Artículo científico

Labor income gap by gender in the Dominican Republic: an analysis of its evolution in the period 2000–2021

Brecha salarial de género en la República Dominicana: un análisis de su evolución en el período 2000-2021

REVISTA ECONÓMICA LA PLATA

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Abstract: The labor income gap between men and women in Latin America is an obstacle to achieving gender equality and sustainable development. In the Dominican Republic it is concentrated in the informal sector, among self-employed workers and in those regions where women's labor participation is higher. This gap persists despite the fact that women in many cases have a better job profile than men, suggesting the existence of gender biases. The objective of the present paper is to analyze the labor income gap by gender in the Dominican Republic in the period 2000–2021 using the National Labor Force Surveys conducted by the National Statistics Office (ONE, for its acronym in Spanish) and harmonized by the Inter-American Development Bank (IDB), and two models are presented to estimate it: the Blinder-Oaxaca decomposition and the Ñopo decomposition. The paper's main contribution is that we analyzed the gap over a long period of time, allowing us to observe how it behaves over time. The results show a significant and statistically meaningful labor income gap, not attributable to factors like experience or economic sector, suggesting normative or discriminatory causes. This gap is more pronounced in the informal economy, for self-employed workers, and in regions with higher female labor participation. Despite an analysis over time, no clear trend of reduction or increase in the labor income gap between men and women could be observed in the period analyzed. However, the unexplained gap has significantly increased. This indicates that additional efforts are required to understand this disparity.

Keywords: Gender economics, wage differentials, discrimination.

Resumen: La brecha de ingresos laborales entre hombres y mujeres en América Latina es un obstáculo para alcanzar la igualdad de género y el desarrollo sostenible. En la República Dominicana, esta brecha se concentra en el sector informal, entre los trabajadores por cuenta propia y en aquellas regiones donde la participación laboral femenina es mayor. Esta brecha persiste a pesar de que las mujeres, en muchos casos, tienen un

perfil laboral mejor que el de los hombres, lo que sugiere la existencia de sesgos de género.El objetivo del presente trabajo es analizar la brecha de ingresos laborales por género en la República Dominicana durante el período 2000-2021, utilizando las Encuestas Nacionales de Fuerza de Trabajo realizadas por la Oficina Nacional de Estadística (ONE) y armonizadas por el Banco Interamericano de Desarrollo (BID). Se presentan dos modelos para estimarla: la descomposición de Blinder-Oaxaca y la descomposición de Ñopo. La principal contribución del trabajo es que se analiza la brecha a lo largo de un período prolongado, lo que permite observar cómo se comporta con el tiempo. Los resultados muestran una brecha de ingresos laborales significativa y estadísticamente relevante, no atribuible a factores como la experiencia o el sector económico, lo que sugiere causas normativas o discriminatorias. Esta brecha es más pronunciada en la economía informal, entre los trabajadores por cuenta propia y en las regiones con mayor participación laboral femenina. A pesar de un análisis a lo largo del tiempo, no se pudo observar una tendencia clara de reducción o aumento en la brecha de ingresos laborales entre hombres y mujeres en el período analizado. Sin embargo, la brecha no explicada ha aumentado significativamente, lo que indica que se requieren esfuerzos adicionales para comprender esta disparidad.

Palabras clave: economía de género, diferencias salariales, discriminación.

Introduction

Women's participation in the labor market has increased in recent decades, and with it their visibility as important players in the economy. However, there are still challenges and gaps they face when competing there (Frisancho & Queijo Von Heideken, 2022). On the other hand, evidence shows that the crisis generated by COVID 19 and its effects on the labor market affected women in Latin America and the Caribbean to a greater extent, further deepening the gaps and reversing the progress previously achieved (Bustelo et al., 2021).

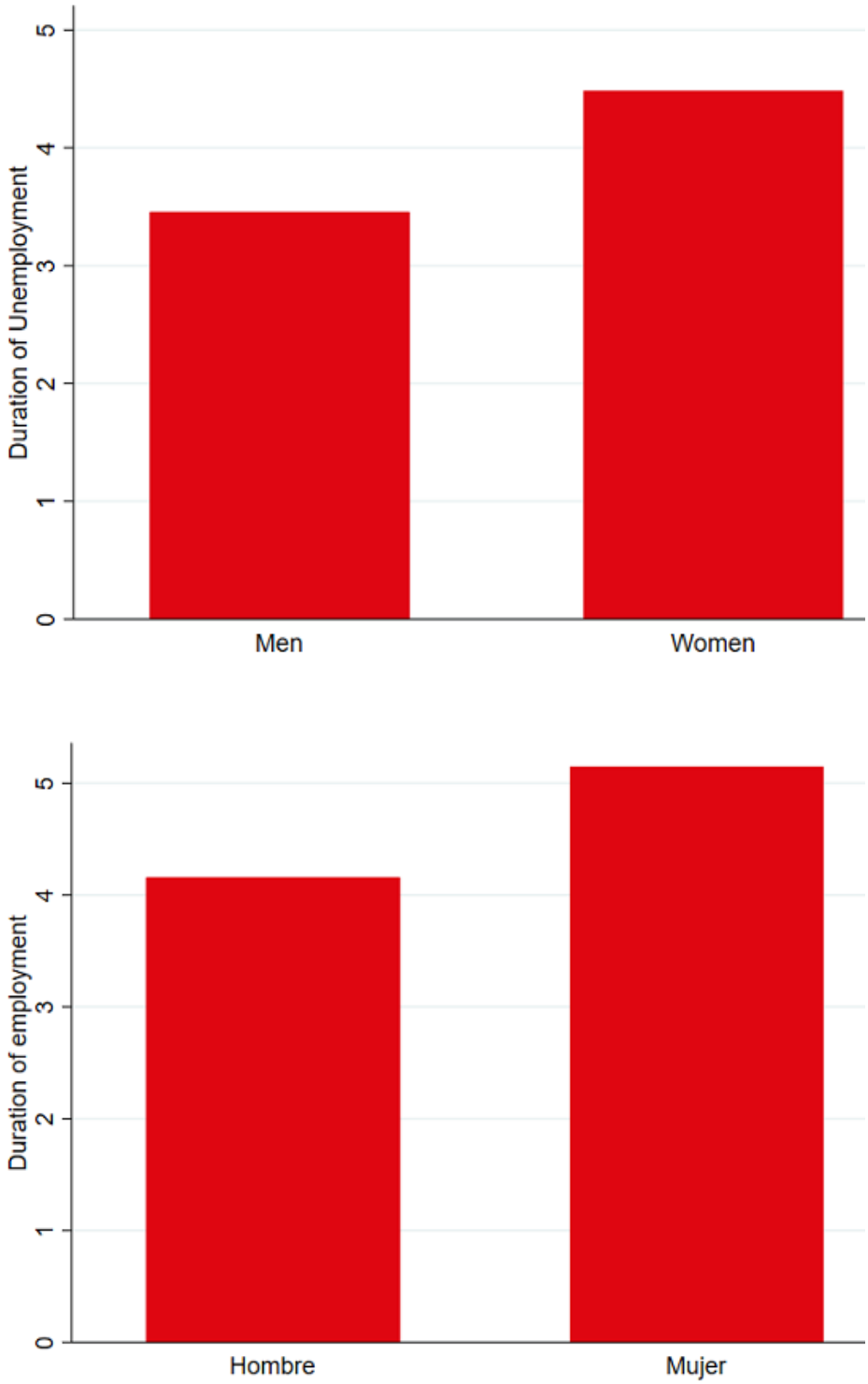
Among the main gender gaps in the region is that of labor income, which has already been identified in previous studies (Ñopo, 2012; Marques-Garcia, 2019; Székely & Acevedo, 2021; and Martínez et al. 2021). Furthermore, it shows that women earn lower incomes even when they are working in similar positions and have a similar level of education to their male peers, from which arises the need to identify and analyze the factors that may cause this situation.

Around five million women live in the Dominican Republic, 51% of whom were classified in 2019 as employed population (between the ages of 14 and 65) and on average worked 39 hours per week in their main job.[1] Of that total, 4,057,891 were over the age of 15 (the population of analysis in this document) and 1,997,746 were economically active.

In the Dominican market, there are challenges and inequalities that affect women, such as the fact that they dedicate fewer hours to paid work: for every 10 paid hours that a man works in that country, a woman works approximately 8.7 paid hours (López, et al., 2021). Other factors are also identified, such as the number of hours dedicated to unpaid work in the care economy and other activities associated with cultural or historical factors that fall on them.[2] Taking into account that mothers are generally the main caregivers of their children[3], Garganta and Zentner (2020) show that those whose children benefited from the extended school day (ESD) policy in public schools significantly increased their participation in the labor market, especially those spouses with little education and living in urban areas.

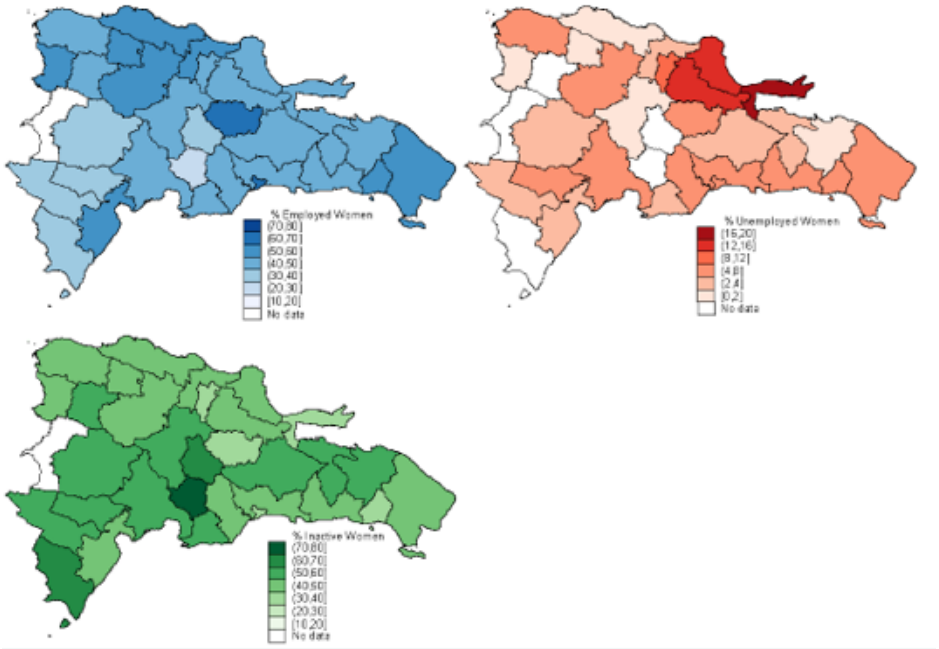
In addition, if they lose their jobs, women in the Dominican Republic tend to take on average one month longer than their male counterparts to find another source of work (Figure 1). Their unemployment levels vary from region to region, which shows the importance of considering geographic factors when analyzing gender wage gaps (Figure 2).

Figure 1
Duration of unemployment in months by gender (2019 and 2021)

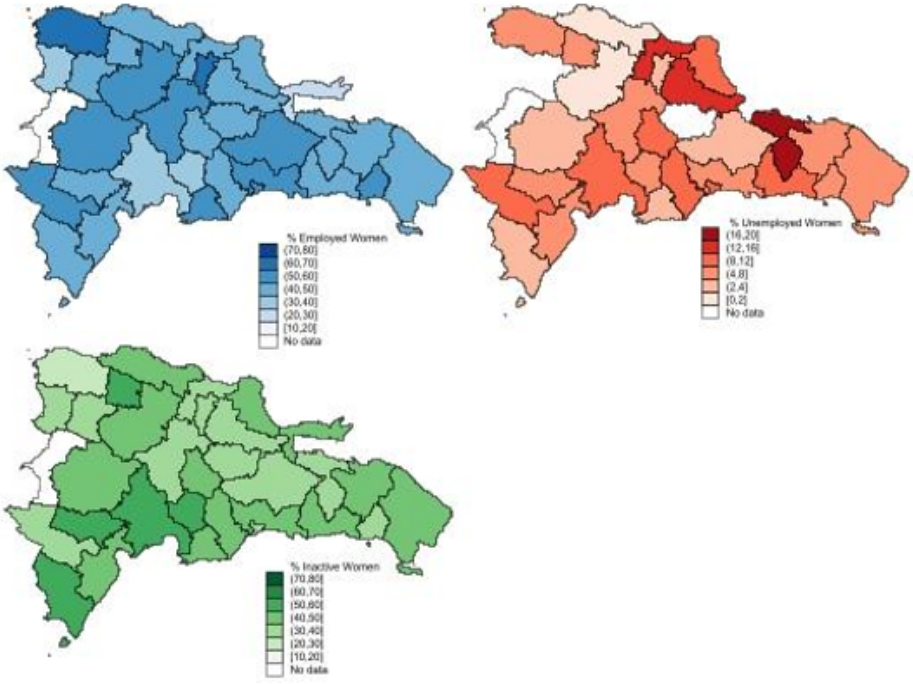


Source: Own elaboration based on the National Labor Force Surveys of the Dominican Republic harmonized by the IDB.
Note The population between 14 and 65 years old is included.

Figure 2
Characteristics of labor market participation of the female population classified by provinces, (2019 and 2021)



2019



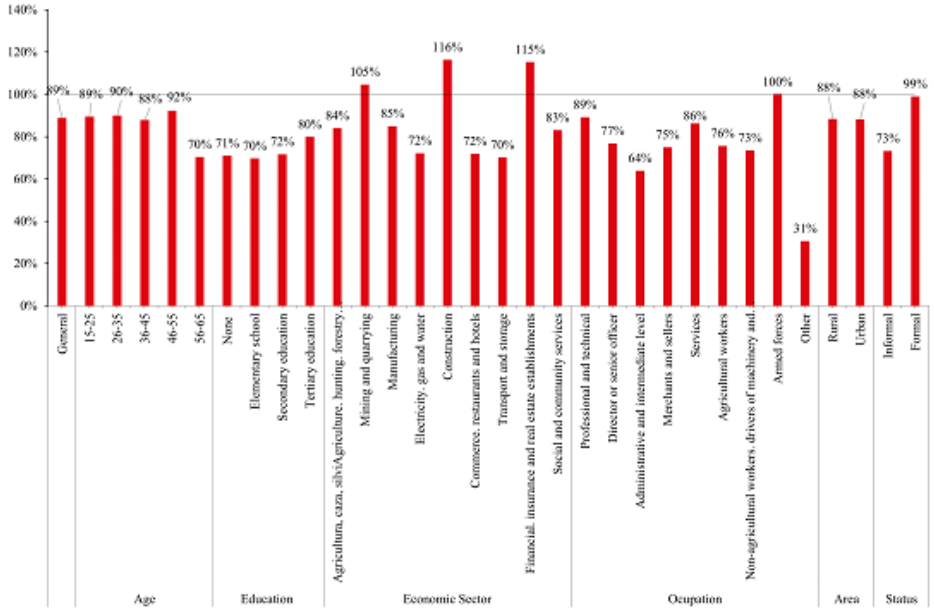
2021

Source: Own elaboration based on the National Labor Force Surveys of the Dominican Republic harmonized by the IDB.
Note The population between 14 and 65 years old is included.

Although it is true that the analysis of the gender income gap is a topic that is being studied at the global level in general, as well as in Latin America and the Caribbean (LAC) in particular, specific information on the subject is still limited in both cases, as a result this is the objective of the present paper, deepen knowledge on gender income gap for Dominican Republic during the period 1995 to 2021. To be able to reach this objective the study will be using three previous documents as a reference: the first on Bolivia (Urquidi et al., 2021), the second on Paraguay (Urquidi et al., 2022) and the third on eighteen countries in the region (Urquidi & Chalup, 2023). In all cases, two analysis methodologies were used: (i) the Blinder-Oaxaca decomposition and (ii) the Ñopo decomposition. These allow to have results from both a parametric model and a non-parametric model, which makes it possible to compare the evolution of each year and to identify the main variables that generate the changes in the gap over time.

The challenges faced by women in the country are confirmed by an analysis of the National Labor Force Surveys. Based on these data, Figure 3 shows the income gap in 2021: on average, women's hourly income is 89% of men's for the latter year. When analyzed in relation to age, women's income relative to men's is particularly low in the 36 to 45 age groups (88%) and among people over 56 years of age (70%). The gap is also greater for women with Elementary School a (70%) and for those in informal activities (73%)[4]. In fact, the results of the analysis show that the labor income gap between men and women is concentrated in the informal sector[5], among the self-employed, and in regions where women's labor participation is higher. Moreover, this gap cannot be explained by the characteristics of individuals, and occurs even when women, in many cases, have a better job profile.

Figure 3
Women's versus men's hourly income, 2021



Source: Own elaboration based on the National Labor Force Surveys of the Dominican Republic harmonized by the IDB.
* Only people with occupation and income were included.

This study consists of five sections. The first section provides an overview of the literature related to the labor income gap by gender in the Dominican Republic in particular and in LAC in general. The second section describes the data used and presents descriptive statistics on the evolution of the income gap over the years analyzed. The third section provides a brief description of the methodologies used to estimate the labor income gap by gender, while the fourth section presents the results of the analysis. Finally, the fifth section offers the conclusions of the study and its implications.

Literature Review

The issue of the gender income gap at the regional level has been addressed in the literature from the perspective explained by individual characteristics and the human capital endowment of people, and from the non-explained perspective relating it to gender prejudice, bias and discrimination (Atal et al., 2009). In the exercise of analyzing income gaps, the two econometric techniques that have been used most frequently in recent years are (i) the Blinder-Oaxaca decomposition presented in Oaxaca (1973) and (ii) the Ñopo decomposition presented in Ñopo (2008). Both techniques are described in detail in the third section of this document.

For Latin America as a whole, Chioda (2011) states that women began to achieve greater labor participation starting in 1980, facilitated by economic growth, trade liberalization, urbanization, a reduction in the fertility rate and an increase in educational levels, but especially from 2000 onwards thanks to the region's high growth rates. The latter generated an increase in the demand for labor force, which in turn made possible the incorporation of a greater number of women into the labor market, as well as the direct promotion of female labor through public policy (Gasparini & Marchionni, 2015). However, Ñopo (2012) points out that women are still overrepresented in informal and poorly paid jobs, and that the income gap continues to be significant.

A classic analysis of this issue is that of Psacharopoulos and Tzannatos (1992), who studied the income gap in 15 LAC countries in the late 1980s. These authors found that, for a similar job, women obtained incomes that averaged 65% of those of men, and that two-thirds of this difference was not explained by educational level or human capital, but could be associated with normative issues, prejudice or discrimination. A more recent study by Ñopo and Hoyos (2010) found that in LAC the explained gap was reduced from 16% to 9% between 1992 and 2007. It should be noted that the literature establishes that a significant part of the reduction in the income gap is explained by the increase in the educational level of women (Chioda, 2011; Gasparini & Marchionni, 2015).

Notwithstanding the significant reduction in the explained gap, the unexplained gap would have been reduced only from 34% to 30%. This reduction would have been most notable among workers at the bottom of the income distribution with children in the household, among the self-employed, the part-time and those in rural areas, i.e., those segments of the labor market that previously exhibited greater gender disparities. Most of the reduction in the unexplained component of the gap occurred within the different labor market segments, but not as a product of their recomposition.

The most recent analysis for LAC is presented in ILO (Oficina Regional para América Latina y el Caribe, 2019), where 17 countries were studied and the Ñopo decomposition technique was used. This study found that, on average, the unexplained gap narrowed between two and three percentage points between 2012 and 2017. In addition, it was established that the gap continues to occur mainly among low-income workers and those who are self-employed.

Using a Mincer regression, Székely and Acevedo (2021) find that in Haiti, Mexico, Panama and the Dominican Republic, women's hourly wages are on average 13.8% lower than men's in the CID region[6], even when controlling for age, educational level and residence. This wage gap has been documented in other studies using various methodologies to control for endogeneity and selection bias.

Again for the CID region, Martínez et al., (2021) use a Heckman model and identify that married life is associated with reductions of 19% in the probability of women being in the employed population and 17% in their real hourly compensation per hour worked. With respect to motherhood, these authors identify that this also generates a reduction in the aforementioned variables, in line with the finding of Garganta and Zentner (2020). Finally, regarding education, Martínez et al., (2021) point out that it has a positive effect on increasing labor participation opportunities and income.

Garganta et al., (2022) show that extended school day policies can have indirect effects on adolescent fertility decisions. By analyzing the exposure of mothers to the extended school day program in public schools, the aforementioned authors find that this policy reduced the incidence of teenage pregnancies in the municipalities that implemented it. They also point out that this effect is more substantial once the program's coverage reaches at least half of the secondary school students in the municipality in question.

Studying the region they call MECAPARD (Mexico, Central America, Panama and the Dominican Republic), López et al., (2021) find that the fact that women have fewer opportunities compared to men is not only manifested in access to the labor market, but also in a lower capacity to generate income throughout the life cycle, which tends to extend beyond retirement age.

Regarding labor income differences in the Dominican Republic specifically, Navarro (2015) using data from 2013 shows that there is a gender wage gap whose key determinants are age, education, type of occupation, economic sector, marital status and number of children in the household. The probability of having higher wages is lower for women in this country, although university education tends to reduce the size of the gender wage gap. On the other hand, Marques-Garcia (2019) shows that, once employed, women receive on average lower incomes than men. In 2014, the average monthly labor income by main occupation of women represented 81.4% of that received by men. This paper contribution to the literature given that we were able to track the behave of the income gap for from 2000 to 2021, using a comparable methodology, which allows a better observation of how the gaps has behaves over time and how it is affected with the COVID 19 shock.

Descriptive Data and Statistics

Two sources of information were used for this analysis:

- The harmonized surveys of the National Labor Force Survey (ENFT, for its acronym in Spanish) from 2000 to 2016.
- The harmonized surveys of the National Continuous Labor Force Survey (ENCFT, for its acronym in Spanish) from 2017 to 2021.

An attempt was made to preserve the structure after the methodological[7] change to maintain comparability between years. It should be noted that both surveys were conducted in the last quarter of each year and harmonized by the Inter-American Development Bank, which allows greater comparability of labor market indicators over time.

The year 2020 was not included so that the effects of the pandemic on the labor market do not distort the historical analysis[8]. It is also considered that the study of the effects of this period merits special study. The surveys used are similar in design and level of representativeness for the different years, being all representative for the total population of the Dominican Republic since they contain data from the different regions of the country[9].

Table 1 shows the sample taken for individuals in the age range of interest, that is, people between 15 and 65 years old, as well as their Dominican representativeness at the population level[10], disaggregating the analysis by gender and age group.

The sample proportions reflect the proportions of the population they represent. In addition, the sample is evenly distributed between genders. At the same time, the variation in the proportions of age groups corresponds to the aging of the population registered in the Dominican Republic and in most LAC countries (Cardona Arango & Peláez, 2012).

It can be seen that in the years 2000 and 2003 the sample was around 14,000 respondents. This number increased to around 18,000 from 2003 onwards and remained at that level until the change in methodology in 2017, when the sample decreased to around 14,000 people again.

Table 1
Women's hourly earnings compared to men's*

	2000	2001	2003	2004	2005	2006	2007	2008	2009	2010
Overall	89.77%	93.21%	91.04%	88.92%	97.14%	91.37%	89.72%	95.59%	96.30%	99.04%
Age										
15-25	94.5%	109.9%	99.7%	93.2%	102.9%	98.3%	110.7%	115.8%	101.1%	116.3%
26-35	91.7%	95.6%	92.6%	94.2%	104.9%	95.9%	92.3%	94.7%	106.5%	112.9%
36-45	86.0%	83.6%	87.5%	82.8%	97.7%	91.6%	84.7%	78.1%	94.6%	77.3%
46-55	87.0%	90.7%	81.0%	77.6%	85.1%	79.2%	79.5%	110.4%	72.6%	106.4%
56-65	89.8%	93.0%	103.6%	102.2%	77.7%	84.2%	83.9%	89.1%	99.1%	80.1%
Level of Education										
None	82.3%	93.0%	81.6%	75.9%	82.5%	82.8%	77.1%	88.9%	88.5%	78.9%
Elementary school	76.5%	73.7%	70.7%	72.0%	77.4%	75.1%	77.6%	79.1%	79.8%	77.3%
Secondary education	84.9%	90.9%	81.1%	77.1%	77.3%	85.6%	83.1%	79.7%	75.3%	91.2%
Tertiary education	67.2%	67.4%	69.6%	74.1%	85.0%	69.8%	73.5%	77.5%	77.2%	79.9%
Economic Sector										
Agriculture. hunting. forestry and fishing	130.8%	140.8%	128.7%	75.9%	88.0%	83.0%	79.4%	110.3%	102.2%	84.1%
Mining and quarrying	-	-	-	-	57.6%	107.5%	178.8%	70.0%	127.4%	79.3%
Manufacturing	76.5%	76.9%	82.0%	78.6%	88.7%	83.1%	75.0%	80.1%	87.8%	76.6%
Electricity. gas and water	146.1%	90.4%	54.5%	137.0%	124.3%	96.4%	92.3%	50.6%	140.6%	145.1%
Construction	77.9%	166.1%	228.9%	152.1%	156.4%	97.1%	81.7%	202.0%	141.3%	92.7%
Commerce. restaurants and hotels	96.7%	87.7%	84.7%	81.5%	81.6%	83.7%	85.4%	96.9%	98.8%	98.9%
Transport and storage	91.8%	138.5%	124.2%	130.9%	107.7%	127.6%	92.5%	86.1%	110.8%	78.5%
Financial. insurance and real estate establishments	68.2%	107.0%	75.7%	92.4%	76.8%	98.1%	107.0%	66.0%	87.5%	69.2%
Social and community services	67.8%	71.0%	67.8%	71.0%	84.5%	67.3%	73.3%	74.0%	68.9%	90.7%
Occupation										
Professional and technical	71.2%	73.4%	80.1%	74.4%	91.7%	76.9%	79.7%	80.8%	76.8%	88.7%
Director or senior officer	89.3%	78.8%	77.6%	101.1%	76.8%	84.4%	86.0%	77.1%	104.5%	91.2%
Administrative and intermediate level	71.7%	85.3%	74.7%	73.5%	71.8%	80.3%	77.8%	71.8%	79.4%	65.3%
Merchants and sellers	99.1%	95.1%	103.2%	88.5%	100.8%	74.5%	87.4%	96.4%	85.1%	93.6%
Services	114.6%	112.5%	92.8%	102.5%	122.9%	83.0%	101.6%	115.4%	94.7%	105.2%
Agricultural workers	122.7%	156.4%	119.9%	80.6%	94.6%	95.1%	72.8%	115.6%	135.7%	83.9%
Non-agricultural workers. drivers of machinery and transport services	64.6%	69.0%	73.2%	67.6%	64.4%	71.8%	62.9%	66.4%	84.8%	53.4%
Armed forces	55.5%	83.9%	293.6%	113.3%	82.9%	103.1%	219.0%	74.1%	106.7%	81.7%
Other	83.0%	89.1%	80.7%	77.9%	88.9%	84.8%	90.1%	79.1%	82.4%	94.5%
Area										
Rural	96.8%	101.6%	105.5%	88.0%	96.1%	86.7%	86.6%	102.8%	100.2%	102.6%
Urban	83.4%	87.4%	84.8%	83.6%	92.0%	88.2%	87.4%	88.9%	89.6%	93.8%
Status										
Informal	-	-	-	-	88.7%	81.0%	82.5%	93.6%	86.9%	93.6%
Formal	-	-	-	-	106.9%	103.0%	95.8%	92.2%	103.5%	102.6%
	89.8%	93.2%	91.0%	88.9%						
Self-employed										
Self-employed	80.0%	80.2%	80.7%	83.0%	89.3%	84.2%	83.1%	82.5%	85.7%	87.2%
Not self-employed	113.8%	121.2%	112.8%	99.9%	109.5%	101.6%	99.7%	121.8%	113.2%	117.0%
Regions										
Ozama	90.1%	96.0%	87.9%	89.0%	98.4%	87.9%	90.8%	84.7%	95.5%	92.3%
Yuma	88.4%	69.7%	81.9%	79.7%	87.9%	78.7%	80.2%	90.3%	90.1%	89.2%
Higuamo	71.9%	77.6%	101.6%	88.8%	80.8%	86.6%	83.3%	150.3%	76.0%	83.1%
Cibao Noreste	95.7%	108.5%	91.1%	81.2%	91.5%	88.6%	87.9%	90.7%	74.7%	95.0%
Cibao Norte	72.4%	73.0%	78.0%	77.1%	89.0%	93.6%	83.8%	91.8%	92.1%	92.3%
Cibao Noroeste	116.8%	105.3%	98.9%	113.8%	86.5%	79.7%	92.7%	143.6%	82.2%	97.5%
Cibao Sur	84.1%	87.9%	76.1%	75.2%	78.6%	72.1%	79.4%	73.8%	95.8%	118.2%
El Valle	99.5%	102.7%	123.2%	100.6%	108.6%	100.6%	85.9%	97.1%	113.3%	112.8%
Valdesia	83.1%	95.9%	75.4%	85.2%	82.9%	86.4%	82.5%	86.4%	84.4%	91.5%
Enriquillo	109.8%	63.1%	107.7%	94.5%	109.4%	95.7%	88.7%	93.0%	124.2%	112.0%

Table 1 (Continuation)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Overall	90,20%	96,95%	99,11%	94,98%	92,22%	93,05%	84,47%	96,84%	89,11%	91,67%	88,83%
Age											
15-25	98,4%	112,4%	103,6%	108,9%	101,8%	97,3%	91,3%	106,0%	100,4%	91,4%	89,4%
26-35	80,4%	87,6%	97,0%	90,8%	87,5%	87,8%	92,9%	81,1%	83,3%	89,4%	90,1%
36-45	89,9%	91,4%	96,1%	94,2%	93,2%	96,5%	88,4%	92,7%	92,2%	87,9%	87,8%
46-55	98,3%	99,6%	96,7%	87,9%	92,0%	97,8%	82,8%	83,4%	90,5%	87,2%	92,2%
56-65	70,8%	96,7%	92,4%	95,4%	70,5%	75,7%	55,8%	144,1%	68,1%	98,0%	70,4%
Level of Education											
None	81,8%	85,5%	84,6%	82,6%	89,9%	71,0%	66,5%	67,2%	66,6%	70,0%	70,9%
Elementary school	72,3%	78,8%	78,6%	68,4%	75,2%	71,9%	71,0%	67,7%	71,4%	71,8%	69,7%
Secondary education	71,3%	83,1%	98,2%	74,1%	77,2%	80,4%	72,0%	68,6%	76,3%	73,6%	71,7%
Tertiary education	78,6%	74,5%	75,1%	88,2%	75,6%	76,9%	63,4%	106,5%	80,1%	87,0%	79,8%
Economic Sector											
Agricultura, caza, silviAgriculture. hunting. forestry and fishing	81,7%	71,9%	93,0%	143,1%	119,7%	79,9%	144,8%	85,1%	120,0%	77,9%	83,9%
Mining and quarrying	66,6%	111,8%	475,0%	141,5%	358,7%	26,4%	84,6%		46,7%	95,1%	104,7%
Manufacturing	76,1%	88,9%	79,3%	78,2%	68,7%	81,8%	69,4%	81,3%	82,4%	80,1%	85,0%
Electricity. gas and water	94,9%	95,9%	72,4%	84,8%	117,5%	84,0%	79,7%	145,3%	105,1%	99,9%	72,2%
Construction	116,8%	82,7%	118,3%	75,6%	223,5%	141,7%	179,7%	150,4%	137,6%	80,2%	116,3%
Commerce. restaurants and hotels	82,0%	89,8%	83,8%	85,7%	87,5%	77,5%	71,3%	76,7%	82,4%	74,1%	71,9%
Transport and storage	81,8%	131,6%	126,0%	104,9%	117,4%	84,8%	83,1%	77,2%	88,5%	83,6%	70,2%
Financial. insurance and real estate establishments	89,5%	76,6%	123,5%	123,1%	79,9%	111,8%	111,1%	281,3%	107,7%	126,2%	115,3%
Social and community services	77,6%	78,5%	78,7%	80,3%	78,8%	83,6%	71,3%	75,2%	77,7%	85,0%	83,0%
Occupation											
Professional and technical	76,9%	83,8%	90,6%	89,4%	80,0%	91,3%	80,1%	114,0%	81,8%	91,4%	89,1%
Director or senior officer	96,7%	78,9%	94,8%	109,1%	80,4%	72,3%	42,7%	58,4%	119,4%	133,0%	76,9%
Administrative and intermediate level	67,9%	71,0%	53,7%	77,6%	60,8%	81,7%	70,1%	69,1%	63,5%	73,9%	63,9%
Merchants and sellers	66,6%	96,7%	87,3%	79,9%	103,3%	82,0%	80,7%	82,9%	79,2%	70,1%	75,0%
Services	89,1%	102,8%	88,3%	82,4%	86,5%	91,1%	80,5%	83,0%	85,0%	88,7%	86,3%
Agricultural workers	88,4%	69,8%	71,9%	132,4%	163,6%	77,4%	112,1%	74,4%	105,6%	80,8%	75,6%
Non-agricultural workers. drivers of machinery and transport services	59,9%	68,1%	73,7%	68,5%	71,2%	73,1%	63,9%	63,6%	63,7%	68,6%	73,5%
Armed forces	58,8%	110,6%	117,4%	81,1%	91,4%	114,3%	137,1%	176,5%	64,0%	84,2%	99,9%
Other	84,8%	80,9%	90,7%	86,6%	84,4%	83,1%	n.d.	22,1%	292,8%		30,7%
Area											
Rural	98,1%	94,9%	96,7%	88,3%	89,8%	93,7%	88,4%	79,2%	85,8%	90,7%	88,4%
Urban	83,7%	92,6%	94,7%	91,9%	88,7%	88,6%	82,8%	98,5%	88,7%	91,1%	88,3%
Status											
Informal	78,7%	78,8%	83,5%	83,5%	76,9%	76,3%	70,7%	66,4%	69,8%	70,2%	73,3%
Formal	99,9%	109,6%	113,7%	105,3%	102,1%	105,6%	93,8%	117,7%	103,3%	104,7%	99,0%
Self-employed											
Self-employed	88,3%	91,0%	93,6%	90,6%	85,6%	91,3%	83,6%	101,3%	90,9%	95,6%	91,7%
Not self-employed	89,7%	95,1%	99,0%	100,1%	98,1%	91,9%	79,9%	73,7%	77,8%	75,1%	75,2%
Regions											
Ozama	83,5%	100,7%	100,9%	93,5%	88,4%	84,9%	90,0%	122,9%	84,6%	86,6%	85,6%
Yuma	101,9%	97,4%	102,1%	100,9%	86,8%	86,1%	85,2%	83,9%	78,5%	85,2%	79,2%
Higuamo	96,8%	91,7%	90,1%	93,7%	97,6%	100,1%	55,4%	66,1%	90,5%	99,3%	91,4%
Cibao Noreste	92,0%	95,6%	88,5%	76,9%	87,4%	90,4%	85,8%	61,0%	84,3%	98,1%	90,5%
Cibao Norte	84,1%	69,4%	84,5%	94,3%	85,8%	92,8%	75,0%	78,7%	86,1%	88,0%	91,2%
Cibao Noroeste	92,4%	79,5%	84,5%	72,0%	87,8%	91,4%	89,4%	87,5%	109,3%	115,7%	106,3%
Cibao Sur	75,3%	88,7%	94,1%	98,7%	101,4%	102,3%	83,3%	82,6%	115,0%	105,6%	91,5%
El Valle	107,0%	122,5%	105,3%	114,0%	110,9%	99,0%	98,2%	103,3%	98,0%	109,3%	99,0%
Valdesia	89,0%	101,6%	94,0%	85,2%	87,2%	95,8%	88,7%	76,5%	94,4%	87,4%	87,2%
Enriquillo	106,1%	102,7%	99,0%	97,6%	101,9%	98,9%	100,3%	125,7%	96,2%	107,1%	105,3%

As a first approximation to the calculation of the income gap by gender, Table 2 presents an estimate of women's hourly labor income versus men's. The analysis is disaggregated by age group, educational level, economic activity, occupation, zone, formality, self-employment and region[11]. The analysis is broken down by age group, educational level, economic activity, occupation, area, formality, self-employment and region. In addition, Table A1 in the appendix shows the distribution by year and gender of the characteristics of the employed population that earns income, which allows to observe the general characteristics of both men and women.

Some occupations have very low percentages of female participation, and therefore, their results should be analyzed with caution. The reader can review Table A3 in the annex to see the percentage of female participation by occupation.

Figure 4 shows the evolution of women's hourly labor income compared to that of men. It can be seen that the relative income of women shows oscillations with respect to that of men throughout the years of the study, showing an apparent deterioration as of 2013. The years that stand out for exhibiting a smaller income gap are 2010 (99%) and 2013 (99.1%). As shown in in Oficina Nacional de Estadística ([ONE] 2020), the oscillations observed in the income gap are related to the high volatility exhibited by women's labor income as opposed to men's, which showed greater stability during the period analyzed.

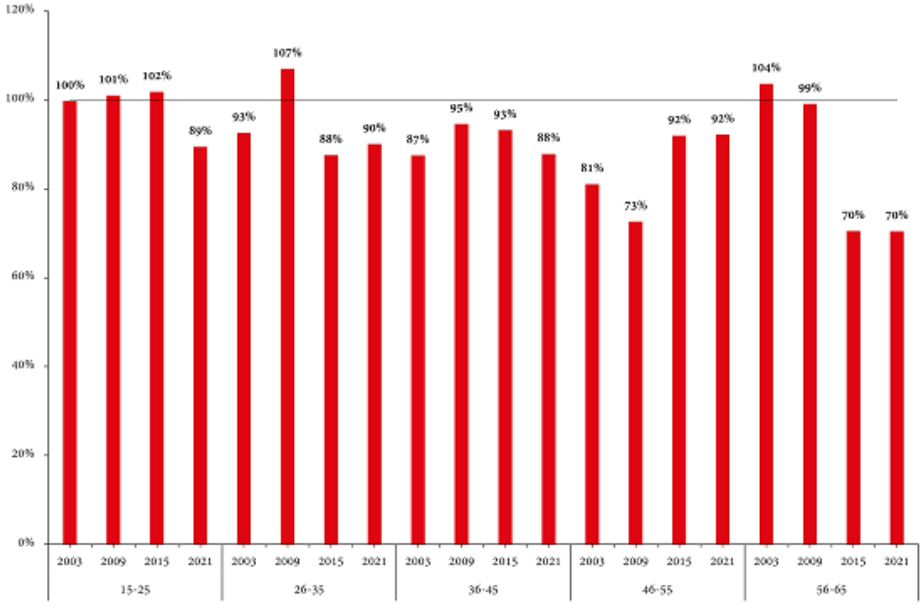
Figure 4
Women's versus men's labor income*

Source: Own elaboration based on the National Labor Force Surveys of the Dominican Republic harmonized by the IDB.
* Only people with occupation and income were included.

As in ONE (2020), Table 2 shows that the income gap tends to narrow with higher educational attainment. However, it is also observed that women's income tends to be more volatile with higher education, which could be producing the high variability in the income gap among people with tertiary education.

When the analysis is broken down by age group, Figure 5 shows that the gap widens as we move from younger to older age groups. This trend is stable for all the years analyzed and there is even a reduction in the differences between the different groups. The years 2003, 2009, 2015 and 2021 are used to maintain periodicity and not complicate the graphical analysis by using all the years.

Figure 5
Women's versus men's labor income* (Time evolution by age group)

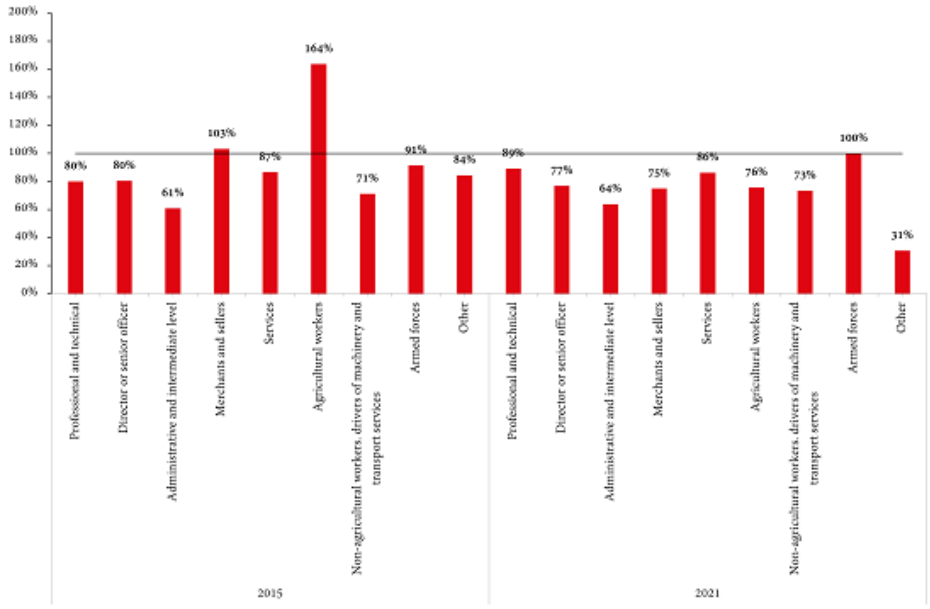


Source: Own elaboration based on the National Labor Force Surveys of the Dominican Republic harmonized by the IDB.
* Only people with occupation and income were included.

When analyzing by occupation, Figure 6 shows that for the years 2015 and 2021 there was a difference in favor of men in almost all occupations. There is also a high and persistent unfavorable gap for women in administrative and intermediate level positions, being this the occupation where they have the highest representation (Table A2).

It is observed that the gender gap is in favor of women in the occupations of director or senior officer, agricultural worker and in the Armed Forces, although it is true that in these occupations their participation is relatively low (Table A2). This could produce a selection bias, i.e., that the few women in these occupations have a very high job profile, which could result in higher wages.

Figure 6
Women's versus men's labor income* (Time evolution by occupation)



Source: Own elaboration based on the National Labor Force Surveys of the Dominican Republic harmonized by the IDB.
* Only people with occupation and income were included. The category other includes the occupations not mentioned in the figure.

Methodology

As discussed above, we used two methodologies to estimate the gender earnings gap: the Blinder-Oaxaca decomposition and the Ñopo decomposition.[12]

The Blinder-Oaxaca Decomposition

This first strategy for quantifying changes in the gender earnings gap breaks the gap down into two parts. The first is the part explained by the different control variables used to measure human capital, such as education, work experience, and occupation. The second is the part these variables cannot explain, which could reflect gender-differentiated regulations, such as prejudices, biases, or discrimination of the type described by Becker (1957). This unexplained gap is generated by personal or statistical preferences, where employers use group characteristics to evaluate individual attributes. For example, suppose companies believe that women of childbearing age are more likely than older women to have babies and, therefore, to have interruptions in their careers. Based on this assumption, they would pay lower wages to women of childbearing age to compensate for the higher probability of losing the worker, as Hoyos et al., (2010) assert. The Blinder-Oaxaca method uses Mincer-type wage equations (Mincer, 1974), which, as explained in Jann (2008), divide the earnings difference into:

i. a part explained by group differences and individual characteristics such as education or work experience.
ii. a second unexplained residual component.

These equations have two groups, men (M) and women (W), the explained variable Y, which is the logarithm of income per hour from the main labor activity, and a group of explanatory variables X, such as education, experience, etc. The aim is to ascertain the average difference in earnings between the two groups that is explained by the explanatory variables X.

$$EGap = E(Y_M) - E(Y_W) \qquad [1]$$

$E(Y_g)$refers to the expected logarithm of earnings, which is the variable of interest, and g can be M if the equation is calculated for men or W if it is calculated for women. A Mincer-type equation is used to explain the income as follows: $Y_i = \alpha_i + \sum_{i=1}^{k} X_{ik}\beta_{gik} + \varepsilon_{gi}$ This expression can be substituted into equation [1]:

$$EGap = E\left(\alpha_M + \sum_{i=1}^{k} X_{ik}\beta_{Mik} + \varepsilon_{Mi}\right) - E\left(\alpha_W + \sum_{i=1}^{k} X_{ik}\beta_{Wik} + \varepsilon_{Wi}\right) \qquad [2]$$

$$EGap = \widehat{\alpha_M} + \sum_{i=1}^{k} \overline{X_{ik}}\,\widehat{\beta_{Mik}} - \widehat{\alpha_M} - \sum_{i=1}^{k} \overline{X_{ik}}\,\widehat{\beta_{Wik}} \qquad [3]$$

By rearranging, we can identify the contribution of the explanatory variables to the differences between the groups:

$$\text{EGap} = (\widehat{\alpha_M} - \widehat{\alpha_W}) + \sum_{i=1}^{k} \overline{X_{ik}}(\widehat{\beta_{Mik}} - \widehat{\beta_{Wik}}) + \sum_{i=1}^{k} (\overline{X_{Mik}} - \overline{X_{Wik}})\widehat{\beta_{Mik}} \qquad [4]$$

The last component of this equation represents the part of the earnings gap explained by the explanatory variables, while the first two components represent the unexplained differences.

The model was estimated using the following specification:

$$yhora_i = \beta_0 + \sum_{i=1}^{3}\beta_i\, gaedu_i + \beta_4 exp_i + \beta_5 exp_i^2 + \sum_{i=6}^{9}\beta_i\, gedad_i + \beta_{10} married_i + \beta_{11} men6_i + \beta_{12} cnt\_prop_i + \sum_{i=13}^{20}\beta_i rama_i + \sum_{i=21}^{28}\beta_i ocupa_i + \beta_{29} formal_i + \beta_{30} zona_i + \sum_{i=31}^{n}\beta_i region_i + \epsilon_i \qquad [5]$$

Where:

$yhora_i$ is the logarithm of nominal hourly earnings. This variable is constructed using nominal hourly earnings data collected in the previously mentioned surveys, which have been harmonized by the IDB for each year. It is then divided by the annual hours worked by each respondent and subjected to a natural logarithm transformation.

- $gaedu_i$ are the dichotomous variables indicating the three maximum educational levels people have achieved. The base category is no education at all.
- exp_i are the estimated years of experience, calculated as age minus years of education.
- $gedad_i$ are four dichotomous variables indicating the age groups in Table A1, using the 15–25 age group as the base category.
- $married_i$ is a dichotomous variable that takes a value of 1 if the person is married.
- $men6_i$ is a dichotomous variable that has a value of 1 if children under six years old live in the household.
- cnt_prop_i is a dichotomous variable that takes a value of 1 if the person is self-employed or an independent contractor.
- $rama_i$ are the dichotomous variables that refer to people's different economic activities, using agriculture, hunting, forestry, and fishing as the base category.
- $ocupa_i$ are six dichotomous variables that refer to people's different occupations.
- $formal_i$ is a dichotomous variable that takes a value of 1 if the person is formally employed.
- $zona_i$ is a dichotomous variable with a value of 1 if the person lives in an urban area.
- and $region_i$ are dichotomous variables for the different regions of the country.

This decomposition is carried out independently for women and men.

Although this method is prevalent in the literature, it has some limitations. First, it assumes that there is a relationship between explanatory characteristics and earnings, which might not necessarily be true, since it can be also related to the cultural characteristics of the population. Second, the model provides information about how the gap is decomposed but does not imply a causal relationship, and even when it is possible to make conjectures of the causes the unexplained portion of the gap, it offers no further insights into which of these conjectures might be the most plausible (Sen 2014). Third, the method does not limit comparability to individuals with similar characteristics.

Ñopo's (2008) model was created as an attempt to overcome the first and third limitations.

The Ñopo Decomposition

Ñopo (2008) presents a non-parametric decomposition. Pursuing the same objective as the Blinder-Oaxaca model, it takes into account income disparities over the entire income distribution, not just in the average.

The Ñopo model limits the comparison of differences to only men and women with comparable characteristics (common support). This feature allows it to generate a synthetic counterfactual of individuals by matching men and women with identical observable characteristics, without the need to assume any functional form of the relationship between the explanatory variables and income.

The matching is done using discrete characteristics and thus does not require the use of propensity score matching or any other notion of distance between the characteristics of men and women (Ñopo 2008).

This procedure generates three groups:

i. Women and men who are matched (common support).
ii. Women with observable characteristics for whom there are no comparable men, a scenario that the methodology has termed the Maid Effect.
iii. Men for whom there are no comparable women, which the method calls the CEO Effect.

The method causes men and women with identical characteristics to form part of a common support. The difference in income of this group is then broken down by observed and unobserved attributes. Meanwhile, the Maid Effect and CEO Effect are calculated for those who ended up outside this common support. The Maid Effect refers to women who, because of their characteristics, have no male peers for comparison. This is traditionally associated with women with jobs with low hierarchical status that complement their home duties. In contrast, the CEO Effect refers to men with no female peers with comparable traits—traditionally those with high-status jobs.

Therefore, the model decomposes the income gap—more specifically, the difference in the logarithm of hourly income from the main labor activity—into four elements:

$$\delta = \delta_X + \delta_F + \delta_M + \delta_0 \qquad [6]$$

Where δ represents the total difference in earnings by gender, δ_X represents the difference in earnings related to observable characteristics, δ_F reflects the CEO Effect, δ_M reflects the Maid Effect, and δ_0 represents the unexplained difference in earnings, which, as noted above, could be related to biases and discrimination. The unexplained component of this model follows the same logic as the Blinder-Oaxaca model, so we can compare their estimates.

The Ñopo model has its limitations. Like Blinder-Oaxaca's model, Ñopo's method only provides information on how the gap decomposes; it does not imply a causal relationship. Furthermore, since the matching is built on discrete variables, for both men and women, the probability of finding a person with the same characteristics and endowments declines as the number of explanatory variables increases. This means that the common support decreases, as Enamorado et al. (2009) point out, a phenomenon referred to as the curse of dimensionality. For this reason, researchers using Ñopo's model must carefully analyze whether to include new variables to explain differences in earnings.

Another methodological limitation of both Blinder-Oaxaca and Ñopo is that they can only handle observable characteristics, which in this study, are only those included in the household surveys harmonized by the IDB. Therefore, the gender earnings gap could also be affected by variables not included in the survey, such as attitude, effort, or preferences for tasks in the labor market or the household. These variables could be omitted from the analysis, which would skew the estimators by leaving out a relevant factor. For example, Chioda (2011) shows that men and women may not have identical preferences and attitudes towards work performed in the labor market.

We decided to perform both estimates in the study for better comparability and consistency. This approach will allow us to compare our estimates to those of studies that use either of the two methodologies. Additionally, the results of the two methodologies can be compared to each other since they follow the same logic. The two models used hourly income as a dependent variable, allowing us to calculate the earnings gap by gender. The explanatory variables used in the Ñopo model are: $gaedu_i$, $gedad_i$, $casado_i$, $men6_i$, cnt_prop_i, $rama_i$, $ocupa_i$, $formal_i$, $zona_i$, $region_i$.

It is worth noting that we refrained from adding the variables that measure experience in order to keep the common support high, that is, to avoid the curse of dimensionality. We also made this decision because this variable is constructed with information on age and education, which form part of the regression's explanatory variables, and because the model already controls for whether the person lives in an urban or rural area.[13]

For the Blinder-Oaxaca estimates, we used robust standard errors and probability weights for consistency with the survey structure. In contrast, we used frequency weights for the Ñopo decomposition model, since that is what the methodology calls for.

Both models may suffer from a selection bias, since they include only the observed wages of employed people. Given that labor force participation is higher among men than among women, women with lower earning potential may more frequently decide not to join the workforce, while earning potential may have less of an impact on men's labor force participation. If this is the case, the models presented in this study underestimate the gap. However, the increase in female participation could be mitigating this bias, which could make the comparison over time more difficult.

This research also uses control similar to those presented in past studies on gender earnings gaps in Latin America and the Caribbean, such as Ñopo and Hoyos (2010) and Ñopo (2012).

Results

Table 2 presents the results of the estimated Blinder-Oaxaca decomposition. There it can be seen that, in the 21 years over which the analysis was carried out, the gender gap in hourly earnings ranged from 1 to 15% without showing a clear pattern over time, as can be seen in Figure 7.

In all periods, without exception, the effect of the explained variables is negative on the gap, which means that, if only the observable characteristics are considered, women should obtain 8% and 20% higher labor income in the different years of the study. This implies that the unexplained part is what would be causing the entire gap.

Table 3 shows the breakdown of the gap according to the different aggregate explanatory variables. It can be seen that the gap explained by education is negative and statistically significant in all years. This indicates that the educational level of female workers—which on average is higher than that of men (Table A2)—would be reducing the income gap produced by the unexplained gap related to gender biases (commonly known as discrimination) that manifest themselves in inadequate laws, cognitive biases, discrimination or labor costs derived from childcare that are not visible in society. Similarly, this phenomenon occurs with the occupation variable because there is a higher proportion of women with a profession (Table A3).

On the other hand, personal and family characteristics such as age, marital status and the presence of children in the household have a positive and statistically significant effect on the income gap in the first years of the study, although their importance decreases over time and, after 2011, ceases to be significant.

The occupational category variable (dichotomous for self-employed workers) has a positive and statistically significant effect in explaining the gap in all years of the study. This implies that having a higher proportion of men in self-employment (Table A2) increases the labor income gap.

Finally, the region of the country and the area where the workers are located (men and women)—in this case the fact that female workers are found in greater proportion in urban areas (Table A2)—would have a negative and statistically significant effect on the gap, thus reducing income inequalities by gender. However, this effect dissipates as the years of the study progress.

Table 2

Blinder-Oaxaca Decomposition (Hourly earnings)*

Category	2000	2001	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Estimate for men	30.52***	32.71**	37.87**	42.98**	55.06***	55.39***	61.44***	69.96***	73.27***	75.97***	82.56***	79.75***	83.38***	88.67***	97.32***	101.7***	105.8***	109.1***	113.5***	100.8***	119.7***
	(0.633)	(0.71)	(0.766)	(0.606)	(1.272)	(1.037)	(0.996)	(1.843)	(1.709)	(1.68)	(2.369)	(2.051)	(2.357)	(1.942)	(2.206)	(2.35)	(4.25)	(2.678)	(2.059)	(1.731)	(2.608)
Estimate for women	27.20	30.05**	34.28**	37.96**	52.89***	55.99***	55.34***	64.22***	69.44***	74.13***	75.23***	76.52***	82.38***	83.83***	89.11***	93.60***	89.48***	105.9***	101.5***	92.23***	106.1***
	(0.751)	(0.928)	(0.851)	(0.811)	(2.08)	(1.62)	(1.28)	(2.723)	(2.807)	(2.81)	(2.349)	(3.102)	(3.079)	(2.605)	(2.608)	(2.536)	(2.236)	(8.972)	(2.803)	(2.595)	(2.322)
Difference	3.318**	2.663*	3.590**	5.02**	2.869	5.398**	6.101***	5.748	3.830	1.839	9.329**	3.227	1.00	4.833	8.211*	8.129	16.33**	3.182	11.98***	8.59e**	13.63***
	(0.982)	(1.169)	(1.145)	(1.012)	(2.435)	(1.924)	(1.622)	(3.288)	(3.286)	(3.274)	(3.336)	(3.719)	(3.878)	(3.245)	(3.416)	(3.485)	(4.831)	(9.363)	(3.502)	(3.502)	(3.452)
Descomposition																					
Explained	2.617***	3.859***	3.884***	4.329***	-6.133***	-9.144***	5.922***	-9.54***	10.02***	-9.031	-13.55	15.67***	16.37***	11.98***	14.91***	14.52***	17.14***	9.364***	13.74***	14.21***	16.36***
	(0.759)	(0.840)	(0.913)	(0.799)	(1.353)	(1.308)	(1.220)	(2.206)	(2.446)	(2.301)	(2.716)	(3.005)	(3.415)	(2.536)	(3.044)	(2.959)	(3.968)	(5.276)	(2.432)	(2.345)	(2.636)
Unexplained	5.935**	6.558*	7.474**	9.349***	9.002***	14.54***	12.02***	15.28***	13.85***	10.87***	22.88***	18.50***	17.97***	16.82***	23.12***	22.65***	33.47***	12.35	25.72***	22.81***	30.59***
(Standard Error)	(1.021)	(1.298)	(1.284)	(1.013)	(2.163)	(2.116)	(1.590)	(3.203)	(3.741)	(3.292)	(4.163)	(4.059)	(5.056)	(3.475)	(4.091)	(4.089)	(6.646)	(13.03)	(4.001)	(3.374)	(3.481)
Explained (% of women's hourly earnings)	11%	8%	9%	12%	5%	9%	10%	8%	5%	2%	11%	4%	1%	5%	8%	8%	15%	3%	11%	9%	11%
Unexplained (% of women's hourly earnings)	-9%	-12%	-10%	-10%	-11%	-15%	-10%	-14%	-14%	-12%	-16%	-20%	-20%	-14%	-15%	-14%	-16%	-8%	-12%	-14%	-14%
Total	19%	20%	20%	22%	16%	24%	20%	22%	19%	14%	28%	24%	21%	19%	24%	22%	32%	11%	23%	23%	26%
N	7848	7553	10138	10257	10489	10281	10363	10729	10436	10502	10636	10352	10529	10409	10288	10156	7783	7979	8410	6429	7726

Source: Own elaboration based on the National Labor Force Surveys of the Dominican Republic harmonized by the IDB.

* Only people with occupation and income were included. We use probabilistic weights.

Table 3

Components of the Explained Difference—Blinder-Oaxaca (Hourly earnings)*

Category	2000	2001	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Explained difference	-2.617***	-3.859***	-3.884***	-4.329***	-6.133***	-9.144***	-5.922***	-9.542***	-10.02***	-9.03***	-13.55***	-15.67***	-16.37***	-11.98***	-14.91***	-14.52***	-17.14***	-9.364***	-13.74***	-14.21***	-16.36***
Education	-2.359***	-2.54***	-3.843***	-4.099***	-6.744***	-5.052***	-6.162***	-6.854***	-7.257***	-6.636***	-8.43***	-9.86***	-9.013***	-10.74***	-10.41***	-11.58***	-12.01***	-10.5***	-10.18***	-12.14***	-12.15***
Experience	-0.513	-0.751	-0.276	-0.277	-1.521*	-0.551	-0.223	-0.110	-0.267	-0.687	-0.335	-0.410	-1.435*	-0.0346	-0.0564	-1.221	-0.832	-2.5%	-0.408	-0.288	-0.276
Personal and family characteristics	1.089***	1.289***	0.935***	1.869***	1.375*	1.578***	1.320***	1.068*	0.317	1.464**	0.284	1.805	0.323	0.534	1.052	1.355	2.414	2.757	0.505	1.667*	1.234
Self-employed	1.864***	1954***	2.542***	2.842***	3.010***	2.748***	2.054***	5.678***	4.369***	4.322***	5.356***	3.540***	3.473***	6.313***	2.938**	5.713***	4.353***	3.953***	3.526***	3.459***	3.441***
Economic Sector	0.551	0.888	-0.342	1.356*	-0.0547	-0.268	0.489	-1.333	-0.099%	1.514	-0.900	-4.053*	-1.134	-1.916	3.223	-2.241	0.407	0.336	4.995**	0.777	2.516
Occupation	-2.315***	-1.633**	-1.818*	-2.93***	-3.54*	-5.370***	-1.908*	-7.026***	-4.795*	-7.677***	-7.279***	-4.944**	-6.785***	-4.157*	-9.795***	-5.766*	-9.846***	-8.166	-11.18***	-5.722*	-9.65***
Region	-0.55***	-0.677***	-0.958***	-0.713**	-1.469***	-1.457***	-1.074***	-1.419***	-1.506***	-2.232***	-1.935***	-1.534***	-1.702***	-1.243***	-1.370***	-1.492***	-0.293	-0.8769	-0.0623	-0.180	-0.293
Area	-0.387*	-0.258*	-0.143	0.777***	-0.566**	-0.852***	-0.486***	-0.518**	-0.832***	-0.432	-0.327	-0.0861	-0.378	-1.015***	-0.413	-0.766***	-0.221	-0.8923	-0.274**	-0.284*	-0.0879
Status	n.d.	n.d.	n.d.	n.d.	0.0215	0.0723	0.0674	-0.0283	0.258	0.469	-0.542	-0.953*	0.487	0.301	-0.0808	0.329	-1.11*	-2.643***	-0.788	-2.157***	-1.483***

Source: Own elaboration based on the National Labor Force Surveys of the Dominican Republic harmonized by the IDB.

* p < 0.05

** < 0.01

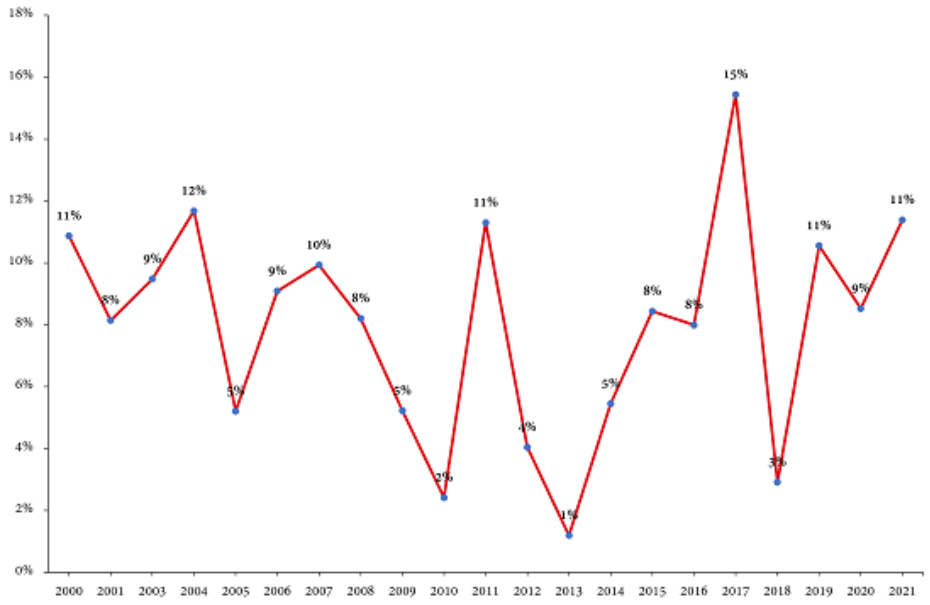
*** p <0.001

* Only people with occupation and income were included. We use probabilistic weights.

ins. data: There is not enough data to calculate the percentage.

Figure 7

Total labor income gap estimated using the Blinder-Oaxaca decomposition*



Source: Own elaboration based on the National Labor Force Surveys of the Dominican Republic harmonized by the IDB.
* Only people with occupation and income were included.

Table 4 shows the results of the estimated Ñopo decomposition. It can be seen that, in the 21 years for which the calculation was made, the hourly income gap ranged from 1% to 14%.

The so-called Maid Effect and the CEO Effect refer to income gaps explained by an absence of women and men with similar personal and occupational characteristics with whom to compare their income. The measurement of these components is related to traditional work patterns in which women tend to be concentrated in certain occupations such as nursing or service, while men work in risky or managerial occupations for which there are more opportunities for career growth. It should be noted that by 2021, the CEO Effect was producing a 3% gap, which would be related to women's reduced access to managerial positions. On the contrary, the Maid Effect would be mitigating the gap by 10%, which is due to the relatively good economic return obtained by women working in the tourism sector in the Dominican Republic.

As with the Maid Effect (except for 2011), from 2005 onwards (except in 2018), the set of variables explained (educational level, age, marital status, presence of children in the household, occupational category, branch of economic activity of the main occupation, occupation, region and labor formality status) would be helping to close the gap. On the other hand, the unexplained part and the CEO Effect would be generating a positive effect; that is, they would be increasing the gap in all the years of the study.

It should be noted that there are small differences between the Blinder-Oaxaca and Ñopo estimates, mainly related to the structure of the models used, following common practices found in the international literature.

The common support for the different years, for both men and women, reaches 12% in men. In general, the values are similar to those of the models for LAC countries in Ñopo and Hoyos (2010) and Ñopo (2012), which use control variables similar to those presented in this study. As in the Blinder-Oaxaca model, no trend emerges over time and the gap oscillates in magnitude, but it is always in favor of men in the years analyzed.

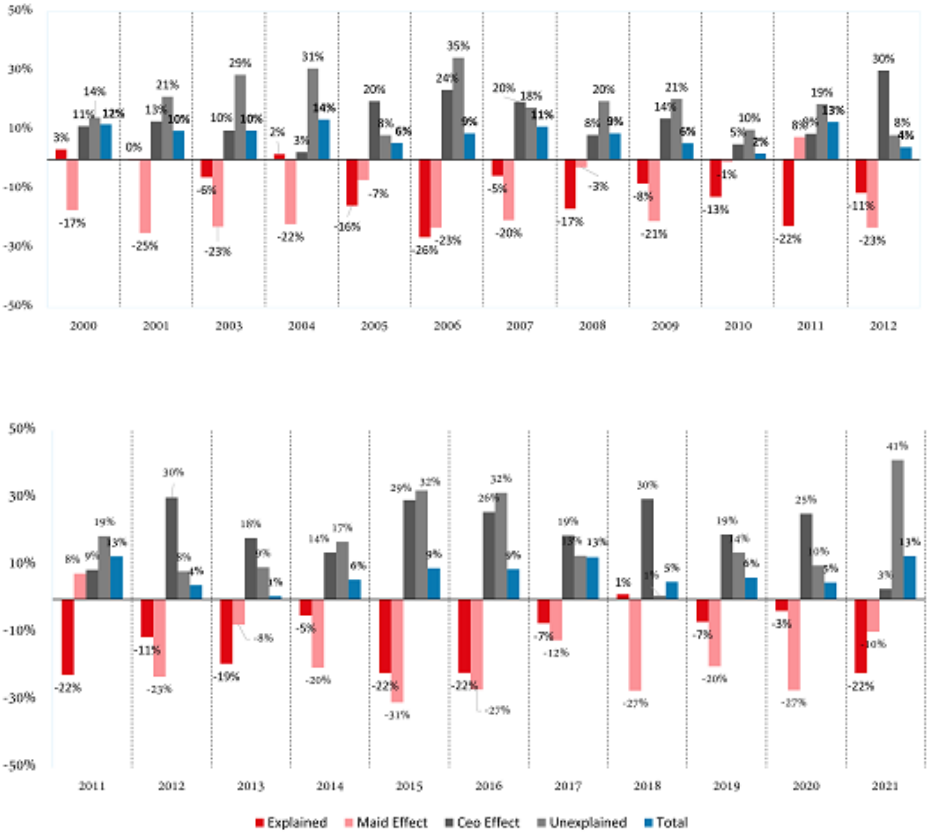
Table 4
Ñopo decomposition* Hourly earnings

	2000	2001	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
(Total)	12%	10%	10%	14%	6%	9%	11%	9%	6%	2%	13%	4%	1%	6%	9%	9%	13%	5%	6%	5%	13%
(Unexplained)	14%	21%	29%	31%	8%	35%	18%	20%	21%	10%	19%	8%	9%	17%	32%	32%	13%	1%	14%	10%	41%
(Maid Effect)	-17%	-25%	-23%	-22%	-7%	-23%	-20%	-3%	-21%	-1%	8%	-23%	-8%	-20%	-31%	-27%	-12%	-27%	-20%	-27%	-10%
(CEO Effect)	11%	13%	10%	3%	20%	24%	20%	8%	14%	5%	9%	30%	18%	14%	29%	26%	19%	30%	19%	25%	3%
(Explained)	3%	0%	-6%	2%	-16%	-26%	-5%	-17%	-8%	-13%	-22%	-11%	-19%	-5%	-22%	-22%	-7%	1%	-7%	-3%	-22%
% Men	21%	20%	21%	21%	18%	17%	16%	16%	14%	14%	15%	14%	12%	13%	12%	12%	20%	21%	21%	18%	19%
% Women	37%	36%	42%	41%	33%	30%	29%	24%	25%	26%	25%	23%	22%	21%	24%	24%	30%	32%	30%	27%	29%
Standard Error	6%	8%	5%	4%	9%	9%	5%	8%	6%	5%	6%	10%	6%	6%	7%	6%	6%	12%	6%	7%	5%

Figure 8 also shows the evolution of the income gap by gender estimated using the Ñopo decomposition. It can be observed that the gap remained high most of the years, presenting a significant decrease in 2012 and 2013, then increasing and reaching a stable differential around 5-6% the last years of analysis.

On the other hand, for 2021 the component explained by the variables used in the model would also be helping to close the gap by 22%, while the unexplained component would be causing a gap of 41%. The latter is the difference in income received by women, which is due to other unobservable factors, which as mentioned above are related to bias and discrimination. Overall, without the higher level of education, the good job profile and the Maid Effect, the gap would be 13% higher in 2021.

Figure 8
Ñopo Decomposition

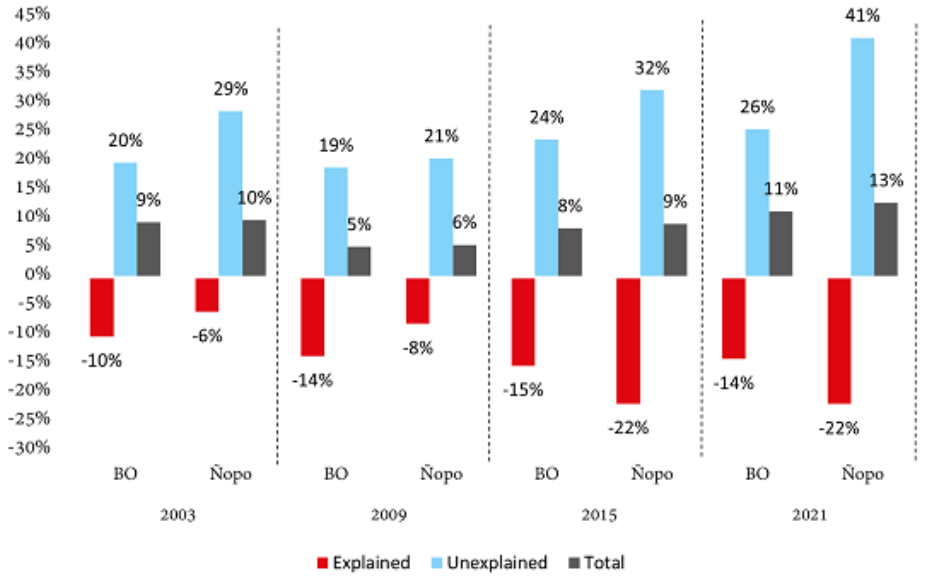


Source: Own elaboration based on the National Labor Force Surveys of the Dominican Republic harmonized by the IDB.
* Only people with occupation and income were included.

Figure 9 compares the income gaps by gender found by calculating both methodologies. As in Figure 5, the years 2003, 2009, 2015 and 2021 are used for the analysis in order to maintain periodicity and not complicate the graphical analysis by using all the years. Both explained and unexplained components are included. It should be noted that both methodologies are consistent in showing that there is for all years an income gap in favor of men generated by factors not explained by the analysis variables. Meanwhile, the explanatory variables show that, if only observable characteristics and their return in income are considered, the gap should be in favor of women.

In Figure 9, it can also be noted that although the total gap has fluctuated over the years, the unexplained gap has significantly increased. This pattern was not disrupted by the COVID-19 crisis.

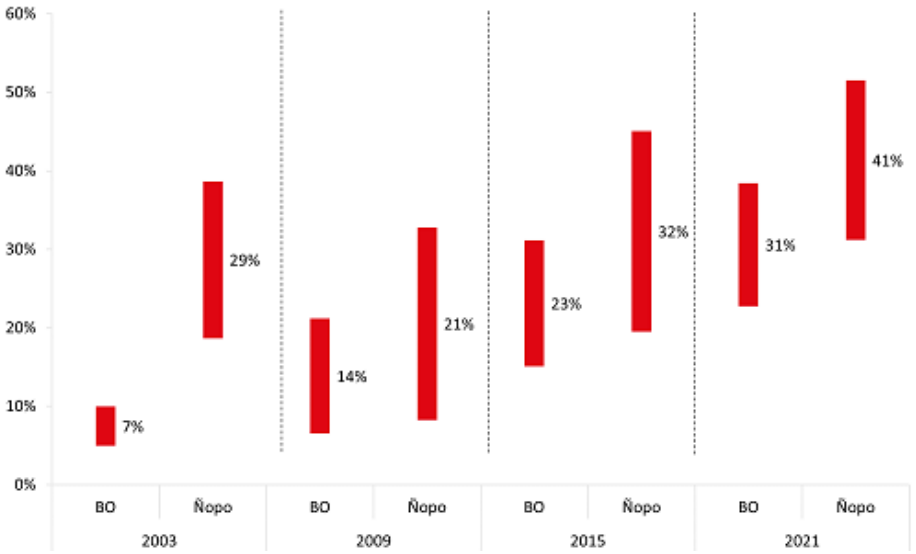
Figure 9
Total income gap estimated by Blinder-Oaxaca (BO) and Ñopo decompositions*



Source: Own elaboration based on the National Labor Force Surveys of the Dominican Republic harmonized by the IDB.
* Only people with occupation and income were included.

On the other hand, Figure 10 shows the evolution of the unexplained gap in the same periods chosen for Figure 9. This includes 95% confidence intervals (1.96 standard deviations above and below the estimator). Figure 10 shows that both methodologies show a statistically significant unexplained income gap for the different years analyzed, with the exception of the Ñopo gap for 2013, which is statistically the same for both methodologies. Since the Ñopo model restricts the comparison of differences only to those men and women with comparable characteristics (common support), the confidence intervals are wider than in the Blinder-Oaxaca model.

Figure 10
Unexplained income gap estimated by Blinder-Oaxaca (BO) and Ñopo decompositions*

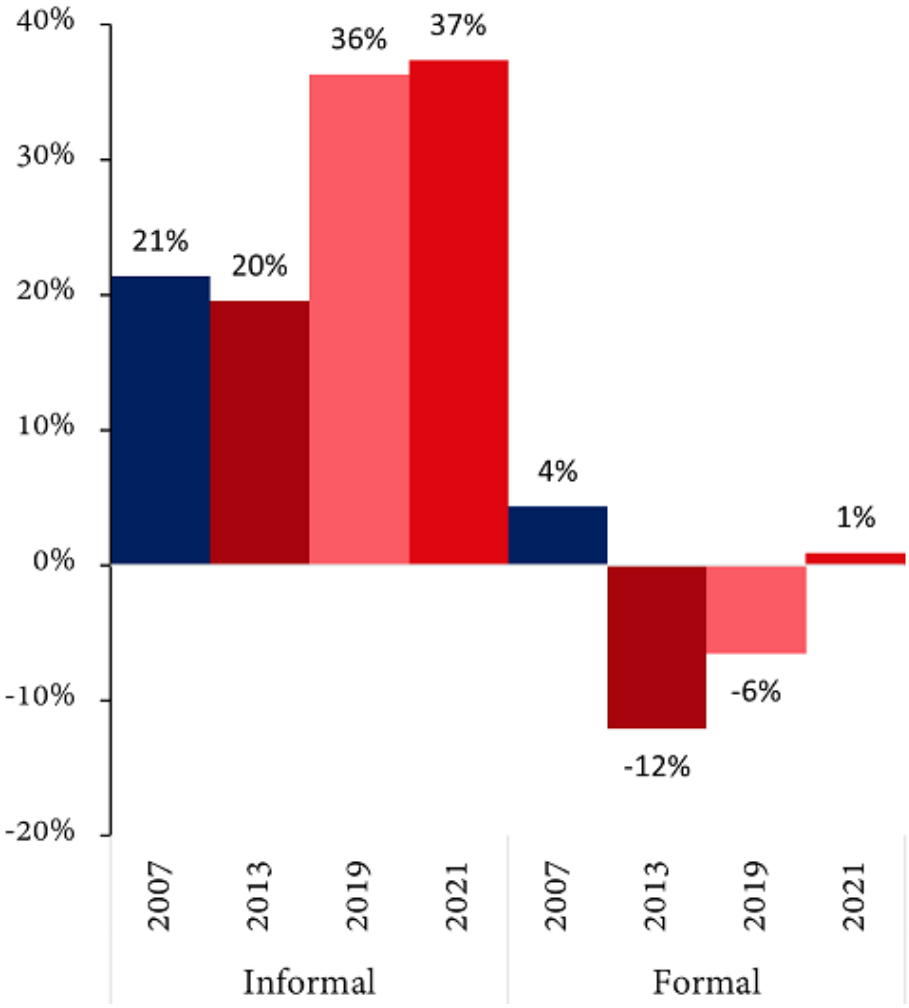


Source: Own elaboration based on the National Labor Force Surveys of the Dominican Republic harmonized by the IDB.
* Only people with occupation and income were included.
Note The bars show the unexplained component at the 95% confidence level.

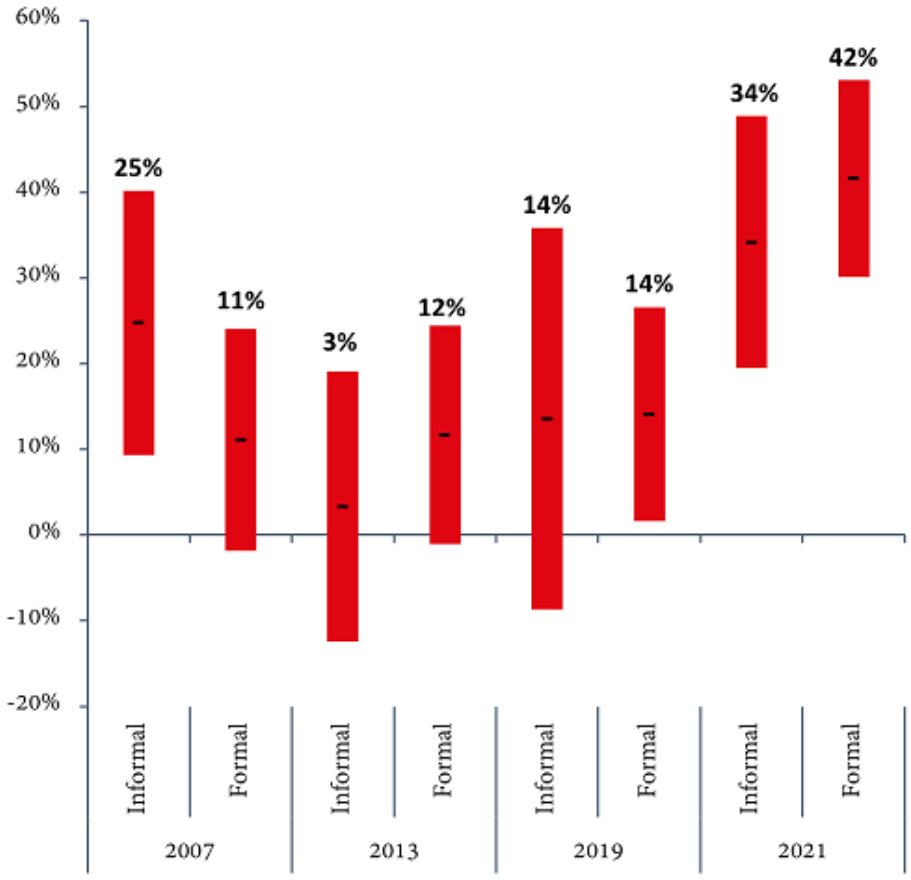
Additionally, the Ñopo decomposition allows to disaggregate the income gap for the categories of the different explanatory variables. Figure 11 presents the income gap, both total and unexplained, by formality status. In the unexplained gap, confidence intervals are added using 1.96 standard deviations above and below the estimator, that is, at the 95% confidence level. A clear distinction is observed between people working in the formal and informal sector. A wide gap is shown between the earnings of people in the informal sector, while in the formal sector the gap is smaller and even in favor of women. However, there does not appear to be a statistically significant difference in the unexplained gap.

The gap in the informal sector may be due to the lack of labor legislation regulating the dependency relationships and business practices prevailing in the sector. The Dominican Republic has recorded a 23% of Affiliation at the general level, being 12% for women and 35% for men (Table A2). This is calculated through long-term social security affiliation or contribution using the 2019 Continuous National Labor Force Survey harmonized by the IDB. Affiliation is recorded at 23% at the general level, being 12% for women and 35% for men (Table A2).

Figure 11
Income gap estimated using the Ñopo decomposition by formality*


40%
30%
20%
10%
0%
-10%
-20%
21%
20%
36%
37%
4%
-12%
-6%
1%
2007
2013
2019
2021
2007
2013
2019
2021
Informal
Formal

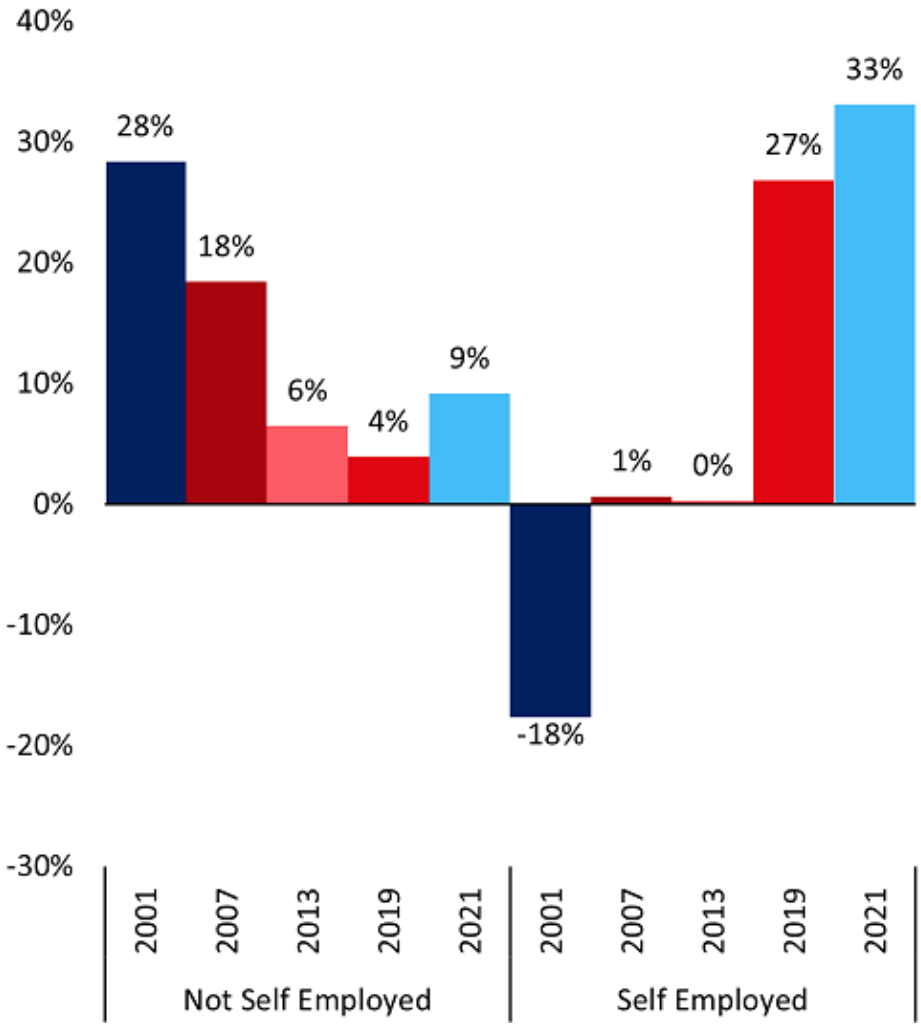
Total gap



Unexplained gap
Source: Own elaboration based on the National Labor Force Surveys of the Dominican Republic harmonized by the IDB.
* Only people with occupation and income were included.
Note The bars show the unexplained component at the 95% confidence level. The most significant economic sectors in the labor market and with the highest number of observations for both genders were used.

In the same way, Figure 12 presents the income gap—both total and unexplained—dividing the employed population between those who are self-employed and those who are not. A particularly striking situation can be observed, characterized by a persistent decrease in the gap among people who are not self-employed, while among the self-employed there seems to have been a gap in favor of women in 2001, which disappeared over the years until it became a very significant gap in favor of men in 2021. When the unexplained gap is analyzed, it shows a behavior similar to that of the total gap.

Figure 12
Income gap estimated by the Ñopo decomposition by self-employment category*

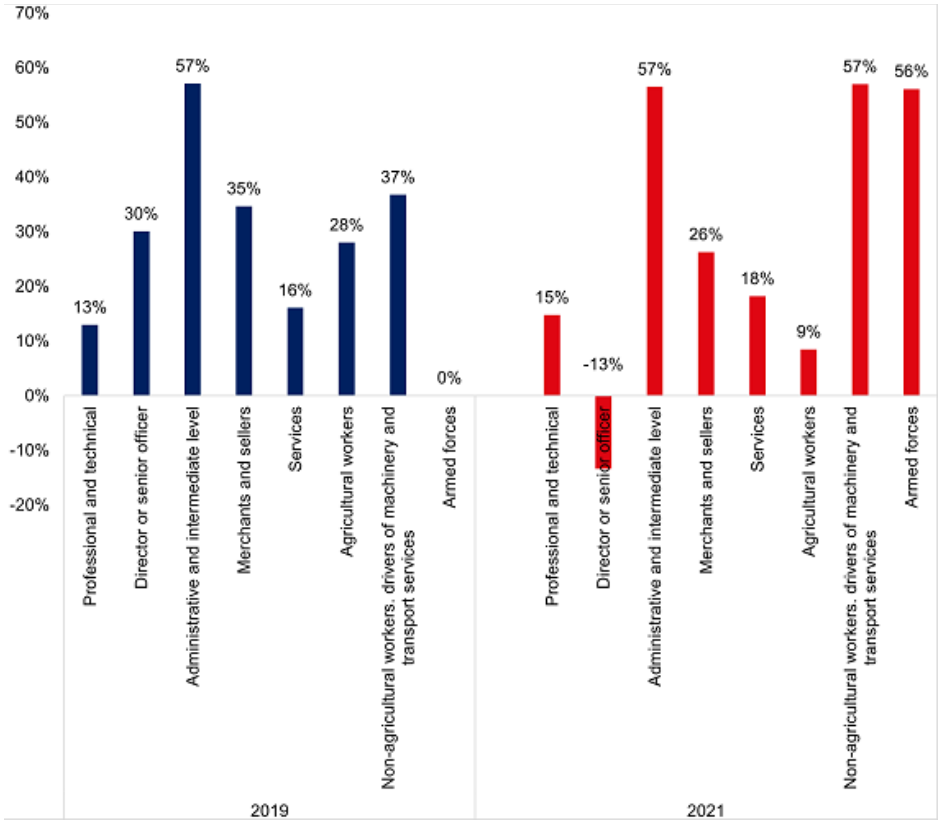

40%
30%
20%
10%
0%
-10%
-20%
-30%
28%
18%
6%
4%
9%
-18%
1%
0%
27%
33%
2001
2007
2013
2019
2021
2001
2007
2013
2019
2021
Not Self Employed
Self Employed

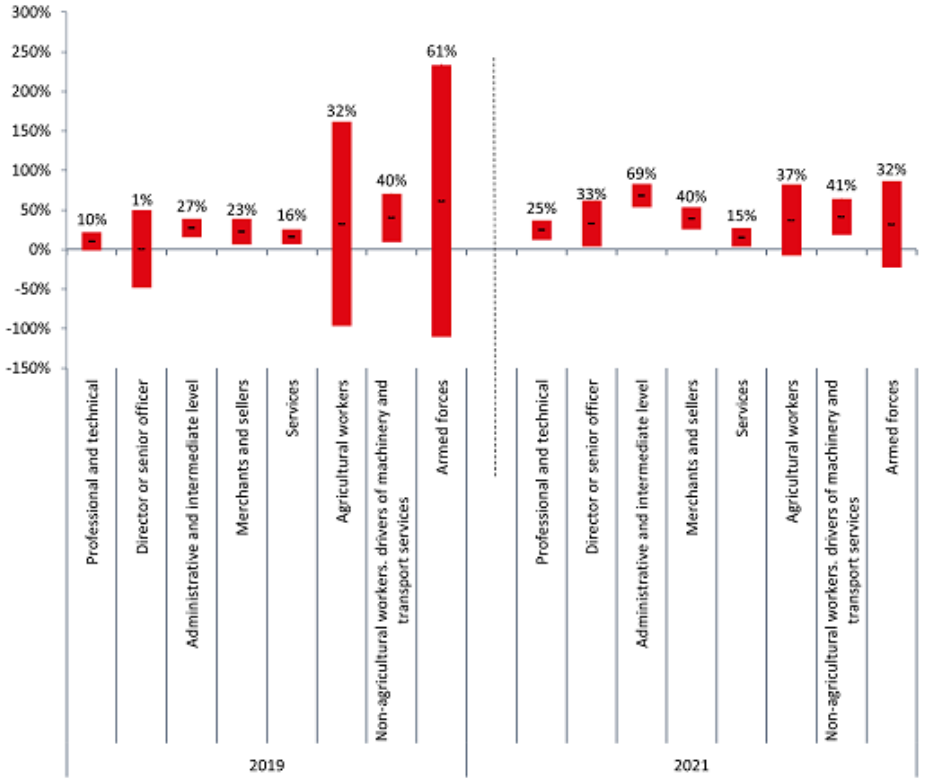
Source: Own elaboration based on the National Labor Force Surveys of the Dominican Republic harmonized by the IDB.
* Only people with occupation and income were included.
Note: The bars show the unexplained component at the 95% confidence level. The most significant economic sectors in the labor market and with the highest number of observations for both genders were used.

It is crucial to acknowledge that the outcomes discussed may vary significantly for migrant women within the country, particularly those who have immigrated from Haiti post-2010. The migration dynamics between Haiti and the Dominican Republic (DR) are complex and dynamic, characterized by a highly active and challenging flow of people. It is estimated that over half a million foreign-born individuals reside in the Dominican Republic without legal status, with the overwhelming majority, 497,825 individuals[14], originating from the neighboring Republic of Haiti.

Graph 13 illustrates the explained and unexplained gender income gaps using the Ñopo decomposition, including the occupation variable. The years 2019 and 2021 are compared to assess the gap before and after the COVID-19 pandemic. The results show an increase in the explained gap in 2021 among non-agricultural workers and the armed forces. Regarding the unexplained gap, it increased in almost all occupations except for the armed forces, where it diminished. However, it is important to consider the low female participation in the armed forces, as shown in Table A2, when interpreting the graph.

Figure 13
Income gap estimated by the Ñopo decomposition by occupation*





Source: Own elaboration based on the National Labor Force Surveys of the Dominican Republic harmonized by the IDB

* Only people with occupation and income were included.
Note: The bars show the unexplained component at the 95% confidence level.

Conclusions

As a general conclusion of the analysis, it can be observed that, at the aggregate level, there is a relevant and statistically significant gap in labor income between men and women in the Dominican Republic. This gap cannot be explained by the variables used in the model, such as experience, personal and family characteristics, economic sector and activity, and region or area of the country, therefore, it is suggested that the income differential by gender is due to normative issues, biases or discrimination. It can also be noted that although the total gap has fluctuated over the years, the unexplained gap has significantly increased. This pattern was not disrupted by the COVID-19 crisis.

It was established that this gap is larger for people working in the informal economy and for self-employed workers, and for those who work in regions where women's labor participation is higher, such as Ozama, Yuma, Higuamo, Cibao Norte and Cibao Noreste. In addition, a substantial CEO Effect was also observed, related to the low participation of women in managerial positions and risky occupations.

In contrast to studies on the income gap in other countries in the region, no different pattern was found indicating that the gap is narrowing over time in the case of the Dominican Republic. This suggests that the unaccountable income gap between men and women has not persistently decreased over the last two decades, limiting income opportunities for women. It could also be seen that the gap is smaller for those women working in the formal sector.

The characteristics that would contribute to closing the gender gap are education and the occupations in which women work, while personal and family characteristics such as age, marital status and the existence of children in the household would constitute characteristics that would generate a gender income gap in favor of men. On the other hand, this study establishes that the regions in which women reside also contribute to reducing the income gap at the aggregate level, given that a high proportion of women work in regions such as Santo Domingo and the tourist areas, both characterized by high economic dynamism. However, there is a significant income gap within these regions, i.e., women in these regions earn above the average of other women, but still earn less than men in these regions.

These findings are in line with the existing literature on gender income gaps in the Dominican Republic. As in Ñopo and Hoyos (2010), it was found that the unexplained gap continues to be very significant in the country; however, and unlike in other LAC countries, there is an explained income gap in favor of men. In agreement with authors such as Chioda (2011) or Gasparini and Marchionni (2015), education is a relevant factor in closing the gap, due to the increase in the proportion of women who have completed their secondary education. As in ILO (Oficina Regional para América Latina y el Caribe, 2019), the unexplained gap persists and is mainly present among low-income workers and self-employed workers.

This document contributes to the diagnosis of the evolution of the situation of the gender labor income gap year by year in the Dominican Republic in the period 2000–2021. The conclusions presented herein are relevant because, in order for public policies to be evidence-based, it is essential to have reliable data and estimates that can be used as input in the decision-making process of public policymakers.

Future analyses will possibly complement the findings of the present work by further disaggregating and deepening the income gap for groups of people with different specific characteristics, as well as by applying new resources to improve the quantification of the income gap and its determinants.

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Appendix

Table A1

Number of observations in the surveys and their representativeness by gender and age group

	2000		2001		2003		2004		2005		2006		2007		2008		2009		2010	
Gender	**N**	**%**	**N**	**%**	**N**	**%**	***N***	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	***N***	**%**	**N**	**%**
Men	6,777	49%	6,646	49%	9,031	49%	8,995	49%	9,333	50%	8,866	49%	8,915	49%	9,198	50%	9,666	51%	9,324	50%
Representativeness	2,480,108	49%	2,500,681	49%	2,649,377	49%	2,710,751	49%	2,807,548	50%	2,850,808	49%	2,924,832	49%	2,983,442	49%	3,050,690	49%	3,117,264	49%
Women	7,133	51%	7,022	51%	9,276	51%	9,243	51%	9,446	50%	9,105	51%	9,274	51%	9,576	50%	9,610	49%	9,375	50%
Representativeness	2,604,379	51%	2,635,194	51%	2,795,451	51%	2,788,604	51%	2,801,457	50%	2,909,435	51%	3,029,041	51%	3,106,623	51%	3,149,121	51%	3,201,819	51%
Age																				
15-25	4,827	33%	4,659	32%	6,072	41%	6,193	42%	6,384	43%	6,102	41%	6,123	42%	6,532	44%	6,567	45%	6,479	44%
Representativeness	1,756,458	40%	1,748,815	40%	1,782,831	41%	1,867,195	43%	1,899,956	44%	1,930,249	44%	1,980,095	46%	2,055,541	47%	2,094,674	48%	2,128,637	49%
26-35	3,336	23%	3,219	22%	4,467	30%	4,384	30%	4,499	31%	4,148	28%	4,206	29%	4,286	29%	4,145	28%	4,063	28%
Representativeness	1,218,143	28%	1,199,156	28%	1,286,022	30%	1,304,491	30%	1,327,322	31%	1,327,877	31%	1,377,343	32%	1,408,529	32%	1,412,629	33%	1,390,597	32%
36-45	2,728	19%	2,679	18%	3,733	25%	3,693	25%	3,788	26%	3,735	25%	3,656	25%	3,919	27%	3,770	26%	3,650	25%
Representativeness	1,009,192	23%	1,015,176	23%	1,091,999	25%	1,095,406	25%	1,123,166	26%	1,182,880	27%	1,190,638	27%	1,261,984	29%	1,243,890	29%	1,263,374	29%
46-55	1,808	12%	1,867	13%	2,617	16%	2,667	17%	2,538	17%	2,345	16%	2,572	17%	2,559	17%	2,740	19%	2,742	19%
Representativeness	657,891	15%	687,777	16%	713,648	16%	760,915	18%	763,587	18%	761,350	18%	856,416	20%	814,503	19%	893,213	21%	923,682	21%
56-65	1,211	8%	1,244	8%	1,618	11%	1,501	10%	1,570	11%	1,641	11%	1,632	11%	1,878	13%	1,854	13%	1,959	13%
Representativeness	442,803	10%	474,751	11%	480,328	11%	473,348	11%	494,954	11%	557,947	13%	549,381	13%	555,108	13%	555,405	13%	611,623	14%
Total	13,910	100%	13,668	100%	18,307	100%	18,238	100%	18,779	100%	17,971	100%	18,189	100%	19,176	100%	19,076	100%	18,899	100%
Representativeness	5,084,487	100%	5,135,675	100%	5,354,828	100%	5,499,355	100%	5,608,985	100%	5,760,303	100%	5,953,873	100%	6,096,065	100%	6,199,811	100%	6,318,283	100%

Table A1 (Continued)

	2011		2012		2013		2014		2015		2016		2017		2018		2019		2020		2021	
Gender	**N**	**%%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**
Men	9483	51%	9302	51%	9416	51%	9015	50%	8698	50%	8669	50%	6842	50%	6516	49%	6748	49%	5567	49%	6251	95%
	319862		319428		330424		341718		344687		346587		327913		325662		330347		331577		331207	
Representative	6	50%	9	49%	5	50%	0	50%	9	49%	4	49%	2	49%	1	49%	9	49%	7	48%	1	48%
Women	9243	49%	9157	50%	9223	49%	8936	50%	8623	50%	8517	50%	6764	50%	6732	51%	6928	51%	5750	51%	6549	51%
	324286		329051		331845		345015		352867		356943		342655		345797		350507		355384		354794	
Representative	7	50%	6	51%	2	50%	8	50%	2	51%	5	51%	9	51%	8	51%	0	51%	5	52%	7	52%
15-25	6347	43%	606	41%	6209	42%	5628	38%	5508	37%	5385	37%	4192	28%	396	27%	4142	28%	3372	30%	3845	30%
	216422		209482		220165		214043		223324		216150		205790		197438		206661		199791		200251	
Representative	4	50%	6	48%	0	51%	2	49%	2	51%	8	50%	4	47%	5	46%	9	47%	4	29%	0	29%
26-35	3965	27%	39	26%	3976	27%	3899	26%	3687	25%	3585	24%	283	19%	2883	20%	3082	21%	2418	21%	2898	23%
	140595		140701		144124		150424		148996		151609		142478		147198		151770		147020		156230	
Representative	3	32%	2	32%	8	33%	6	35%	1	34%	5	35%	7	33%	4	34%	3	35%	5	21%	1	23%
36-45	3631	25%	3606	24%	3517	24%	3516	24%	3526	23%	3328	23%	2586	18%	2618	18%	2618	18%	2203	19%	2431	19%
	124244		129639		124351		133265		133408		135932		130281		135490		129091		134366		130815	
Representative	2	29%	9	30%	9	29%	8	31%	8	31%	8	31%	1	30%	5	31%	9	30%	3	20%	3	19%
46-55	2782	19%	2844	19%	2871	19%	2888	20%	2853	19%	2868	19%	2235	15%	22	15%	2229	15%	1919	17%	2020	16%
			100209		102073		114579		116326		118738		112107		111708		113974		117200		110499	
Representative	96218	29%	5	23%	3	24%	7	26%	5	27%	6	27%	3	26%	1	26%	8	26%	6	17%	1	16%
56-65	2001	14%	2049	14%	2068	14%	202	14%	1947	13%	202	14%	1563	11%	1546	10%	1605	11%	1405	12%	1606	13%
Representative	666694	15%	684473	16%	715449	16%	744205	17%	754995	17%	810992	19%	799116	18%	796244	18%	814562	19%	885834	13%	883063	13%
Total	18726	100%	18459	100%	18639	100%	17951	100%	17321	100%	17186	100%	13406	100%	13248	100%	13676	100%	11317	100%	12930	100%
	644149		648480		662269		686733		697555		703530		670569		671459		680954		686962		686962	
Representative	3	100%	5	100%	7	100%	8	100%	1	100%	9	100%	1	100%	9	100%	9	100%	2	100%	2	100%

Source: Own elaboration based on the National Labor Force Surveys of de Dominican Republic harmoniz ed by the IDB

Table A2

Distribution of characteristics of the employed population that earns income, by year and gender, men (M) and women (W)

	2000		2001		2002		2004		2005		2006		2007		2008		2009	
	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W
Years of Education	7.6	7.9	7.6	7.9	7.6	7.9	7.6	7.9	7.6	7.9	7.6	7.9	7.6	7.9	7.6	7.9	7.6	7.9
None	68%	66%	68%	65%	64%	62%	62%	60%	29%	28%	29%	26%	26%	25%	29%	26%	27%	24%
Elementary school	29%	27%	26%	28%	30%	28%	31%	28%	44%	40%	44%	40%	44%	40%	42%	37%	43%	38%
Secondary education	16%	19%	17%	20%	18%	23%	19%	23%	19%	23%	20%	24%	21%	24%	20%	25%	22%	27%
Tertiary education	8%	8%	7%	7%	7%	8%	7%	9%	7%	9%	8%	10%	8%	10%	7%	11%	8%	11%
Years of experience	20.3	20.0	20.7	20.3	20.4	19.9	19.9	19.8	19.9	20.0	20.4	19.7	20.1	19.8	20.1	19.4	19.6	19.6
15-25	35%	34%	34%	34%	34%	32%	35%	32%	31%	32%	33%	33%	33%	32%	33%	34%	34%	33%
26-35	23%	25%	23%	23%	23%	25%	23%	25%	23%	25%	23%	23%	23%	24%	24%	23%	23%	22%
36-45	20%	20%	20%	19%	20%	21%	20%	20%	20%	20%	20%	21%	20%	21%	21%	21%	19%	21%
46-55	14%	12%	14%	14%	13%	13%	14%	14%	14%	14%	13%	13%	15%	14%	13%	13%	14%	14%
56-65	9%	9%	9%	9%	9%	9%	8%	9%	9%	9%	10%	10%	9%	10%	9%	9%	8%	10%
Married	52%	54%	52%	53%	53%	56%	52%	55%	49%	53%	50%	52%	50%	52%	50%	51%	48%	51%
Children under six years of age in the household	32%	36%	33%	38%	33%	38%	32%	37%	30%	36%	29%	35%	29%	35%	29%	34%	28%	34%
Agriculture, hunting, forestry and fishing	21%	2%	20%	1%	18%	2%	19%	2%	18%	2%	19%	2%	18%	2%	18%	2%	19%	2%
Mining and quarrying	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Manufacturing	17%	19%	16%	15%	16%	16%	17%	16%	16%	16%	16%	13%	15%	13%	16%	10%	12%	8%
Electricity, gas and water	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	0%	1%	1%	1%	1%	1%	1%
Construction	9%	0%	10%	1%	11%	1%	10%	1%	10%	0%	11%	0%	11%	1%	11%	1%	10%	0%
Commerce, restaurants and hotels	25%	28%	23%	32%	24%	28%	24%	28%	24%	29%	25%	28%	26%	27%	25%	28%	27%	28%
Transport and storage	9%	2%	11%	2%	11%	2%	10%	3%	11%	2%	11%	2%	11%	2%	11%	2%	11%	1%
Financial, insurance and real estate establishments	2%	3%	2%	3%	2%	4%	2%	3%	2%	3%	2%	4%	2%	4%	2%	4%	3%	4%
Social and community services	16%	45%	17%	45%	17%	43%	17%	43%	17%	43%	16%	51%	16%	51%	17%	52%	16%	56%
Otama	32%	34%	32%	34%	32%	35%	33%	34%	33%	34%	33%	34%	32%	34%	32%	34%	32%	33%
Tama	5%	5%	5%	4%	5%	5%	5%	6%	5%	5%	5%	5%	5%	5%	6%	6%	6%	5%
Higuamo	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	6%	6%	6%	6%
Cibao Nororte	8%	8%	9%	9%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%
Cibao Norte	17%	17%	17%	17%	18%	17%	17%	17%	17%	17%	17%	17%	18%	18%	18%	17%	18%	17%
Cibao Noroeste	5%	5%	5%	4%	5%	4%	4%	4%	5%	4%	4%	4%	4%	5%	5%	4%	5%	4%
Cibao Sur	8%	8%	8%	8%	8%	8%	8%	8%	9%	8%	8%	8%	9%	8%	9%	8%	8%	8%
El Valle	4%	3%	4%	4%	3%	3%	3%	3%	4%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Valdesia	10%	10%	10%	10%	11%	11%	11%	10%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%
Enriquillo	4%	4%	4%	4%	3%	3%	4%	3%	4%	3%	4%	3%	4%	3%	4%	3%	4%	3%
Urban	66%	67%	70%	73%	70%	73%	64%	68%	64%	68%	65%	68%	65%	67%	66%	70%	66%	72%
Formal	-	-	-	-	-	-	-	-	26%	27%	23%	30%	28%	35%	30%	37%	25%	37%
Self-employed	34%	10%	34%	10%	34%	9%	33%	9%	33%	10%	35%	10%	33%	11%	36%	10%	34%	10%

Table 2 (Continued)

	2010		2011		2012		2013		2014		2015		2016		2017		2018		2019		2020		2021	
	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W
Years of Education	7.6	7.9	7.6	7.9	7.6	7.9	7.6	7.9	7.6	7.9	7.6	7.9	7.6	7.9	7.6	7.9	7.6	7.9	7.6	10.3				
None	27%	25%	26%	22%	25%	23%	25%	22%	24%	22%	23%	21%	23%	20%	20%	17%	19%	15%	17%	14%	18%	15%	17%	13%
Elementary school	43%	38%	43%	38%	43%	37%	42%	37%	41%	36%	42%	36%	42%	35%	45%	36%	43%	35%	42%	35%	42%	34%	41%	32%
Secondary education	23%	28%	24%	29%	24%	30%	25%	31%	26%	30%	26%	31%	27%	31%	29%	35%	31%	37%	33%	38%	33%	38%	34%	39%
Tertiary education	7%	11%	7%	10%	7%	11%	8%	10%	8%	13%	9%	13%	9%	14%	6%	12%	7%	13%	7%	13%	7%	13%	8%	15%
Years of experience	20.1	19.7	20.0	19.9	20.3	20.1	20.0	20.3	20.7	20.2	20.4	20.2	20.8	20.3	20.4	20.4	20.6	20.0	20.3	19.8	20.9	20.5	20.5	20.1
15-25	34%	33%	34%	32%	33%	31%	33%	32%	32%	30%	33%	31%	31%	30%	32%	29%	30%	29%	31%	29%	30%	28%	30%	28%
26-35	22%	22%	22%	22%	21%	22%	22%	22%	22%	22%	21%	22%	23%	22%	22%	23%	22%	22%	22%	23%	22%	21%	23%	23%
36-45	20%	20%	18%	21%	20%	20%	18%	19%	18%	19%	17%	20%	20%	19%	17%	20%	20%	20%	19%	19%	19%	20%	17%	19%
46-55	14%	13%	14%	16%	15%	16%	15%	16%	16%	17%	16%	17%	16%	17%	16%	18%	16%	17%	16%	17%	17%	17%	15%	17%
56-65	10%	10%	11%	10%	10%	11%	11%	11%	11%	12%	11%	11%	12%	12%	12%	12%	12%	12%	12%	12%	12%	13%	11%	13%
Married	47%	50%	47%	58%	47%	58%	46%	50%	48%	52%	48%	58%	48%	51%	46%	48%	48%	49%	48%	49%	47%	49%	47%	48%
Children under six years of age in the household	28%	33%	26%	33%	27%	33%	27%	34%	26%	32%	25%	31%	25%	32%	25%	33%	24%	33%	24%	31%	22%	30%	24%	30%
Agriculture, hunting, Forestry and fishing	19%	2%	20%	2%	19%	2%	19%	2%	19%	3%	17%	2%	18%	1%	14%	1%	12%	1%	12%	1%	13%	1%	10%	1%
Mining and quarrying	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Manufacturing	12%	8%	11%	9%	12%	10%	12%	7%	11%	9%	11%	8%	11%	8%	12%	8%	12%	8%	12%	8%	12%	8%	11%	8%
Electricity, gas and water	1%	1%	1%	0%	1%	1%	1%	1%	1%	1%	1%	0%	1%	1%	2%	1%	1%	1%	1%	1%	1%	10%	2%	1%
Construction	10%	0%	10%	0%	10%	0%	9%	0%	10%	1%	12%	1%	10%	1%	14%	1%	14%	1%	12%	0%	14%	0%	15%	0%
Commerce, restaurants and hotels	26%	29%	26%	29%	26%	28%	25%	29%	27%	28%	26%	29%	27%	27%	19%	19%	20%	17%	21%	18%	22%	21%	22%	19%
Transport and storage	12%	1%	11%	2%	12%	1%	11%	3%	11%	2%	11%	3%	11%	2%	17%	12%	16%	11%	17%	12%	17%	10%	17%	11%
Financial, insurance and real estate establishments	3%	3%	2%	5%	2%	4%	2%	4%	3%	3%	3%	4%	2%	3%	2%	3%	3%	3%	2%	3%	3%	1%	2%	3%
Social and community services	16%	53%	17%	53%	18%	54%	19%	53%	18%	54%	19%	54%	20%	57%	18%	56%	21%	58%	21%	56%	19%	56%	20%	57%
Otama	32%	33%	32%	34%	32%	33%	32%	33%	32%	33%	32%	33%	31%	33%	37%	38%	37%	39%	38%	38%	37%	39%	38%	39%
Tama	6%	6%	6%	5%	6%	6%	6%	6%	6%	6%	6%	5%	6%	5%	6%	7%	7%	7%	7%	7%	7%	7%	7%	7%
Higuamo	7%	6%	6%	6%	6%	7%	6%	6%	6%	6%	7%	7%	7%	7%	6%	6%	5%	6%	5%	6%	5%	6%	6%	6%
Cibao Nororte	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	6%	6%	6%	6%	6%	7%	6%	7%	6%	7%
Cibao Norte	17%	18%	17%	17%	17%	18%	17%	18%	17%	18%	17%	18%	17%	18%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%
Cibao Noroeste	5%	4%	5%	4%	5%	4%	5%	4%	5%	4%	5%	4%	5%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Cibao Sur	9%	8%	9%	8%	9%	8%	8%	8%	8%	8%	8%	8%	9%	8%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%
El Valle	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	4%	3%	2%	2%	2%	3%	2%	3%	2%	3%	2%	3%
Valdesia	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Enriquillo	4%	3%	4%	3%	4%	3%	4%	3%	4%	4%	4%	4%	4%	4%	4%	3%	4%	3%	4%	3%	4%	3%	4%	3%
Urban	67%	70%	66%	72%	66%	69%	67%	69%	66%	70%	66%	70%	66%	70%	80%	82%	81%	83%	82%	83%	82%	84%	83%	84%
Formal	31%	38%	28%	37%	29%	37%	30%	36%	33%	41%	35%	42%	35%	44%	36%	43%	37%	43%	39%	47%	36%	44%	36%	41%
Self-employed	37%	12%	37%	12%	36%	12%	35%	11%	37%	10%	36%	11%	35%	10%	35%	11%	35%	12%	35%	12%	36%	13%	36%	14%

Source: Own elaboration based on the National Labor Force Surveys of the Dominican Republic by the IDB. ins. data: There is not enough data to calculate the percentage. *We use probability weights

Table A3

Women's participation by occupation (%) and average hourly income (₲)

	2000		2001		2003		2004		2005		2006		2007		2008		2009	
	(%)	RD$	(%)	RD$	(%)	RD$	(%)	RD$	(%)	RD$	(%)	RD$	(%)	RD$	(%)	RD$	(%)	RD$
Professional and technical	51%	51	51%	49	50%	61	51%	66	52%	100	51%	101	52%	94	53%	118	52%	122
Director or senior officer	26%	95	37%	83	29%	110	36%	120	34%	151	43%	150	27%	150	28%	171	37%	266
Administrative and intermediate level	66%	23	63%	26	69%	28	66%	29	65%	38	67%	46	69%	49	70%	52	69%	50
Merchants and sellers	46%	23	52%	25	45%	28	46%	29	47%	35	45%	38	44%	43	45%	44	39%	52
Services	57%	24	57%	26	60%	27	57%	34	59%	48	63%	42	62%	50	62%	63	62%	52
Agricultural workers	5%	22	3%	31	3%	23	4%	22	6%	26	5%	24	4%	25	4%	40	4%	49
Non-agricultural workers, drivers of machinery and transport services	19%	18	14%	21	14%	25	14%	28	12%	34	12%	39	12%	38	10%	37	9%	56
Armed forces	4%	12	4%	18	9%	87	16%	31	10%	35	18%	40	9%	95	21%	34	11%	55
Other	37%	14	40%	19	40%	20	41%	22	39%	30	43%	32	45%	36	41%	36	39%	37
Total	**51%**	**27**	**51%**	**30**	**51%**	**35**	**51%**	**38**	**50%**	**52**	**51%**	**55**	**51%**	**55**	**51%**	**64**	**51%**	**69**

Table 3 (Continued)

	2010		2011		2012		2013		2014		2015		2016		2017		2018		2019		2020		2021	
	(%)	RD$	(%)	RD$	(%)	RD$	(%)	RD$	(%)	RD$	(%)	RD$	(%)	RD$	(%)	RD$	(%)	RD$	(%)	RD$	(%)	RD$	(%)	RD$
Professional and technical	58%	133	57%	132	58%	136	54%	156	55%	155	52%	158	56%	165	63%	191	59%	227	62%	212	61%	199	58%	208
Director or senior officer	34%	211	46%	230	46%	208	42%	257	38%	255	51%	201	39%	240	46%	255	42%	285	40%	356	43%	317	45%	318
Administrative and intermediate level	64%	57	66%	59	67%	61	65%	68	66%	64	59%	66	68%	75	64%	78	64%	86	64%	84	64%	77	64%	85
Merchants and sellers	47%	59	46%	52	46%	52	46%	54	44%	50	47%	73	45%	69	54%	68	51%	74	53%	74	54%	63	53%	72
Services	63%	59	60%	57	61%	62	62%	63	55%	71	62%	72	62%	73	63%	60	64%	63	66%	68	68%	67	67%	74
Agricultural workers	6%	34	8%	32	5%	36	5%	34	4%	66	4%	56	4%	45	4%	58	6%	42	4%	56	5%	52	7%	58
Non-agricultural workers, drivers of machinery and transport services	9%	39	11%	48	10%	52	8%	56	10%	60	10%	65	10%	71	13%	59	12%	62	14%	64	12%	63	12%	76
Armed forces	16%	44	27%	45	28%	63	9%	81	17%	58	8%	67	14%	84	18%	247	11%	192	11%	94	11%	128	17%	126
Other	40%	46	39%	44	39%	44	41%	48	41%	51	41%	52	42%	54	0%	0	10%	14	24%	209	8%	0	9%	25
Total	**51%**	**74**	**50%**	**73**	**51%**	**77**	**50%**	**83**	**50%**	**84**	**51%**	**89**	**51%**	**93**	**51%**	**95**	**52%**	**109**	**51%**	**130**	**51%**	**110**	**51%**	**110**

Source: Own elaboration based on the National Labor Force Surveys of the Dominican Republic harmonized by the IDB.
* We use probability weights.

Notes

1 Own elaboration based on the National Continuous Labor Force Survey of the Dominican Republic in 2019 harmonized by the IDB.
2 According to the Ministry of Women, in 2016, women over 10 years of age dedicated 31.2 hours on average per week to unpaid work versus 9.6 for men.
3 For strictly stylistic reasons, the unmarked inclusive masculine gender is used in this document, regardless of the sex of the individuals.
4 Economically active persons who are not affiliated and/or do not contribute to the Dominican Republic's pension system are considered informal.
5 -
6 For the Inter-American Development Bank, the CID region consists of 10 countries: Belize, Costa Rica, El Salvador, Guatemala, Haiti, Honduras, Nicaragua, Mexico, Panama and the Dominican Republic.
7 The main methodological changes in the survey were related to sampling issues, changes in the age limit of the working age population and the adjustment of the situation and occupational categories to the new international standards.
8 An analysis that includes this year and at least one post-pandemic period is planned for the near future, in order to establish the impacts that the pandemic may have had on the employment situation of women.
9 The regional division used in the survey is as follows: Ozama, Yuma, Higuamo, Cibao Noreste, Cibao Norte, Cibao Noroeste, Cibao Sur, El Valle, Valdesia and Enriquillo.
10 Probability weights are used in the above sample.
11 Labor income from the main activity and probabilistic weight consequences are used.
12 In line with Urquidi, Valencia y Durand (2021); Urquidi, Chalup y Durand (2022); Urquidi y Chalup (2023).
13 Calculations not included in the model showed that adding these variables significantly decreased the common support and increased the standard deviation of the variables, without modifying the overall results.
14 UN IOM. 2021 approximations.

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Labor income gap by gender in the Dominican Republic: an analysis of its evolution in the period 2000–2021

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