupations: receptionist, gardener</td>
<td>Hospital activities – private hospitals, residential nursing care activities</td>
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<tr>
<td>Office attendants (RO) regulations (last revised 2013)</td>
<td>Specific occupation: office attendant</td>
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</tr>
<tr>
<td>Preprimary school employees (RO) regulations (last revised 2000)</td>
<td>Specific occupations: teacher, cook, gardener, handyman, caretaker</td>
<td>Preprimary education</td>
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<tr>
<td>Printing industry (RO) regulations (last revised 2003)</td>
<td>Clerks, craft, operators/assemblers, elementary; specific occupation: watchman</td>
<td>Printing, service activities related to printing, printing of labels, printing on metals</td>
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<tr>
<td>Private secondary-school employees (RO) regulations (last revised 1984)</td>
<td>Specific occupations: education officer (teacher), typist, secretary, librarian, gardener, cleaner, caretaker</td>
<td>General secondary education</td>
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<tr>
<td>Public transport (buses) workers (RO) regulations (last revised 2008)</td>
<td>Clerks, service/sales, craft, operators/assemblers, elementary</td>
<td>Bus transport</td>
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<tr>
<td>Road haulage industry (RO) regulations (last revised 2009)</td>
<td>Operators/assemblers</td>
<td>Freight transport by road: lorry, van, other (for example, handcarts)</td>
</tr>
<tr>
<td>Salt-manufacturing industry (RO) regulations (last revised 1994)</td>
<td>Craft, operators/assemblers, elementary</td>
<td>Salt extraction</td>
</tr>
<tr>
<td>Security guards (RO) regulations (last revised 1997)</td>
<td>Specific occupations: various security guard and watchman-related occupations</td>
<td>Investigation and security activities, private security activities</td>
</tr>
<tr>
<td>Sugar industry (agricultural workers) (RO) regulations (last revised 2010)</td>
<td>Elementary; specific occupations: watchman, gardener</td>
<td>Sugarcane</td>
</tr>
<tr>
<td>Sugar industry (nonagricultural workers) (RO) regulations (last revised 2010)</td>
<td>Clerks, craft, operators/assemblers</td>
<td>Manufacture of sugar</td>
</tr>
<tr>
<td>Tailoring trade (RO) regulations (last revised 2002)</td>
<td>Specific occupations: various tailoring-specific occupations</td>
<td></td>
</tr>
<tr>
<td>Tea industry workers (RO) regulations (last revised 1992)</td>
<td>Clerks, operators/assemblers, elementary; specific occupations: watchman</td>
<td>Tea</td>
</tr>
<tr>
<td>Travel agents and tour operator workers (RO) regulations (last revised 2009)*</td>
<td>Clerks, service/sales, operators/assemblers, elementary</td>
<td>Activities of travel agencies, tour operators, tourist assistance activities, tour operator activities</td>
</tr>
</tbody>
</table>

Note:
* Note the following NASCO occupation codes are associated with the broad occupation categories listed in the table above: Codes starting with 1 denote managers, codes starting with 2 denote professionals, codes starting with 3 denote technicians, codes starting with 4 denote clerks, codes starting with 5 denote sales/service workers, codes starting with 6 denote skilled agricultural workers, codes starting with 7 denote craft workers, codes starting with 8 denote operators/assemblers and codes starting with 9 denote elementary workers.
** For some ROs the occupation matched code was sufficient to identify the group of workers (for example, “office attendants”). In these cases, we only matched on that code and not an activity or sector code as well. In the cases where we could not just match on the occupation code because the code was still too broad, we matched on an activity, industry or sector/establishment type as well. So if, for example, the job title to be matched was “Accounting Clerk” in the export oriented enterprise (EOE) RO, we would first match on the occupation code for Accounting Clerk and then on the activity codes for EOE to capture accounting clerks working within EOEs. We also used an activity, industry or sector to isolate workers where we more broadly estimated the workers covered by ROs by broad occupation types.

µ The Travel Agents and Tour Operators RO regulation first came into effect in 2009. We thus only include the relevant occupations as being covered by a RO in the years 2009 to 2014. All other ROs have been in effect for the full 2004 to 2014 period for which we have access to CMPHS data.
**TABLE E.3. The Real Hourly Minimum Wage, by Remuneration Order, 2004–14**

**MUR 2012**

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Attorney and notary employees</td>
<td>Clerk / secretary</td>
<td>46.14</td>
<td>46.40</td>
<td>43.73</td>
<td>42.47</td>
<td>40.79</td>
<td>41.14</td>
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<td>43.92</td>
<td>45.03</td>
<td>45.36</td>
<td>45.62</td>
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<td>Baking industry</td>
<td>Handpacker</td>
<td>29.13</td>
<td>29.48</td>
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<td>27.55</td>
<td>26.79</td>
<td>27.23</td>
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<td>27.75</td>
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<td>Banks fisherman and frigo-workers</td>
<td>Frigo-worker</td>
<td>38.41</td>
<td>38.65</td>
<td>36.39</td>
<td>35.29</td>
<td>33.84</td>
<td>33.01</td>
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<td>28.00</td>
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<tr>
<td>Block-making, construction, stone crushing, and related industries</td>
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<td>40.59</td>
<td>41.08</td>
<td>38.84</td>
<td>37.98</td>
<td>43.64</td>
<td>43.92</td>
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<td>43.67</td>
<td>43.99</td>
<td>44.29</td>
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<td>35.51</td>
<td>33.73</td>
<td>32.41</td>
<td>32.97</td>
<td>32.16</td>
<td>32.21</td>
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<td>33.66</td>
<td>34.28</td>
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<tr>
<td>Cinema employees</td>
<td>Cleaner (04) / café assistant (05–14)</td>
<td>26.01</td>
<td>21.10</td>
<td>20.34</td>
<td>20.33</td>
<td>20.03</td>
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<td>21.23</td>
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<tr>
<td>Cleaning enterprises</td>
<td>Vehicle attendant</td>
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<td>32.51</td>
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<td>31.19</td>
<td>39.46</td>
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<td>Distribution trades</td>
<td>Attendant / cleaner</td>
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<td>37.72</td>
<td>37.93</td>
<td>36.69</td>
<td>37.66</td>
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<td>Electrical, engineering, and mechanical workshops</td>
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<td>33.91</td>
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<td>35.60</td>
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<td>28.48</td>
<td>28.83</td>
<td>27.59</td>
<td>27.64</td>
<td>27.27</td>
<td>34.43</td>
<td>34.62</td>
<td>33.59</td>
<td>34.48</td>
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<td>35.60</td>
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<td>38.29</td>
<td>39.30</td>
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<td>41.36</td>
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<td>36.88</td>
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(continued)
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<tr>
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<td>39.67</td>
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<td>40.46</td>
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<td>Tailoring trade</td>
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<td>20.65</td>
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<td>19.89</td>
<td>19.60</td>
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<td>28.20</td>
<td>28.96</td>
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</tr>
<tr>
<td>Travel agents and tour operator workers</td>
<td>Cleaner / vehicle attendant</td>
<td>39.35</td>
<td>39.57</td>
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<td>39.24</td>
<td>39.63</td>
<td>40.06</td>
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