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Application of The Blinder-Oaxaca Decomposition Method to Analyze The Unemployment Gap Between Gender in Riau Province in 2022

Puji Wahyu Widayati[1], Harlen[2], Yusni Maulida[3]
[1] Universitas Riau and pwwidayati@gmail.com
[2] Universitas Riau and harlen@lecturer.unri.ac.id
[3] Universitas Riau and yusni.maulida@lecturer.unri.ac.id

ABSTRACT

Gender equality is one of the goals of SDG, so every country needs to make efforts so that gender equality can be realized. Gender inequality is calculated using the Gender Inequality Index (GII). One of the components in preparing the Gender Inequality Index is labor force participation rate. Within the population included in the labor force, some people are employed and unemployed. In this study, gender inequality in terms of unemployment will be calculated using Blinder-Oaxaca decomposition with three calculation stages. The first is probit regression analysis, the second is marginal effects and the third is Oaxaca blinder decomposition. The results of the probit regression analysis show that all observed independent variables significantly effect on unemployment for both men and women. Meanwhile, the marginal effect results show that this variable's influence is quite small, only 0.1 - 2 percent. The results of Oaxaca blinder decomposition show that the inequality between male and female unemployment is 1.42%, of which 29.88% is influenced by, observed factors and unobserved factors influence the remaining. There are only three variables that influence the gender gap, namely marital status, number of household members and household income 70.12%.

Keywords: *Gender, Labor Force, Unemployment, Decomposition*

1. INTRODUCTION

In 2015, the UN launched a sustainable development program called "Sustainable Development Goals (SDGs)" to replace the previous program, namely "Millennial Development Goals (MDGs)". One of the SDGs goals (goal 5) is gender equality where the content of the goal is to achieve gender equality and empower women [1].

In 2017, the BPS-Statistics began conducting a study of the Gender Inequality Index Measurement, the method of which was adopted from the Gender Inequality Index (GII) introduced by the UNDP (United Nations Development Program). This index describes the potential for human development achievements that are lost as a result of the inequality in development achievements between men and women[2]. Globally, gender inequality in Indonesia in 2022 is ranked 92nd out of 146 countries and the index achievement is 0.46. Meanwhile, nationally, Riau Province is ranked 16th out of 34 provinces with an GII value of 0.47. This value is slightly higher than the national GII value [3].

This figure shows that the failure or loss of human development achievements caused by gender inequality in Riau Province is 47 percent. In calculating the GII, three dimensions and five indicators are used. These dimensions include the dimensions of health, women's empowerment and the labor market. The labor market dimension uses indicators of labor force participation rates. In the GII preparation indicators, it can be seen that the labor force partisipation rate value has tended to decline over the last five years (2018-2022) for both men and women. However, the decline in labor force participation rates for men was not as big as for women.

The labor force participation rate is the percentage of the labor force (working and looking for work) of the total population 15 years and over. To see the absorption of workers entering the labor market, the open unemployment rate figure is used. This figure shows the percentage of the workforce that is not absorbed in the labor market. In total, open unemployment rate in Riau Province in 2022 is 4.37 percent. However, if we group them again according to gender, women's open unemployment rate is always higher than men's, even though their labor force participation rate value is only half that of men [4].

Table 1. Gender Inequality Index and Its Constituent Components in Riau Province 2018-2022

No	Year	Proportion of births not in health facilities	Proportion of women aged 15-49 years whose first live birth was less than 20 years old	Percentage of representation in parliament		Percentage of population 25+ Minimum high school education		Labor Force Participation Rate		GII
				Male	Female	Male	Female	Male	Female	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1	2018	0,302	0,222	71,87	28,13	43,40	38,97	83,88	45,68	0,50
2	2019	0,274	0,251	81,54	18,46	44,16	38,56	83,74	45,26	0,52
3	2020	0,238	0,231	81,54	18,46	45,76	42,85	83,25	46,40	0,50
4	2021	0,204	0,214	78,46	21,54	46,39	43,04	82,15	47,14	0,48
5	2022	0,159	0,232	78,46	21,54	45,76	43,24	83,59	43,28	0,47

Source: bps.go.id, BPS 2023 [5]

Based on the results of research by [6]entitled Gender Gaps in Unemployment Rates in Argentina which examined the gender gap in open unemployment rates in Argentina, examining the influence of individual characteristics (gender, age, education, marital status, household characteristics (number of dependents and income) as well as the level of education and region of origin of respondents. Using microeconometric decomposition techniques, the results show that overall, the gender gap in open unemployment rates in Argentina is explained not by differences in the characteristics of men and women, but by differences in the labor market regarding their characteristics. especially those related to marital status. So, differences in the behavior of men and women and the practices of entrepreneurs regarding gender are the cause of the gender gap. During the observation period, the unemployment gap between genders was 34.63 percent. and the results obtained showed that the independent variables, namely gender, age, marital status, area of residence, number of dependent children, household income and education, had a significant effect on unemployment.

Unemployment is a major problem in macroeconomics. Unemployment will cause other problems such as poverty. This will certainly hinder the achievement of development goals [7]. By adopting the Bilnder-Oaxaca decomposition method to measure the gender wage gap and decompose its causes, this research will produce the unemployment gap between genders and decompose its causes [8]. In order to achieve this goal, a three-stage analysis will be carried out. First, examine the characteristics of male and female unemployment in Riau Province, then examine the influence of these characteristics on unemployment for each gender and finally identify whether the

unemployment gap between genders is caused by differences in the characteristics of men and women or other factors that cannot be explained.

Previous research conducted to analyze the unemployment gap between genders, one of which was by, examined the gender gap in unemployment in Spain using the Blinder-Oaxaca decomposition method, showing that the gender gap was not caused by observed characteristics. Women's personal characteristics such as education level and occupation contribute to narrowing the gender gap. [9] also researched the unemployment gap between genders in 21 European Union countries using the decomposition method. The results show that variations in the gender unemployment gap between countries are mainly driven by differences in women's labor force participation behavior after giving birth, namely the duration of family leave and women's engagement in the labor force.

[10] examined the differences in unemployment between men and women in the Czech Republic, East Germany, Poland and Russia after the transition from communist countries, showing that most of the gender gap in unemployment rates was in the Czech Republic, East Germany, Poland and Russia in the early transition period is explained by one common thread: the low probability of women finding work over unemployment. These results also hold in the Czech Republic even after controlling for demographic, regional, and cyclical factors that may influence gender differences in unemployment. From Marston's decomposition results, the unemployment gap between men and women in the Czech Republic is 6.0 percent, East Germany 8.4 percent, Poland 12.2 percent and Russia 3 percent.

[11] who researched the gender gap in unemployment in urban areas in Kenya showed that the overall probability of unemployment is strongly influenced by gender, marital status, household leadership, and human resource characteristics such as experience and education level. Decomposition estimates show that in the study period (1986 and 1998), the gender gap in unemployment was largely, about 20 to 27 percent, due to compositional and structural effects. [12], who researched the gender gap in open unemployment in Indonesia, showed that individual characteristics, household characteristics and socio-economic characteristics significantly influence this gap. Based on previous research, the variables used in this research include age, marital status, number of family members, area of residence, household income and education.

2. LITERATURE REVIEW

2.1 Gender Concept

Gender is a cultural concept that attempts to make distinctions in the roles, behavior, mentality and emotional characteristics between men and women that develop in society [13].

According to [14], gender is fundamentally different from biological sex. Biological sex is a given; Humans are born as a man or a woman. However, the process that makes someone masculine or feminine is a combination of basic biological building blocks and biological interpretations by a person's culture. Gender is a set of roles that, like costumes and masks in theater, convey to others that a person is feminine or masculine. These specific sets of behaviors – which include appearance, attitude, personality, work inside and outside the household, sexuality, family responsibilities and so on –

collectively shape a person's gender role. Gender roles change over time and differ from one culture to another.

2.2 Discrimination Theory

The economic theory of discrimination discovered by [15] in his book The Economics of Discrimination can be used to explain the gap in open unemployment rates. According to Becker, the causes of the gap in open unemployment rates based on gender can be seen from two sides, namely demand and supply. On the demand side, higher levels of female unemployment result from discrimination.

2.3 Unemployment Theory

There are several unemployment theories that have been developed by economists to explain the phenomenon of unemployment in the economy. The following are several theories of unemployment put forward by economists:

1. Classical Theory

Classical theory explains the view that unemployment can be prevented through the supply side and price mechanisms in the free market to ensure the creation of demand that will absorb all supply. According to the classical view, unemployment occurs due to temporary misallocation of resources because it can then be overcome by the price mechanism [16].

2. Keynesian theory

According to Keynes's theory, it explains that the problem of unemployment arises due to low aggregate demand. Aggregate demand is all demand for goods and services that occurs in an economy. When the supply of labor increases, wages will fall and a decrease in wages will result in losses rather than profits because the decrease in wages reflects people's purchasing power for goods. People's purchasing power, which is one of the indicators in low HDI, will result in companies reducing their production and being unable to absorb excess labor so that demand and supply of labor are almost never balanced and unemployment often occurs [17].

3. Structural Unemployment Theory

This theory states that unemployment occurs due to a mismatch between the skills possessed by workers and the demand for labor in the market. This can occur due to structural changes in the economy or geographic mismatch between job applicants and job opportunities. This type of unemployment arises because there is a gap between the abilities possessed by the majority of workers and the skills/level of expertise desired by employers [18].

4. Frictional Unemployment Theory

This theory suggests that unemployment can be caused by the time it takes for individuals to find jobs that match their skills and preferences. Information mismatches between job applicants and companies as well as gaps in the job search process are factors that can lead to frictional unemployment. Friction in this information will result in the flow of workers to and from the job market becoming unbalanced and unemployment occurring [18].

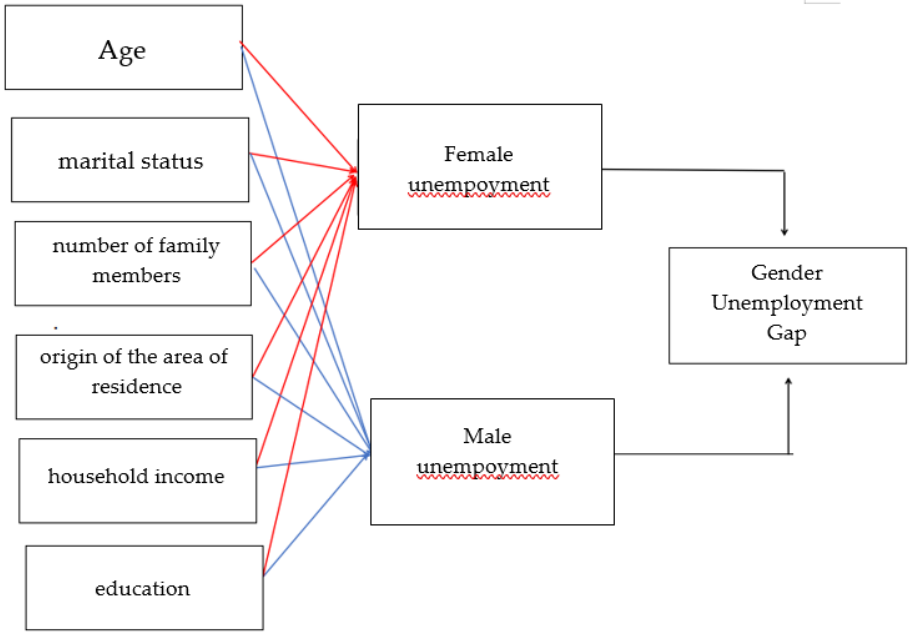

Figure 1. research framework

3. METHODS

This research uses data from the National Labor Force Survey (Sakernas) for August 2022, Riau Province. The unit of analysis in this research is the population which is the workforce. From the individual data in Sakernas, 11,467 individuals were obtained, consisting of 7,635 men and 3,832 women.

Table 2. Operational Definition of Variables

Research variable	Variable Definition	Explanation
Grouping	Grouping each variable based on gender	0 = male 1 = female
Labor Force Status (Y)	Are men/women aged between 15-64 years, who are currently working, temporarily not working and looking for work.	0= if not unemployed (working) 1=if including unemployment
Age (X1)	A person's age is based on their last birthday	Numeric
Marital status (X2)	refers to the state of a person's marriage	0 = if other marital status 1= if marital status is married
Number of household members (X3)	The number of people who live and have shared dining management	Numeric
Origin of area of residence (X4)	Classification of the residential areas based on geographic conditions	0= urban 1= rural
Household income (X5)	Total household income in millions of rupiah	Numeric
Level of education	The last level of education completed	0 = higher education

Research variable	Variable Definition	Explanation
(X6)		1 = low to medium education

The analytical methods used in this research are descriptive analysis and statistical analysis. Descriptive analysis is used to describe the differences in the characteristics of the male and female workforce. The statistical analysis applies the Blinder-Oaxaca Decomposition method with a probit regression analysis flow to determine the influence of individual characteristics on unemployment, followed by marginal effects to determine the magnitude of the influence of individual characteristics on unemployment. The estimation results are used as a basis for calculating the Oaxaca blinder decomposition [19].

Analysis of gender inequality in the employment sector uses the probit regression method. Binary probit regression is a regression method used to analyze dependent variables which are qualitative in nature and several independent variables which are qualitative, quantitative, or a combination of qualitative and quantitative with a normal distribution CDF (cumulative distribution function) approach [20]. The binary probit regression model is as follows:

$$\boldsymbol{Y^{*}} = \boldsymbol{\beta^{T}} \boldsymbol{x_i} + \boldsymbol{\varepsilon} \qquad (1)$$

Where Y* is a vector of discrete response variables, β is a vector of coefficient parameters with β=〖[β_1,β_(2,) β_3,...,β_4] 〗 τ, x is a vector of predictor variables with x=〖[1,x_1,x_(2,),...,x_3] 〗 ^τ , ε is an error that is assumed to be distributed N(0,1) .

Probit model for $Y = 0$ is the probability of failure = $q(xi)$: $P(Y = 0 \mid \boldsymbol{x}) = \Phi(\gamma - \boldsymbol{\beta}\, \boldsymbol{T}\boldsymbol{x}i\ ) = q(\boldsymbol{x}i)$ Meanwhile, the probit model $Y = 1$ is the probability of success = $p(xi)$: $P(Y = 1 \mid \boldsymbol{x}) = 1 - q(\boldsymbol{x}i\ ) = p(\boldsymbol{x}i)$ Where $\Phi(\gamma - \boldsymbol{\beta}\, \boldsymbol{T}\boldsymbol{x}i)$ is the cumulative distribution function of the normal distribution with the following formula :

$$\phi(x) = \int_{-\infty}^{x} \frac{1}{\sqrt{2\pi}} \exp\left(-\frac{x^2}{2}\right) dx \quad (2)$$

The interpretation of the binary probit regression model is not based on the model coefficient values but uses marginal effects. The marginal effect states the magnitude of the influence of each significant predictor variable on the probability of each category in the response variable with the following formula:

$$\begin{aligned}
&\frac{\partial P(Y=1|X)}{\partial X_j} = (-\beta_j)\emptyset(\gamma_1 - \beta^T X)\\
&\frac{\partial P(Y=2|X)}{\partial X_j} = \beta_j[\emptyset(\gamma_1 - \beta^T X) - \emptyset(\gamma_2 - \beta^T X)]\\
&\vdots\\
&\frac{\partial P(Y=j|X)}{\partial X_j} = \beta_j[\emptyset(\gamma_{j-1} - \beta^T X) - \emptyset(\gamma_j - \beta^T X)]\\
&\vdots\\
&\frac{\partial P(Y=k-1|X)}{\partial X_j} = \beta_j[\emptyset(\gamma_{k-2} - \beta^T X) - \emptyset(\gamma_{k-1} - \beta^T X)]\\
&\frac{\partial P(Y=k|X)}{\partial X_j} = \beta_j[\emptyset(\gamma_k - \beta^T X)] \qquad (3)
\end{aligned}$$

with j =1,2,.., p and ϕ is the probability density function of the standard normal distribution.

Next, to determine the gap between men and women, the Blinder-Oaxaca Decomposition is used. Blinder-Oaxaca decomposition is a statistical method used to analyze differences in an outcome or response variable (such as income, salary, or employment) between two groups, usually demographically different groups such as groups of men and women in the context of equal pay. This method is designed to identify and measure the extent to which differences in outcomes

between two groups can be explained by differences in individual characteristics (endowment factors) and the extent to which such differences are due to differences in the effect coefficients of these characteristics (discrimination) [21].

The unemployment estimates obtained are as follows:

$$Y_i = \beta_0 + \beta_1 X_{i1} + \beta_2 X_{i2} + \ldots + \beta_k X_{ik} + \varepsilon_i \quad (4)$$
$$Y_i = \beta_0 + \sum_{i=1}^{n} \beta_k X_{ik} + \varepsilon_i \quad (5)$$

Estimated unemployment for each gender:

$$Y_i^L = \beta_0^L + \sum_{i=1}^{n} \beta_k^L X_{ik}^L + \varepsilon_i^L \quad (6)$$
$$Y_i^P = \beta_0^P + \sum_{i=1}^{n} \beta_k^P X_{ik}^P + \varepsilon_i^P \quad (7)$$

Where L is male and P is female.

The unemployment estimation results for each gender can be written with the following equation:

$$\bar{Y}^L = b^L \bar{X}^L \quad (8)$$
$$\bar{Y}^P = b^P \bar{X}^P \quad (9)$$

The unemployment gap between genders is the total difference between male and female unemployment, so the value is determined by subtracting equations 8 and 9.

$$\Delta\bar{Y} = \bar{Y}^L - \bar{Y}^P = b^L \bar{X}^L - b^P \bar{X}^P \quad 10)$$

If you break it down again, the formula becomes:

$$\Delta\bar{Y} = \bar{Y}^L - \bar{Y}^P = (b^L \bar{X}^L - b^L \bar{X}^P) - (b^P \bar{X}^P - b^L \bar{X}^P) \quad (11)$$
$$\Delta\bar{Y} = \bar{Y}^L - \bar{Y}^P = b^L(\overline{X}^L - \bar{X}^P) + \bar{X}^P(b^L - b^P) \quad (12)$$

$b^L(\overline{X}^L - \bar{X}^P)$ = Characteristic differences (explained)
$\bar{X}^P(b^L - b^P)$ = unexplained

4. RESULT AND DISCUSSION

Table 3. Labor Force Characteristics Based on Gender

Characteristics			Male	Female
Labor Force Status	Employment		7.399 (96,9%)	3.659 (95,5%)
	Unemployment		236 (3,1%)	173 (4,5%)
Age	Employment	15-24	917 (12,4%)	379 (10,4%)
		25-34	1.637 (22,1%)	818 (22,4%)
		35-44	2.115 (28,6%)	1.161 (31,7%)
		45-54	1.825 (24,7%)	906 (24,8%)
		55-64	905 (12,2%)	395 (10,8%)
	Unemployment	15-24	164 (69,5%)	128 (74,0%)
		25-34	48	35

Characteristics			Male	Female
			(20,3%)	(20,2%)
		35-44	14 (5,9%)	6 (0,5%)
		45-54	7 (3,0%)	4 (0,4%)
		55-64	3 (1,3%)	0 (0,00%)
Marital status	Employment	Single	1.423 (19,4%)	507 (13,9%)
		Married	5.745 (77,6%)	2.691 (73,5%)
		Divorced	104 (1,4%)	171 (4,7%)
		Death divorce	118 (1,6%)	290 (7,9%)
	Unemployment	Single	211 (89,4%)	144 (83,2%)
		Married	23 (9,7%)	25 (14,5%)
		Divorced	2 (0,8%)	3 (1,7%)
		Death divorce	0 (0,0%)	1 (0,6%)
Number of Household Members	Employment	1-3	2.611 (35,3%)	1.377 (37,6%)
		4-6	4.401 (59,5%)	2.097 (57,3%)
		7-9	363 (4,9%)	176 (4,8%)
		10-12	24 (0,3%)	9 (0,2%)
	Unemployment	1-3	43 (18,2%)	33 (19,1%)
		4-6	174 (73,7%)	123 (71,1%)
		7-9	18 (7,6%)	15 (8,7%)
		10-12	1 (0,4%)	2 (1,2%)
Residential Area	Employment	Rural	4.693 (63,4%)	2.190 (59,9%)
		Urban	2.706 (36,5%)	1.469 (40,1%)
	Unemployment	Rural	100 (42,4%)	90 (52,0%)
		Urban	136 (57,6%)	83 (48,0%)
Household Income	Employment	<4 Million	4.262 (57,6%)	1.898 (51,9%)
		4-5,99 Million	1.312 (17,7%)	733 (20,0)
		6-8 Million	1.007 (13,6%)	558 (15,3%)

Characteristics			Male	Female
		>8 Million	818 (11,1%)	470 (12,8%)
	Unemployment	<4 Million	148 (62,7%)	117 (67,6%)
		4-5,99 Million	40 (16,9%)	25 (14,5%)
		6-8 Million	28 (11,9%)	17 (15,0%)
		>8 Million	20 (8,5%)	14 (8,1%)
Level of education	Employment	Didn't go to school/didn't finish elementary school	735 (9,9%)	435 (11,9%)
		Completed elementary school or equivalent	1.182 (24,5%)	795 (21,7%)
		Graduated from junior high school or equivalent	1.390 (18,8%)	571 (15,6%)
		Completed SMA/MA/SMLB/ Package C	2.060 (27,8%)	843 (23,0%)
		Finished vocational school	719 (9,7%)	240 (6,6%)
		Graduated from Vocational Madrasah Aliyah	3 (0,0%)	1 (0,0%)
		Completed Diploma	18 (0,2%)	167 (4,6%)
		Finished S1	504 (6,8%)	29 (0,8%)
		Finished S2	38 (0,5%)	547 (14,9%)
		Completed Applied Masters	15 (0,0%)	30 (0,8%)
		Finished S3	1 (0,0%)	1 (0,0%)
	Unemployment	Didn't go to school/didn't finish elementary school	8 (3,4%)	3 (1,7%)
		Completed elementary school or equivalent	16 (6,8%)	6 (3,5%)
		Graduated from junior high school or equivalent	28 (11,9%)	16 (9,2%)
		Completed SMA/MA/SMLB/ Package C	99 (41,9%)	75 (43,4%)

Characteristics			Male	Female
		Finished vocational school	55 (23,3%)	28 (16,2%)
		Graduated from Vocational Madrasah Aliyah	0 (0,0%)	1 (0,6%)
		Completed Diploma	0 (0,0%)	9 (5,2%)
		Finished S1	20 (8,5%)	1 (0,6%)
		Finished S2	0 (0,0%)	32 (18,5%)
		Completed Applied Masters	0 (0,0%)	2 (1,2%)
		Finished S3	0 (0,0%)	0 (0,0%)

Source: Sakernas, 2024 Processed

Based on table 2 above regarding the characteristics of the Labor Force based on gender, it shows that the percentage of women unemployed is still higher than men. Even though the proportion of women in the workplace continues to increase, there are still very few women occupying the highest levels in companies, namely only 6% of women who are CEOs in public companies operating in the manufacturing industry [22]. In the era of industrial revolution 4.0, women have wider opportunities and opportunities to obtain jobs, especially those related to technology. So, women are required to be able to take advantage of these opportunities as best as possible [23].

If we look at age, the most unemployed people, both men and women, are in the age range between 15-24 years. At this age, there are still many workers who do not have experience, so unemployment is quite high.

Meanwhile, looking at marital status, the majority of unemployed people, both men and women, are unmarried. This can be because unmarried people feel they have no dependents and their living needs are still covered by their parents. [24] in their research on working women according to marital status showed that the biggest factor influencing married women to work is economic problems. Increasing expenses due to the increase in household members mean that women with low incomes inevitably have to work.

For the number of household members, both men and women, the highest unemployment is in the number of household members 4-6, but if grouped according to area of residence, male unemployment is greatest in urban areas and women are in rural areas. This could be because men are still willing to migrate to find work while women are not.

Household income of less than 4 million rupiah is the largest for individuals, so this group is the most employed and unemployed, both men and women. If we look at education, the highest number of unemployed people is at the high school level.

4.1 Statistic Analysis

1. Probit Regression

Table 4 Probit Regression Results for the Opportunity to Be Unemployed Based on Gender

Variable	Male		Female	
	Coefficient	P-value	Coefficient	P-value
X1Age	-0.0334672	0.000	-0.0709313	0.000
X2 Maritalstatus	-1.067121	0.000	-0.6247921	0.000

X3 Numberofhousehold members	0.1186997	0.000	0.1149005	0.000
X4 Residential Area	-0.478414	0.000	-0.1820475	0.052
X5 HouseholdIncome	-0.702362	0.000	-0.0806679	0.000
X6 Lasteducation	-0.3953174	0.000	-0.2080839	0.000
Constant	0.0782287	0.710	0.9152487	0.710
Observation	7,635		3,832	
Pseudo R^2	0.3059		0.3458	
Prob LR Statistics	0.0000		0.0000	

Source: Sakernas, 2024 Processed

Table 4 shows the results of probit regression of labor force status by gender. For men, probit regression obtained results that the variables age, marital status, area of residence, household income, last education had a significant and negative effect on the individual's probability of being unemployed, while the number of household members had a positive and significant effect with a p-value of 0.000.

Meanwhile, for women, the same results were obtained, where age, marital status, area of residence, household income and last education had a negative influence on women's probability of being unemployed, while the variable number of household members had a positive and significant effect. In contrast to men, there is one variable that is not significant at the 5 percent confidence level, namely the area of residence, but this variable is still significant at the 10 percent confidence level.

The Pseudo R^2 value contained in Table 4 for men is 30.59 percent, indicating that the model equation in this study is able to explain 30.59 percent of the factors that influence an individual's probability of being unemployed. Meanwhile, the Pseudo R^2 value contained in Table 4 for women is 34.58 percent, indicating that the model equation in this study is able to explain 34.58 percent of the factors that influence an individual's probability of being unemployed. This shows that an individual's internal characteristics do not have much influence on a person's possibility of being unemployed, on the contrary, external factors such as economic growth, inflation and the minimum wage are quite high in influencing unemployment [25]

The Likelihood Ratio (LR) test or in a linear regression test called the Fstatistic Test in the table above for both men and women is shown by the pro>chi2 value of 0.0000, illustrating that together the independent variables influence the probability of an individual being unemployed in a Sakernas household August 2022.

2. Marginal Effect

Table 5. Marginal Effect Probit for the Opportunity to Be Unemployed Based on Gender

Variable	Male		Female	
	Coefficient	P-value	Koefisien	Coefficient
X1Age	-0.0017918	0.000	-0.0046695	0.000
X2 Maritalstatus	-0.0548369	0.000	-0.0411307	0.000
X3 Numberofhousehold members	0.0060997	0.000	0.007564	0.000
X4 Residential Area	-0.0245846	0.000	-0.0119844	0.051
X5 HouseholdIncome	-0.0036093	0.000	-0.0053105	0.000
X6 Lasteducation	-0.0203144	0.000	-0.0136984	0.000

Source: Sakernas, 2024 processed

In table 5 above is the marginal effect for the chance of being unemployed based on gender. There are differences in variables that influence an individual's probability of being unemployed. For men and women, the age variable both has a negative and significant influence on an individual's

probability of being unemployed. For men, adding one year of age can increase individual probability by 0.18%, while for women it is 0.47%.

For the marital status variable, both men and women have a negative and significant effect. For men, married status will reduce the probability of being unemployed by 5.48%, while for women it is 4.11%. The variable number of household members also has a positive and significant effect on the probability of being unemployed for men and women. For men, one additional ART will increase the chance of being unemployed by 0.61%, while for women it is 0.76%.

The area of residence for men has a negative and significant effect while for women it has a negative and significant effect at the 10 percent confidence level. For men who live in rural areas, the probability of being unemployed will decrease by 2.46 percent, while for women it will decrease by 1.20 percent. Household income also has a negative and significant influence on both men and women. An increase in household income of one million rupiah can reduce the probability of individual unemployment by 0.36 percent for men and 0.53 percent for women. On the last education variable, both men and women have a negative and significant influence. This means that for men with low education, the probability of individual unemployment will decrease by 2.03 percent, while for women it will decrease by 1.37 percent.

3. Oaxaca Blinder Decomposition

The results of Oaxaca blinder decomposition show that the gap between male and female unemployment is -0.0142, meaning that the average unemployment rate for women in Riau Province is 1.42 percent higher than for men. Of this total -0.43 percentage points or 29.88 percent is explained by differences in characteristics between women and men. Meanwhile -0.99 percentage points or 70.12 percent was caused by discrimination or unobserved factors.

Table 6. Decomposition of Unemployment Gap Between Genders in Riau Province in 2022

Variable	Total Gap	Endowment Factor	Discrimination Factors
(1)	(2)	(3)	(4)
X1Age		-0.0008049	
X2 Maritalstatus		-0.0044295***	
X3 Numberofhousehold members		0.0009645***	
X4 Residential Area		-0.0002774	
X5 HouseholdIncome		0.0005222**	
X6 Lasteducation		-0.0002284	
Total	**-0.0142359**	**-0.0042535**	**-0.0099824**
Total (%)	**100%**	**29.88%**	**70.12**

In table 6 there are endowment variables that have positive and negative signs. A positive sign indicates that this variable has an influence that will increase the unemployment gap between genders. Variables with a positive and significant sign are the number of household members and household income. The number of household members can reduce the gap by 0.1 percent, while household income can reduce the gap by 0.05 percent.

Meanwhile, a variable with a negative sign means that the variable will actually increase inequality. The variable with a negative and significant sign is marital status. The increase in the number of married people will also increase the unemployment gap between genders by 0.44 percent. There are three variables that are not significant, namely age, area of residence, and highest level of education.

In Bicakova's research (2010) which examined the Unemployment Gap Between Genders in European Union Countries. Several countries such as Chesnya, Estonia, Hungary, Lithuania, Poland,

Slovakia and Slovenia have higher male unemployment, while Latvia has higher female unemployment.

CONCLUSION

Based on the results of the probit regression analysis, it can be concluded that the observed independent variables, namely age, marital status, number of family members, area of residence, household income and education have a significant effect on unemployment for both men and women in Riau Province in 2022.

Based on the results of marginal effect calculations, it was found that all observed independent variables had a significant effect on unemployment for both men and women, but with quite small values, namely between 0.1 and 2 percent.

The unemployment gap between genders is 1.42 percent, 29.88 percent is influenced by observed factors while 70.12 percent is influenced by unobserved factors.

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BIOGRAPHIES OF AUTHORS

	**Puji Wahyu Widayati** graduated from STIS Polytechnic and is currently taking a master's program at Riau University. His fields of study are statistics and economics. The author can be contacted via email pwwidayati@gmail.com
	**Harlen** is a professor at the University of Riau, he completed a Bachelor's degree in Economics at the University of Riau in 1979, a Master's degree in 2002 at Putra Indonesia University YPTK Padang majoring in management, and a PhD at Brawijaya University majoring in economics in 2007. For Correspondence can be done via harlen@lecturer.unri.ac.id
	**Yusni Maulida** is a lecturer at the University of Riau who is involved in economics and management, completed his Bachelor's degree at the University of Riau in 1992 then continued his master's degree at Gajah Mada University in 2000 and in 2012 he completed his PhD at Barwijaya University. For correspondence, please contact yusni.maulida@lecturer.unri.ac.id