Gender Income Inequality of Rural Households in Vietnam: Evidence from the Oaxaca-Blinder Decomposition Method

Tran Minh Son[1], Nguyen Thanh Trong[2], Nguyen Hong Ha[3], Nguyen Thanh Huyen[4], Nguyen Thi Ngoc Dieu[5]

[1]*PhD candidate. University of Economics and Law, Ho Chi Minh City, Vietnam and Vietnam National University, Ho Chi Minh City, Vietnam.*
[2]*Eastern International University, Vietnam.*
[3]*Tra Vinh University, Vietnam.*
[4]*University of Economics and Law, Ho Chi Minh City, Vietnam and Vietnam National University, Ho Chi Minh City, Vietnam.*
[5]*PhD candidate. University of Economics and Law, Ho Chi Minh City, Vietnam and Vietnam National University, Ho Chi Minh City, Vietnam.*
Corresponding Author: Nguyen Hong Ha[3]

ABSTRACT:- The study used the Oaxaca-Blinder (1973) decomposition method to analyze income inequality by gender of rural households in Vietnam, based on a dataset from the Vietnam Rural Household Resource Access Survey (VARHS) from 2010 to 2018 consisting of 1,050 observations. The results of the study showed that the average income of men was higher than that of women with a significant difference (coefficient 0.318), of which the majority (87.7%) was explained by observed factors such as age, education level, area of productive land, and dependency rate. The unexplained portion (12.3%) reflects inequalities such as gender discrimination.

Key word: Income inequality, income fragmentation, rural households.

I. INTRODUCTION

Gender income inequality has been analyzed by many researchers in both developed and developing countries (Nasir, 2002; Farooq & Sulaiman, 2009; Schirle, 2015; Biltagy, 2019; Chakraborty, 2020; Loewenthal & Miaari, 2020; Iwasaki & Ma, 2020; Geleta, 2021), is one of the issues that is widely concerned in developing countries, including Vietnam, because it not only reflects differences in economic opportunities but also affects the process of sustainable development. Although efforts to reduce economic and social inequalities have made some progress, income disparities between male and female workers remain pronounced, especially in rural households, where economic conditions and access to employment opportunities remain limited (Febryanti & Zaini, 2020). The gender income gap not only directly impacts the economic stability and well-being of households, but also creates invisible barriers that prevent women from entering higher-income sectors or developing long-term careers (Sumilat & Wahyuni, 2020), women tend to work in sectors with lower income levels and are less fairly paid than men, increasing income inequality (World Bank, 2020). Ekamena's (2014) study in Cameroon found that there was a significant disparity in the median wage gap between men and women of 52.36%. Similarly, research by Coudin et al. (2017) suggests that gender wages in the private sector show that women earn 14.3% less per year.

In Vietnam, income inequality between male and female workers is still a concern, previous studies have shown that the income gap between men and women is influenced by factors such as education level, work experience and living area (Trinh, 2023). In the period from 2008 to 2010, income inequality increased but then tended to decline in 2014 (Benjamin et al., 2017). In particular, the factors leading to the average income of men are higher than those of women such as differences in education, marital status (Benjamin et al., 2017; Bui & Do, 2021; Le et al., 2018). In rural households, income inequality is also affected by local characteristics and differences in gender roles in the family, which further complicates the resolution of income gaps.

More recently, the Oaxaca-Blinder d decomposition method has been widely used in economic research to analyze the causes of income disparities between different population groups such as income disparities by sex, region of residence, and ethnic composition (Fortin, Lemieux, & Firpo, 2011). However, in Vietnam, very few studies have used this method in the analysis of gender income inequality in Vietnam (Nguyen Thai Hoa, 2017; Vu Hoang Ngan & Nghiem Thi Ngoc Bich, 2021). In addition, income is one of the important factors contributing to overall inequality in Viet Nam (Benjamin et al., 2017) and the main objective of the study is that the authors also want to further consider how gender inequality varies between demographic

groups and income distribution. Therefore, the author chose *the topic "Income inequality by gender of rural households in Vietnam: Evidence from the Oaxaca-Blinder decomposition"* to study to estimate income inequality by gender of households. This approach is expected to be the basis for providing policymakers with policies that are in line with the goal of reducing the gender income gap of rural households in Viet Nam.

II.   LITERATURE REVIEW

Gender income inequality has been the subject of much economic research globally, especially in the context of developing countries, where the disparity in economic opportunities between men and women is limited. Studies in many countries show that the difference in income between men and women often comes from factors such as education level, work experience, geographical area, and differentiation in job promotion opportunities (Mincer, 1974). According to Becker's (1971) research, this difference can be explained in part by the theory of discrimination, in which women are often underestimated in terms of productivity and ability to contribute compared to men.

Nestic (2010) analyzed the gender wage gap in Croatia for the period 1998-2008 using data from the Labour Force Survey and applied OLS regression, percentile regression, and Machado-Mata decomposition methods. The results of the study showed that there was a wage gap between men and women. Research indicates that, although women possess better labour market characteristics than men, especially in education, they receive significantly lower wages for these characteristics, the most pronounced wage disparity in the middle-income percentile, short.

A study by Asplund and Napari (2011) in an analysis of the gender wage gap in the Finnish private sector, 2002–2009, showed that the average wage gap between men and women has decreased slightly, but the extent of the change varies depending on the industry and labor group. In the manufacturing industry, the wage gap is larger in the creative versus non-creative labor group and decreases slightly over time. In contrast, in the service industry, non-creative workers have a larger disparity, while creative workers recorded a sharp decrease in wage disparities. The study emphasizes the importance of understanding industry differences and recommends a deeper analysis of the role of human capital in reducing gender wage inequality.

The study by Blau and Kahn (2017) used the Oaxaca-Blinder method to show that the majority of the income disparity between men and women is explained by differences in human capital, but a significant part of the remaining is due to unresolved discrimination in the labor market. Bediakon et al. (2022) in their study in Ghana also applied the Oaxaca-Blinder decomposition to identify factors affecting the income of female workers, showing that rural living conditions and limited education levels increase the income gap between men and women in rural households.

In Viet Nam, gender income inequality in rural areas is a concern, but there is still a limited number of in-depth studies using quantitative analysis methods. Pham et al. (2007) used mean regression and percentile analysis to study the gender wage gap for wages used in Vietnam between 1993 and 2002. The results of the study showed that the gender wage gap existed in Viet Nam during the period under consideration, men received higher salaries than women in all years across all percentiles, but the general trend was that the lower the difference at the higher percentiles.

Tran Thi Tuan Anh (2013) uses the percentile regression method and the Machado-Mata method to determine the wage gap between men and women. The results showed that there was a wage gap between men and women, and the difference was different at different salary percentiles. This disparity is not at all due to the difference in human capital or labor characteristics between men and women, but due to the regression coefficient in the wage function. The study by Benjamin et al. (2017) on income inequality in Vietnam, using data from 2002 to 2014 from the Vietnam Household Living Standards Survey. The results of the study show that income inequality decreased slightly during this period, the reason for this decline is that the inequality gap between rural and urban income is narrowing. However, inequality in rural areas is due to inequality between ethnic minorities and Kinh people and between them. The results of the analysis of inequality by income source have shown that wage income is an important factor contributing to inequality in general, showing the significant role of inequality in the labor market.

Another study by Bui and Do (2021) has shown that women in rural areas of Vietnam face major barriers in accessing financial resources and employment opportunities, thereby creating a significant difference in income compared to men. The authors also emphasize that regulations on labour, protection and support of employment in rural areas are not enough to meet the needs of gender equality. Vo Hong Duc et al. (2021) analyzed the factors affecting gender income inequality in Vietnam, in order to investigate gender income inequality in Vietnam in the period 2004–2016 using data from the Vietnam Household Living Standards Survey. The experimental results also show that education level, ethnicity, economic sector and geographical area are the main determinants of wage disparity in Vietnam. Similarly, Trinh (2023) used the Oaxaca-Blinder decomposition method to study the gender income gap in the individual business sector in Vietnam. The results

show that factors such as type of employment contract, education level and work experience have a significant impact on income, and confirm that gender still plays a large role in income disparity.

III.   RESEARCH METHODS AND DATA

3.1. Data

This study uses the Vietnam Rural Household Resource Access Survey (VARHS) Dataset from 2010 to 2018. From this dataset, the study filtered out the data of households with income. At the same time, filter out the necessary variables for their research model. After filtering the data, the observations with no income and the observations with insufficient data are removed, and the data is used for the research model.

3.2. Research methods

The research model on factors affecting the income of rural households in Vietnam is as follows:

$$Ln(Thunhap)_i = \beta_i + \beta_i Gioitinh_i + \beta_i TuoiCH_i + \beta_i(TuoiCH)_i^2 + \beta_i TDHV_i + \beta_i Dantoc_i + \beta_i Honnhan_i +$$
$$\beta_i Hongheo_i + \beta_i TylePT_i + \beta_i Dientichdat_i + \beta_i Sovonvay_i + \beta_i Tietkiem_i + \beta_i KC\_duongnhua_i +$$
$$\beta_i Socusoc_i + \beta_i Sodonvithamgia_i + \beta_i Chiphi\_tg_i + \beta_i Quanhe\_CQ_i + \beta_i Nhocay_i + \varepsilon_i \qquad (1)$$

In order to determine the accuracy of the research model and estimate the regression, ensuring the reliability of the research results, the author has carried out testing steps such as: the suitability of the model, multi-collinear, variance of variable error and autocorrelation phenomenon.

The estimation coefficients from equation (1) will be used to decompose the income disparity and analyze the income disparity by gender of the head of the household according to the Oaxaca-Blinder (1973) method, specifically as follows:

According to Oaxaca-Blinder (1973), the income disparity between the two groups is divided into two parts: (1) The first part is called the explained disparity, which is caused by the disparity in the characteristics of workers expressed by independent variables in the model; (2) The second part is called the unexplained part, which is caused by the difference in regression coefficients, which represents differences in enlightened policies between labor groups. This unexplained disparity is seen as a manifestation of discrimination or inequality in income between groups of workers. This method is presented as follows:

Give 2 groups of Men and Women and the dependent variable Y and the variables explaining X such as the OLS regression model.

$$\overline{lny^{Nam}} - \overline{lny^{Nu}} = \left(\overline{X^{Nam}} - \overline{X^{Nu}}\right)\beta^{Nam} + (\beta^{Nam} - \beta^{Nu})\overline{X^{Nam}} \quad (2)$$

In which, lny is the income of the household; X is the typical vector of the ith household; β is a multiplier vector. The bars on the X vectors represent the average value of the characteristics, and the bars on lny's represent the average value of the logarithm of the household income.

Equation (2), the income difference between the two groups of male and female heads of households can be separated into two parts of the difference: the difference caused by the difference in independent variables summarized by the expression $\left(\overline{X^{Nam}} - \overline{X^{Nu}}\right)$ and the difference caused by the difference in the regression coefficient between the two groups, summarized by the expression $(\beta^{Nam} - \beta^{Nu})$.

IV.   RESULTS OF RESEARCH AND DISCUSSION

4.1. Descriptive statistics

Table 1. Descriptive statistics				
Observed variables	**Min**	**Max**	**Average**	**Standard deviation**
Gender head of households	0	1	0.764378	0.424408
Age of head household	19	70	55.57522	10.47256
Age squared	361	4900	3198.27	1151.49
Educational level of household head	0	15	5.803184	4.245088
Ethnic households	0	1	0.807164	0.394545
Marriage	0	1	0.784279	0.411342
Poor households	0	1	0.133433	0.340059
Dependency Rate	0	100	43.54769	29.73471
Production land area	2.708	12.257	8.092	1.358092
Loan amount	0	15.425	3.540	4.912
Thrifty	0	1	0.909552	0.286837

Distance from the house to the asphalt road	0	200	2.02405	6.799411
Number of shocks	0	3	0.542886	0.8389
Number of participating units	0	4	1.184279	0.460686
Cost of participation	0	330000	112.7359	3588.006
Relations with the government	0	1	0.21592	0.41148
Rely on	0	1	0.053433	0.224906
Y: Average household income (thousand VND/year)	1040	27800	114.157	390.136
Number of obs = 10,050				
(Source: Author's calculation)				

Table 1 provides descriptive statistics of the variables in the research model, helping us to have an overview of the characteristics of households in rural areas of Vietnam such as: Gender of the head of household is a variable with a value from 0 to 1, the average value is 0.764. This shows that the majority of heads of households are male (76.4%). Next is the age of the head of the household with an age distribution of 19 to 70, with a mean age of 55.57 and a standard deviation of 10.74. This shows that the head of the household is mainly middle-aged, but there is a diversity of ages. The dependency ratio has an average value of 43.55 with a standard deviation of 29.73, indicating a relatively high proportion of dependents compared to the total number of household members. The average annual income is 114,157 thousand VND (about 114 million VND/year) with a standard deviation of 390,136, showing a huge difference in income between households. The lowest value is 104 thousand VND and the highest is 27,800,000 VND, proving that there are some households with very low or very high incomes compared to the common ground.

Table 1 shows a multi-dimensional picture of households in rural Vietnam, from demographic, economic, social to income. Large disparities in variables such as the area of productive land, the amount of loans, and average income suggest economic inequality between households. Factors such as high dependency rates, poverty, and low levels of social participation can be factors that affect household income.

4.2. Regression results and discussion

Table 2. Regression results of factors affecting household income				
Independent variables	**OLS**	**FEM**	**REM**	**XTGLS**
Gender head of households	0.0528** [1.99]	0.084* [1.65]	**0.025** [0.77]	0.037* [1.68]
Age of head household	0.004** [2.26]	0.014*** [3.92]	0.009*** [3.59]	0.011*** [6.30]
Age squared	0.000*** [-2.14]	0.000** [1.99]	0.000** [-2.37]	0.000*** [-5.16]
Educational level of household head	0.030*** [15.54[	0.024*** [12.17[	0.031*** [16.71]	0.030*** [22.29]
Ethnic households	0.282*** [0.12.57]	**0.030** [0.31]	0.285*** [9.28]	0.321*** [17.58]
Marriage	0.260*** [9.21]	**0.047** [1.11]	0.183*** [5.59]	0.221*** [9.51]
Poor households	-0.511*** [-21.02]	-0.215*** [-8.22]	-0.369*** [-15.40]	-0.367*** [-21.99]
Dependency Rate	-0.006*** [-19.50]	-0.004*** [-11.14]	-0.005*** [-16.81]	-0.006*** [-23.96]
Production land area	0.0927*** [14.68]	0.054*** [3.66]	0.089*** [10.81]	0.088*** [15.82]
Loan amount	0.001*** [5.98]	**-0.001** [-0.70]	0.003** [2.21]	0.005*** [4.29]
Thrifty	0.391*** [14.06]	0.283*** [11.36]	0.341*** [13.84]	0.333*** [18386]
Distance from the house to the asphalt	-0.003**	-0.002*	-0.002**	-0.002***

road	[-2.24]	[-1.92]	[-2.40]	[-2.65]
Number of shocks	-0.0933**	-0.021**	-0.053***	-0.049***
	[-9.68]	[-2.32]	[-6.01]	[-8.13]
Number of participating units	0.246***	0.134***	0.176***	0.175***
	[14.48]	[8.75]	[11.63]	[17.00]
Cost of participation	**0.000**	0.000*	0.000*	**0.000**
	[1.27]	[1.92]	[1.88]	[1.38]
Relations with the government	0.120***	0.066***	0.091***	0.088***
	[6.23]	[3.75]	[5.28]	[7.54]
Rely on	0.265***	0.120***	0.210***	0.242***
	[7.54]	[2.91]	[5.77]	[11.12]
Constant	9.303***	9.375***	9.298***	9.258***
	[94.99]	[48.46]	[77.11]	[113.88]
Number of obs	**10.050**	**10.050**	**10.050**	**10.050**
(Source: Author's calculation)				

The gender variability of the head of household in all 3 models OLS (0.0528**), FEM (0.084**) and XTGLS (0.037*) all had a positive regression coefficient and statistically significant showed that the gender of the head of the household played a role in affecting the income of the household. However, the instability in the REM model suggests that this effect may be weakened if random factors are controlled. The impact of education is consistent across all models. This is consistent with previous studies (Hovhannisyan et al., 2019) that education is the most important factor in improving household income. The dependency ratio variable has an inverse impact on household income in all models and is statistically significant, the results show that the dependency ratio (the number of non-working people compared to the total number of people in the household) reflects the financial burden of households, emphasized that households with a high dependency rate often find it difficult to accumulate capital and expand production.

Table 3. Regression results for 2 male and female gender heads of households				
Variables	**Male**		**Female**	
Ln(income)	Coefficient	Error	Coefficient	Error
Age of household head	0.006**	0.002	0.012***	0.004
Age squared	0.000***	0.000	**0.000**	**0.000**
Education level of household head	0.029***	0.002	0.036***	0.005
Ethnic Households	0.291***	0.024	0.181***	0.062
Marriage	0.137***	0.042	0.382***	0.041
Poor households	-0.513***	0.029	-0.481***	0.045
Dependency Rate	-0.004***	0.000	-0.010***	0.001
Production land area	0.086***	0.007	0.101***	0.012
Loan amount	0.010***	0.002	0.007*	0.004
Thrifty	0.376***	0.032	0.448***	0.055
Distance from the house to the asphalt road	**-0.002**	0.001	-0.004**	0.002
Number of shocks	-0.100***	0.011	-0.057***	0.023
Number of participating units	0.232***	0.019	0.276***	0.035
Cost of Participation	**0.000**	**0.000**	**0.000**	**0.000**
Relations with the government	0.116***	0.021	0.142***	0.043
Rely on	0.245***	0.038	0.388***	0.091
Constant	9.454***	0.114	8.879***	0.205
*, **, ***: statistically significant at 10%, 5% and 1%				
(Source: Author's calculation)				

The results of the income regression function applied to the Oaxaca-Blinder equation will clearly show the degree of disparity in income by gender group of the head of the household. Table 3 presents the regression results for the income function of the 2 male and female gender groups of the head of the household in order to give an overview of the factors affecting the income of the 2 gender groups of the head of the household.

Table 3 shows that the factors that have a positive and meaningful impact on income for both sexes of the household include: age of the head of the household, education level, ethnic composition, marital status, area of productive land, loans, savings, number of participating units, relationship with the government and dependency. This result is also consistent with the research of Huong (2023), Benjamin et al. (2017), Bui and Do (2021), and Le et al. (2018). The age of the head of the household has a positive effect indicating that income tends to increase with age, which may be due to the accumulation of experience or job stability. Becker's (1971) research shows that work experience can lead to increased income. Similarly, education levels also have a significant impact on the incomes of both men and women, with a higher impact in women. High levels of education increase productivity and employability, leading to higher incomes, education is an important factor in promoting income due to its contribution to human capital development (Mincer, 1974).

The variables of relationship with local government and reliance both have positive coefficients and high statistical significance for both sexes, indicating that having a relationship with the government or being able to rely on others has a positive impact on income. This may be because these households have easy access to resources or support when needed.

The results of the study also showed that factors affecting income had a large difference between men and women such as education level, ethnic composition and marital status, savings and dependency had a greater positive impact on women, while factors such as poor households and the number of shocks had a greater impact on men. These results can help guide policies to reduce income inequality and support economic development for both genders.

Table 4. Oaxaca-Blinder decomposition results for income gap by gender of household head				
Ln(income)	**Coefficient**	**Std.err**	**[95% conf. interval]**	
Male	11.240***	0.010	11.220	11.259
Female	10.922***	0.020	10.882	10.961
Differerence	**0.318***	**0.023**	**0.274**	**0.362**
Explained				
Age of household head	-0.041**	0.016	-0.073	-0.009
Age squared	0.063***	0.019	0.025	0.101
Education level of household head	0.038***	0.004	0.030	0.046
Ethnic Households	-0.041***	0.004	-0.049	-0.033
Marriage	0.096***	0.029	0.039	0.153
Poor households	0.031***	0.005	0.021	0.040
Dependency Rate	0.048***	0.005	0.038	0.058
Production land area	0.064***	0.006	0.052	0.076
Loan amount	0.009***	0.002	0.005	0.013
Thrifty	0.006**	0.003	0.001	0.012
Distance from the house to the asphalt road	0.000	0.000	-0.001	0.001
Number of shocks	-0.012***	0.002	-0.017	-0.008
Number of participating units	0.007**	0.003	0.001	0.012
Cost of participation	-0.002	0.002	-0.005	0.002
Relations with the government	0.006***	0.002	0.003	0.009
Rely on	0.006***	0.001	0.003	0.009
Sum	**0.278***	**0.031**	**-0.027**	**0.107**
Unexplained				
Age of household head	-0.375	0.276	-0.916	0.166
Age squared	-0.188	0.120	-0.423	0.048
Education level of household head	-0.035	0.024	-0.082	0.013
Ethnic Households	0.101	0.061	-0.019	0.220
Marriage	-0.061***	0.015	-0.090	-0.032
Poor households	-0.006	0.010	-0.025	0.013
Dependency Rate	0.270***	0.037	0.198	0.342
Production land area	-0.114	0.108	-0.325	0.097
Loan amount	0.011	0.012	-0.012	0.034
Thrifty	-0.065	0.057	-0.177	0.048

Distance from the house to the asphalt road	0.004	0.005	-0.005	0.014
Number of shocks	-0.019*	0.011	-0.041	0.003
Number of participating units	-0.051	0.047	-0.143	0.040
Cost of participation	0.002	0.002	-0.002	0.006
Relations with the government	-0.005	0.009	-0.021	0.012
Rely on	-0.005	0.003	-0.011	0.002
Constant	0.575**	0.234	0.116	1.035
Sum	**0.040**	**0.034**	**-0.027**	**0.107**
***, **, ***: statistically significant at 10%, 5% and 1%**				
(Source: Author's calculation)				

Table 4 presents the results of the breakdown of the income difference between the 2 gender groups of male and female heads of households, showing that the average income of male heads of households is 11,240, while the average income of female heads of households is 10,922, resulting in an income difference of about 0.318. This shows that male heads of households have a significantly higher median income than female heads of households. Continue to decompose the above difference into 2 parts: the explained and unexplained differences.

The explained difference accounted for 87.4% (0.278/0.378) of the income difference between male and female householders. Specifically, if they are of the same gender, male heads of households tend to increase their income compared to female heads of households. This reflects that at the same level of education, men are better able to take advantage of economic opportunities or receive greater economic benefits from education than women, or women are more likely to focus on lower-paying occupations (education, healthcare), while men tend to work in technical or managerial fields with higher incomes,...

With the inexplicable difference, we see that if the same marital status is married, the male head of the household will have a lower income than the female head of the household of 61,000 VND. This may be explained by the fact that women often take on jobs that are more sustainable, flexible, and less affected by seasonal factors, such as small trade, manual work, or other non-agricultural jobs. This makes their income more stable when they have a family and helps minimize the negative impact of their role as economic breadwinners and women tend to spend more frugally.

Similarly, if the dependency rate is the same, male heads of households tend to increase their income compared to female heads of households of 270,000 VND. When the dependency rate is high, men, especially in rural areas, often have to work intensively to ensure the economy of their families. The pressure to provide enough income for dependent members can motivate male heads of households to engage in more labor activities or seek higher-paying jobs, which in turn leads to higher income levels.

V.   CONCLUSION AND RECOMMENDATION

The study using the Oaxaca-Blinder model to decompose the income gap between men and women of rural households in Vietnam has provided important results. Men's incomes are significantly higher than women's (coefficient 0.318), of which 87.7% of this difference can be explained by observable factors such as age, education level, area of productive land, and dependency rate. However, the unexplained part (12.3%) shows latent inequality, which may stem from discrimination or cultural and social factors that the model has not covered.

From the results of the above study, the author proposes a number of recommendations related to reducing the income gap between men and women of rural households in Vietnam.

First, it can be seen that education level has an important effect on the level of disparity between factors between men and women. Education not only helps Vietnamese women improve their incomes but also fights discrimination against women in the workplace. Therefore, the government should encourage investment in education for women because investment in human capital is known to have a positive impact on labor productivity (Abrigo, Lee and Park 2018). As Vietnamese women have to shoulder more responsibilities in housework and childcare, schools need to assign classes with flexible times so as not to conflict with their roles. Moreover, more policies are needed to protect and ensure equal opportunities for women in the workplace.

Second, most of the income disparities often occur in rural Vietnam. Therefore, the government should improve the local economic situation such as local businesses, infrastructure to take advantage of the local workforce and create more opportunities for people in rural areas to access jobs with stable incomes. The social view is that women only do housework is one of the barriers for women to participate in work, so more access and management of resources will increase women's income (Sumilat & Wahyuni, 2020). On the other hand,

according to Chen and Kinkyo (2016); Park and Shin (2017) financial development is thought to reduce income inequality.

REFERENCES

[1].   Abrigo, M. R., Lee, S. H., & Park, D. (2018). Human capital spending, inequality, and growth in middle-income Asia. *Emerging Markets Finance and Trade*, *54*(6), 1285-1303.

[2].   Asplund, R., & Napari, S. (2011). Intangibles and the gender wage gap: an analysis of gender wage gaps across occupations in the finnish private sector. *Journal of labor research*, *32*, 305-325.

[3].   Becker, G.S. 1971. The Economics of Discrimination. *Chicago: University of Chicago Press*.

[4].   Bedeacon, K. S. B., Croi, K. F., Koko, K. B., & Boua, A. A. D. (2022). Wage inequality between men and women in Côte D'Ivoire: An Oaxaca-blinder decomposition method. *Theoretical Economics Letters*, *12*(1), 52-75.

[5].   Benjamin, D., Brandt, L., & McCaig, B. (2017). Growth with equity: income inequality in Vietnam, 2002–14. *The Journal of Economic Inequality*, *15*(1), 25-46.

[6].   Biltagy, M. (2019). Gender wage disparities in Egypt: Evidence from ELMPS 2006 and 2012. The Quarterly Review of Economics and Finance, 73, 14-23.

[7].   Blau, F. D., & Kahn, L. M. (2017). The gender wage gap: Extent, trends, and explanations. *Journal of economic literature*, *55*(3), 789-865.

[8].   Blinder, A. S. (1973). Wage Discrimination: Reduced Form and Structural Estimates. *The Journal of Human Resources,* 8(4), 436–455.

[9].   Bui, Q. T., & Do, V. P. A. (2021). Quality of human resources and employment of workers in state-owned enterprises in Vietnam. *J. Econ. Dev*, *6*(288), 53-64.

[10]. Chakraborty, S. (2020). Gender wage differential in public and private sectors in India. *The Indian Journal of Labour Economics*, *63*(3), 765-780.

[11]. Chen, W., & Kinkyo, T. (2016). Financial development and income inequality: Long-run relationship and short-run heterogeneity. *Emerging Markets Finance and Trade*, 52(3), 733-742.

[12]. Coudin, E., Maillard, S., & To, M. (2017). Ecarts salariaux entre les entreprises et au sein de l'entreprise: Femmes et hommes payes a la meme enseigne? University College of London et Institute for Fiscal Studies.

[13]. Ekamena, S. N. (2014). Les écarts salariaux de genre au Cameroun. Revue Multidisciplinairesur l'Emploi, le Syndicalisme et le Travail, 9, 124-146

[14]. Farooq, M., & Sulaiman, D. J. (2009). Gender Earnings Inequality and Discrimination in the Pakistani Labor Market. *Dialogue (Pakistan), 4*(3).

[15]. Febryanti, L., & Putri, D. Z. (2020). Analysis of Wage Level Determinants in West Sumatra. *Journal of Economic and Development Studies*, *2*(1), 21-28.

[16]. Fortin, N., Lemieux, T., & Firpo, S. (2011). Decomposition methods in economics. In *Handbook of labor economics* (Vol. 4, pp. 1-102). Elsevier.

[17]. Geleta, K. M. (2021). *A GLM approach to decomposing wage differential: Evidence from the PSID* (Master's thesis, Northern Illinois University).

[18]. Hong Vo, D., Van, L. T. H., Tran, D. B., Vu, T. N., & Ho, C. M. (2021). The determinants of gender income inequality in Vietnam: A longitudinal data analysis. *Emerging Markets Finance and Trade*, *57*(1), 198-222.

[19]. Hovhannisyan, A., Castillo-Ponce, R., & Valdez, R. (2019). The determinants of income inequality: The role of education. *Scientific Annals of Economics and Business*, *66*(4), 451-464.

[20]. Iwasaki, I., & Ma, X. (2020). Gender wage gap in China: a large meta-analysis. *Journal for Labour Market Research*, *54*(1), 17.

[21]. Le, V. T., Trinh, T. H., & Simioni, M. (2018). Application of the copula-based decomposition method to study income inequality between rural and urban areas in Vietnam. *J. Trade Sci*, *6*(3), 43-53.

[22]. Loewenthal, A., & Miaari, S. H. (2020). Male-female wage differential in the West Bank: A gender-based analysis of the Israeli-Palestinian conflict. *Defence and Peace Economics*, *31*(8), 939-956.

[23]. Mincer, J. (1974). Schooling, Experience, and Earnings. Human Behavior & Social Institutions No. 2.

[24]. Nasir, Z. M. (2002). Returns to human capital in Pakistan: A gender disaggregated analysis. *The Pakistan development review*, 1-28.

[25]. Nestić, D. (2010). The gender wage gap in Croatia–estimating the impact of differing rewards by means of counterfactual distributions. *Croatian economic survey*, (12), 83-119.

[26]. Nguyen Thai Hoa (2017). Gender Inequality in Vietnamese Labour's Income. *Vietnam SocialSciences, 6*(226), 10-24.

[27]. Oaxaca, R. (1973). Male-female wage differentials in urban labor markets. *International economic review*, 693-709.

[28]. Park, D., & Shin, K. (2017). Economic growth, financial development, and income inequality. *Emerging Markets Finance and Trade*, *53*(12), 2794-2825.

[29]. Pham, T. H., & Reilly, B. (2007). The gender pay gap in Vietnam, 1993–2002: A quantile regression approach. *Journal of Asian Economics*, *18*(5), 775-808.

[30]. Schirle, T. (2015). The gender wage gap in the Canadian provinces, 1997–2014. *Canadian Public Policy*, *41*(4), 309-319.

[31]. Sumilat, D. E., & Wahyuni, E. S. (2020). Gender analysis of female labor households in the garment industry sector with a putting out system. *Journal of Communication Science and Community Development [JSKPM], 4*(2), 167-180.

[32]. Tran Thi Tuan Anh (2013). Analysis of income disparity by sex in Ho Chi Minh City using the percentile regression method. *Journal of Economic Development No. 277*, 10(1), 21-37.

[33]. Trinh, T. H. (2023). Income gap between male and female workers in the sole proprietorship sector in Vietnam. *Economics and Forecasting*, *19*, 18–24.

[34]. Vu Hoang Ngan, Nghiem Thi Ngoc Bich (2021). Impact of Time Spent on Housework on Gender Gap in Vietnam's Labor Market, *Journal of Economics and Development*, *290* (2), 2-11.

[35]. World Bank. (2020). *Gender Equality and Women's Empowerment in Disaster Recovery*. World Bank.

Corresponding Author: Nguyen Hong Ha[3]
[3]Tra Vinh University, Vietnam.