

GENDER INCOME GAP IN VIETNAM IN THE 2000s: EVIDENCE FROM HOUSEHOLD SURVEYS.

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Abstract

This paper investigates the determinants and characteristics of changes in the gender wage gap between 2004 and 2010 in Vietnam. This study focuses on carrying out a quantitative analysis of the factors which cause income inequality between men and women” to analyze and measure the level of impacts of the factors such as educational level, working experience, geographic areas (rural-urban areas), economic sector, ownership form, etc... on the wage gaps between men and women. Especially, the study uses Oaxaca – Blinder disaggregation model to quantify the impact factors of the income gaps by sex. The study results indicate that the gender wage gap is mainly due to the segmentation of the labor market. Factors such as access to employment, education, work tend to create fairness between men and women, so this group of elements (Endowments) has helped to reduce the wage gap. However, due to social prejudice is still prevalent, where employers still believe that male workers have higher labor productivity than female workers, average wage of male workers is still higher compared to female counterparts.

1. Introduction

The causes for gender gaps in income are still controversial issues now. One of the causes for the income gaps is the characteristics of the jobs. Male workers often do the jobs which are dangerous and require physical skills such as construction, mining or highly technical work such as engineering, innovation or invention. It is normally expected that men should work more efficiently than women. As a result, they are expected that they can earn more. In addition, though many countries have issued many laws and policies to narrow income gaps between men and women; however, in fact, income gaps between these two sexes are increasing bigger and bigger.

In Vietnam, about 70 percent of women at the working age (16 – 55 years old) are participating in the labour force. In fact, female workers' basic wage is only equivalent to 86 percent¹ of male workers' basic wage (2010). The proportion of female workers' basic wage in their income is lower than the proportion of male workers' one. Female workers' basic wage in all different types of enterprises is all lower than male workers'. Female workers benefit from different subsidies and allowances as stipulated in the labour legislations; however, not all female workers benefit from these legal documents.

For the past years, Vietnam has obtained significant achievements and positive changes in its socio-economic development; however, income inequality between men and women has not changed much. There are several studies on income inequality between men and women; however, these studies have not quantified the factors which create the income gaps between female and male workers but only explained the causes based on qualitative data. Therefore, this study focuses on carrying out a quantitative analysis of the factors which cause income inequality between men and women” to analyze and measure the level of impacts

¹ Adopted from the calculations based on the data of Labour Force Survey, GSO, 2010

of the factors such as educational level, working experience, geographic areas (rural-urban areas), economic sector, ownership form, etc... on the wage gaps between men and women. Especially, the study will use Oaxaca – Blinder disaggregation model to quantify the impact factors of the income gaps by sex.

There have been several national and international studies related to gender inequality in income such as:

Koyo Miyoshi (2006) empirically analyzes the gender wage gap in Japan using a Keio Household Panel Survey (KHPS), conducted by Keio University, which contains a wealth of information on the work history of individuals. KHPS2004 used to estimate wage functions without overstating individual's human capital accumulation by work experience especially for females. Neuman-Oaxaca decomposition method is used to analyze why the gender wage gap appears to exist in Japan. Main reasons as follows. First, full-time work experience and seniority which affect significantly wages is shorter for females than for males. Second, there are significant differences in evaluation of full-time experience between males and females.

David L. Dickinson & Ronald L. Oaxaca (2012) argue that when membership in a particular group conveys valuable information about an individual's skills, productivity, or other human capital characteristics, a non-prejudiced agent may still find it rational to statistically discriminate. They frame statistical discrimination in a labor market setting for a series of laboratory experiments. A main objective of them experiments is to examine how varying productivity risk along several dimensions impacts outcomes across worker groups. They find some evidence for statistical wage discrimination against workers with identical expected productivity but higher productivity variance. However, those same subjects are less likely to be unemployed, suggesting that their employers view hiring choice and wage contracts as substitutable. These laboratory results have interesting implications for labor markets where employers select from workers belonging to distinct

statistical groups, and suggest that statistical discrimination based on wages alone may overestimate the true effect of such discrimination.

Jingyo Suh (2005), investigates the determinants and characteristics of changes in the gender wage gap between 1989 and 2005 in the U.S. The gender wage gap narrowed significantly during the period studied, from 74.0 percent of men's earnings to 80.4 percent. The results of decomposition show that women narrowed the gender wage gap through increases in experience, work hours and education. Diminishing the level of gender discrimination in the labor market also has been an important factor of narrowing the gender wage gap. Although the gender wage gap has narrowed, there remains a significant differential between female and male wages

João Cerejeira, Kemal Kızılcıca, Miguel Portela, Carla Sá (2010) using linked employer-employee data in Portugal, they explore an amendment to the minimum wage law which increased from 75% to 100% of the full minimum wage applied to employees younger than 18. Their results show a widening of the gender wage gap following the amendment: the wage gap for minors increased 2.7 percentage points more than for other groups. This change was mainly determined by a redistribution of fringe benefits and overtime payments. They discuss three possible sources of redistribution: (i) a change in the skill composition of the working males and females after the increase in the minimum wage, (ii) industrial differences in response to the changes in the wage floor, and (iii) discrimination. Estimations support the second channel as the main contributing factor, while possible discrimination effects cannot be eliminated.

A study by Le Anh Tu (2005) on gender issues existing in comprehensive macro and structure reform policy. In this study, the author has analyzed the impacts of the macro policies on women via analyzing the relations between reforms, gender equality, economic development and welfare for women in 1990s when the comprehensive and deep economic reforms taken by Vietnamese Government.

The author applied the general description and statistical analysis method to explain for the impacts of market and macro liberalization policies on women's and men's income.

These studies have shown the gender wage gap based on analytical model of Blinder-Oaxaca, this approach has supported the research given the wage gap is due to differences in the characteristics of labor such as qualifications, field work, experience,..., besides due to the fragmentation of labor market, social prejudices by gender.

2. Current situation in Vietnam

2.1 An overview of relevant policies

Income is primary motivation of workers, which severs to enhance economic effectiveness. Ensuring the equality of income gender gap not only liberalizes workers, utilizes resources, and creates a fair labor market, but also promote economic growth. However, despite male and female having the similar jobs, female income is lower than that of male. Up to now, to ensure the gender equality in income, there are a lot of policies, programs in this.

International treaties relating to gender income equality that Vietnam has ratified

Development tendency of international laws on human rights have been more and more extensive and it has strengthened the equal rights of women to men. A range of international important conventions and treaties such as Convention on Elimination of all Forms of Discrimination against Women (CEDAW) in 1979, ILO Equal Remuneration Convention (C100), International Covenant on Economic, Social and Cultural Rights (ICESCR) of United Nations, etc. has highlighted women's rights to equal payment and income to men.

Vietnam has signed and approved a variety of international treaties and conventions, which stipulate the regulations on gender equality in general and gender equality in labour and social affairs in particular. One of the important

international conventions that Vietnam has ratified is Convention on Elimination of all Forms of Discrimination against Women (CEDAW), 1979. This is a specialized international treaty which covers almost all women's rights, primarily ensuring women to enjoy a life of safety, freedom, and sustainable development. Especially, the Convention has put an emphasis on assurance of equality of women in enjoying all fundamental their rights. On the whole, CEDAW is one of the most important international treaties of the multilateral international law system which has been approved in the field of human rights. The basic contents of CEDAW focus on measures and tools to eliminate all kinds of discrimination which prevent women from enjoying their fundamental human rights recognized by other international human right conventions and treaties. For this meaning, CEDAW aims at empowering all women in the world with their human rights which are recognized by both international and national laws. Besides, unlike other international human right treaties and conventions, in which, gender equality is regulated generally, CEDAW has specified the fields which have been creating discrimination against women seriously. The payment of work is also presented in the Article No. 11d: "The right to equal remuneration, including benefits, and to equal treatment in respect of work of equal value, as well as equality of treatment in the evaluation of the quality of work". The convention has taken effect since March 19 1982. Since then, Vietnam has carried out many actions and programmes to realize their state obligations as one of three key principles of CEDAW. Especially, Vietnam has established legal measures to protect women's rights based on non-discrimination and equality for both men and women.

ILO Convention No. 100 on Equal Remuneration also has a special important role in ensuring income equality for men and women. As its called name, the Convention stipulates the equal remuneration for men and women workers for Work of Equal value, the state members of the Convention must ensure the appliance of equal pay principle for women and men workers when they perform the work of equal

value. The Convention reaffirms and specifies the definitions such as “remuneration”, “equal remuneration for men and women workers for the work of equal value”. The noun “remuneration” was understood with a broad meaning as “the ordinary, basic or minimum wage or salary and any additional emoluments whatsoever payable directly or indirectly, whether in cash or in kind, by the employer to the worker and arising out of the worker's employment. The term “equal remuneration” for men and women workers for work of equal value refers to rates of remuneration established without discrimination based on sex. The Government of Vietnam approved the Convention No. 100 on October 7 1997. Up to now, Vietnam has made strong commitments on complying with regulations of this Convention and the country has also taken active and appropriate measures in ensuring the equal payment for both men and women workers in every work of equal value.

International Covenant on Economic, Social and Cultural Rights (ICESCR) is one of two key pillars stipulating human rights in addition to the International Covenant on Civil and Political Rights. These two conventions are a component of the International Human Right Set along with the Universal Declaration of Human Rights. Income Equality is presented in the preliminary interpretation of ICESCR as a fundamental principle and then it is reaffirmed in other Articles of the Covenant, specifically, Article 7a (i): “Fair wages and equal remuneration for work of equal value without distinction of any kind, in particular women being guaranteed conditions of work not inferior to those enjoyed by men, with equal pay for equal work”. ICESCR has changed awareness and behaviours of people on the whole as well as of competent agencies and institutions towards gender equality. Moreover, the Covenant has provided better and more accurate and comprehensive understandings of discrimination and its different kinds against women to them. As a result, competent agencies and people have taken actions to eliminate all kinds of discrimination against women in the country. Performing the state

obligations as regulated by the international treaties and convention has assisted Vietnam to form a comprehensive and adequate mechanism in realizing rights to gender equality and non-discrimination against women.

Vietnamese legal documents and policy system on gender income equality

In order to specify the viewpoints and objectives towards gender equality of the Communist Party and the State; at the same time, to legalize the regulations related to the international treaties and conventions that Vietnam has been signatory to, over the past years, the legal and policy system of Vietnam on gender equality has been gradually developed refined.

The National Assembly of Vietnam at the 10th session passed the Law on Gender Equality, which is the first law of Vietnam in this area. Issuance of Law on Gender Equality is a strong commitment and political will of the State and Party in further refining the legal system on gender equality for men and women, eliminating discrimination against women, complying with the international treaties and rules of human rights in general and women's equal rights to men in particular. Income equality between men and women is specified in the Article No. 13.1: "Man and woman are equal in terms of qualifications and age in recruitment, are treated equally in workplaces regarding work, wages, pay and bonus, social insurance, labour conditions and other working conditions". Law on Gender Equality was developed and approved for the viewpoints of "customizing the international rules and regulations, of which, there are Universal Declarations of Human Rights and Convention of Elimination of All Forms of Discrimination against Women to be relevant Vietnam's context and legal conditions, affirming that Vietnam has taken serious consideration into the Article 2a of CEDAW convention. The Law on Gender Equality also indicates the responsibility of organizations, agencies, family and individuals in implementing and ensuring the gender equality. Any conducts that infringe the Law on Gender Equality shall be treated in accordance to the law.

The Government of Vietnam has ratified and issued a range of legal documents in favour of women so that they are protected from gender bias and discrimination to enjoy equal income.

Employment

Employment issues also affect income inequality between male and female. Equal right in employment is promulgated clearly in the Labour Code as: Every person shall have the right to work, to choose freely an employment and occupation, to learn a trade without any discrimination in respect of sex, race, social class, beliefs or religion . The State guarantees the rights for women in employment to be equal to men in all aspects. Ensure of gender equality in provisions pertaining employment: the Labour Code states that employers must implement the principles of equality between men and women in respect of recruitment. Without an adequate guiding and detailing for implementation, an important principle may not be implemented or wrongly implemented. In the fact, there are cases of law infringe where enterprises in their recruitment information indicates clearly the preference of man/ woman. The job announcements hindering or putting constraints for men/women to access certain job opportunities, unintentionally giving orientation for men/women to choose certain work with different payment, which is one of the causes for quite big gender gaps in men's and women's average incomes.

Industrial relations

The Constitution of Vietnam provides the right of equality for all citizens and all fields, all labourers, without discrimination of sex, has equal rights in labour relation. In the Labour Code, provisions relating to labour relations are introduced in two chapter, chapter IV on labour contract and chapter V on labour collective agreement.

Occupational Safety and Health (OSH)

The Constitution of Vietnam states that “the State shall formulate policies and measures for labour safety, regulation on working and leisure time...” . The key issues on OSH have been provided by state for both women and men. At present, when technology level has been upgraded in almost industries, the measures for labour safety are aimed to promotion of investment on technical equipment, improving working conditions so that all workers can operate at work place.

Social security

- Policy on social insurance

Policy on social insurance: Social insurance is the important pillar of social security, in provides safety and security for workers in case of risks for which employees may lose income partly or totally. The Labour Code has one Chapter (XII) on social insurance “the state shall stipulate policies on social insurance with an aim to gradually expand and improve the material security, the health care and health recovering for workers and to help them and their family to have a stable life in case of sickness, maternity, termination of working age, death, occupational accidents and diseases, unemployment, risks and other difficulties”. Thus, according to provision of Labour Code, both female and male workers are equally entitled to participate and benefit from social insurance benefits, female workers shall enjoy maternity benefits.

Provision on membership of social insurance: There is no gender based discrimination on membership of social insurance in the Labour Code and the Law on Social Insurance. However, in fact, the proportion of female members of social insurance in general and compulsory social insurance in particular is lower than male members in the system. The reason is a high proportion of female workers are working in informal sector, household business, production, self-employed or working in agriculture sector, and the compulsory system has not expanded to these areas. These workers have opportunities to participate voluntary social

insurance, but for many reasons, very few persons participated as members of voluntary system.

Sickness benefits (under the compulsory social insurance): Provisions on entitlement of off work for taking care of sick child below seventh years of age. The Labour Code provides that “ female workers have rights to time off work for caring a sick child who in under 7 years all or adopting a newly born child, female employee shall entitled to social insurance benefits or shall be paid an equal amount by the employer... In case where another person takes care of sick child in place of the mother, the mother is still entitled to social insurance benefits”. The regulation that only female employees are entitled to have day off work for caring sick child will reinforce the gender bias that the responsibility of taking care family members such as children, elderly is “woman’s responsibility”. This gender bias has caused negative effects to women in accessing employment opportunities and career development. Taking care of sick children can and should be done by both men and women. Both men and women should have the equal rights in have the day off to take care of sick children. The Law on Social Insurance states that employee is entitled to sickness benefits when have day off for caring a sick child under 7 years of old. Thus, it can be understood that the Law on Social Insurance provides entitlement for the mother or father to have time off work for caring sick children this provision is more progressive than the Labour Code from perspective of gender.

Maternity benefits (compulsory social insurance): The Labour Code states that a female employee shall entitled to prenatal and postnatal leaves, which are from four to six months in total as regulated by the Government according to working conditions and the hard, harmful nature of work or its remote location. Female employee that has maternity leave is not entitled to be considered for work performance reward. In case where employee has maternity leave that exceed 40 days per year, she is not entitled to be considered for annual reward due to the

shortage of continuous performance during the year... This regulation is a discouragement of employee, at present, 100% of employees who have maternity leave are women, but in future, there will be men claims for benefits in case they adopt a child under 4 months.

Provision on taking time off work for application of family planning measures: both man and woman should share responsibility.

The provision on social insurance benefit for taking time off work for application of family planning measures is applied for female employees only. This may reinforce the gender bias that application of family planning measure is “woman responsibility”. If the responsibility is shared by man and woman, they should be equally entitled to benefit by social insurance.

The Law on Social Insurance has some provisions with more advancement in respect of gender equality with regard to the entitlement for maternity leave not only for women but also paternity leave for men in case men adopt a child under 4 months of age, or application of family planning measures .

Labour accidents and occupational diseases: The health examination to measure the labour disability has not paid enough attention to differences between men and women, therefore, therefore, labour disability types and levels are identified without consideration of characteristics of men or women, there is absence of preventive methods for men and women.

Provision of rehabilitation facilities for disabled people is made without paying attention on biological differences of women and men.

Pension: According to the Labour Code, workers entitled to monthly pension if they have enough years of age as follows:

- 60 years of age for men and 55 for women with enough 20 years of contribution to social insurance to benefit maximum replacement rate for monthly pension as stipulated by the Government.

- Female employees at reaching age of 55 and have 25 years of contribution, male employees at reaching age of 60 and have 30 years of contribution shall entitled to benefit maximum replacement rate for monthly pension as stipulated by the Government.

The provision on entitlement for monthly pension stipulated by Labour Code has been revised in 2002 which is more progressive than that in the Labour Code 1995, it says that female employees at reaching 55 years of age and have enough 25 years of social insurance contribution shall be entitled to receive maximum of replacement rate (75%) for monthly pension, while the requirement for male employees is 60 years of age and enough 30 years of contribution.

Provision on retirement age has difference between men and women.

From the perspective of gender: women and men should be equal at the age for which they are entitled to claim monthly pension

According to the current provision, retirement age of women is lower than men is inequality for women. The reason is that if continue to work, women have more opportunity for further capacity building and promotion, which is often accompanied with better pay, and therefore women will have better monthly pension. Some arguments that this regulation is unequal for men because men have to work longer, contribute to social insurance for longer time, but enjoy less pension benefit than women because women live longer than men.

From the perspective of preference, reached 55 year-old, women are entitled to finish jobs and get pension, it is considered the "right". If reached 55 year-old, women are forced to retire at any condition; it is considered "compulsoriness", not "priority". It is called forced retirement.

Therefore, though regulation on retirement age of women shows "priority" for women, in reality it prevents women from the right to retire at the same retirement age of men. If this is considered the "priority", there should not have

such tough regulation and women should be entitled to have a choice on retirement age of 55 or over.

There is gender bias in current pension formula

Under the current law, men and women pensioners are entitled to the same basic replacement rate of 45 percent of their respective reported average wage . But, for each year above 15 years of contribution, women's replacement rate is increased by 3 percent. In the case of men, it is only increased by 2 percent. They observe that women with only 25 years of contribution obtain the maximum replacement rate authorized by the system (75%) while men need for that to contribute for 30 years. For example, a man who retires at the age of 60 with 27 years of contributions is entitled to a lower replacement rate, of 69 percent, than a woman who retires earlier, at the age of 55, with less years of contribution. If this woman contributed only for 24 years, she is entitled to a replacement rate of 72 percent.

Unemployment insurance: The Law on Social Insurance provides the target groups that are subject to participate in unemployment insurance as follow : employees who participate in the unemployment insurance are Vietnamese citizen who work on labour contract basis with indefinite term or definite term of 12 to 36 months. This provision may hinder the participation of women to unemployment insurance, because more women are working on contract basis with definite term of less than 12 month, or working in informal sector, in small scale enterprises with less than 10 employees.

Policies on health insurance: The members of health insurance include 25 groups , without differentiation of sex. The policy on health insurance has provided free health insurance card for the social policies target groups such as the poor, near poor... As a result, every "disadvantaged" group in society will benefit from this health insurance policy. As noted that women account for a majority in these disadvantaged groups. This policy will help many "disadvantaged" women to

access medical services, contributing to narrow gender disparities in the field of health care.

- *Policies on providing social assistance*

The target groups for policy on social assistance include 9 groups, no differentiation of sexes. The social assistance is provided monthly or in lump sum depending to each group. There are 9 groups that receive monthly assistance. In addition to monthly assistance as stipulated by law, women in maternity age are entitled to receive an amount of money for sanitation. "Allowance for individual sanitation for women in reproductive age" this is allowance to buy sanitation napkin during the monthly menstruation period. The groups of people who receive social assistance for lump sum are those who fall in difficulties due to the accidents, risks., including 8 groups).

The design of monthly allowance supported for social target groups is aimed to maintain the minimum living standard for them. Different needs of men and women have been taken into account in design the support, specifically, women receive support for individual sanitation purpose.

2.2 Trends of income and wage gaps by gender in Vietnam

Data is collected from Vietnam household living standard survey in 2004, 2006, 2008 and 2010 of General Statistics Office (GSO).

Population and labor force

In 2010, the population of Vietnam was at 86.9 million increased 1.105 times compared to 2001, or by 1.09% annually.

Table 1. Population and population growth rates, 2001-2010

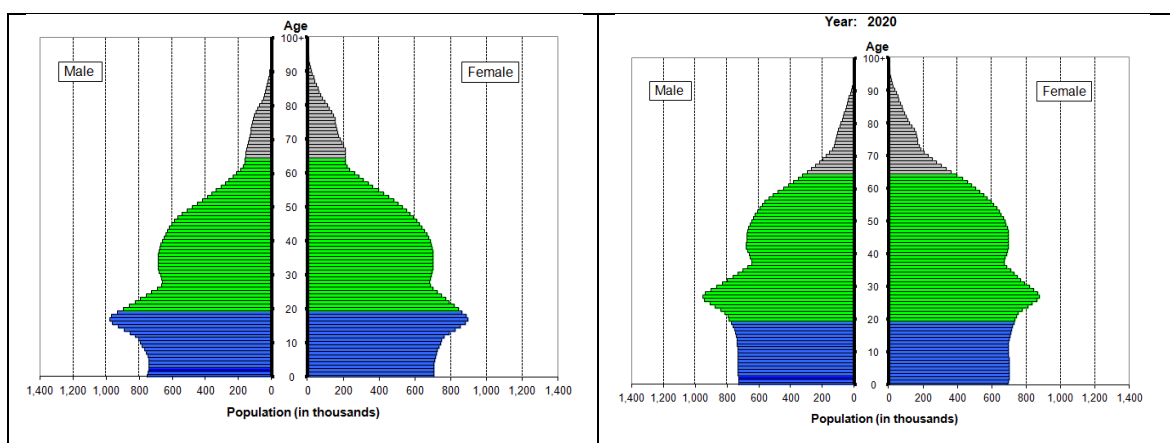
	2001	2005	2010
Total (1,000 people)	78.621	82.392	86.933
Ratio(%)	100,0	100,0	100,0
Male	49,2	49,2	49,4
Female	50,8	50,8	50,6
Population growth rate(%)	1.27	1.17	1.05
Male	1.29	1.20	1.10
Female	1.26	1.15	1.00

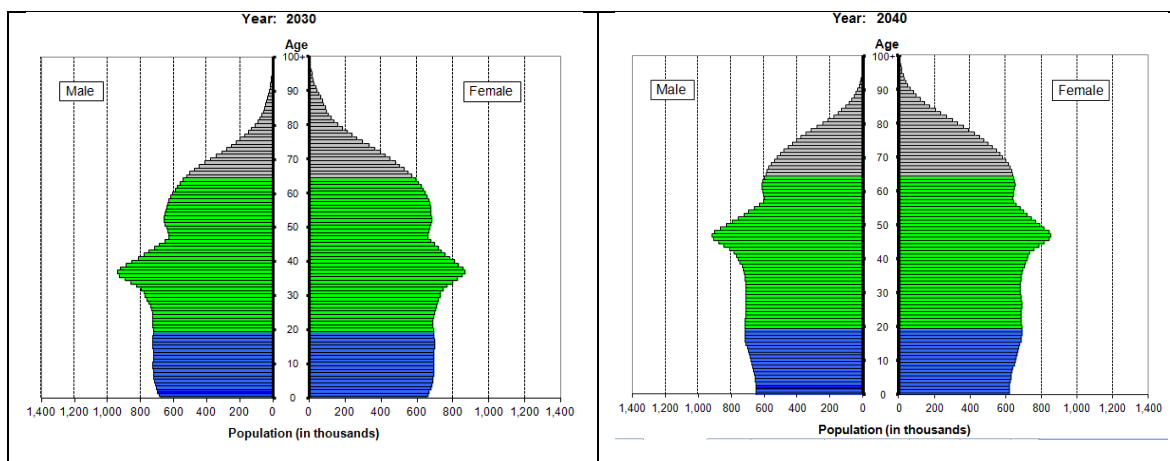
Source: GSO (2011), Annual Statistic Books, Statistic Publishing House

However, the sex ratio of newborn children stood at a high level of 112 boys/100 girls in 2010, increased from 108 boys/100 girls in 2001.

During 2001-2010, the growth rate of the male population was higher than that of female population: 1.17%/year, versus 1.06%/year. As a result, the proportion of women in the total population continued to decline slightly, from 50.8% in 2001 to 50.6% in 2010.

Figure 1. Pyramids of Vietnam Population by age and gender, 2010-2040





Source: Based on UN projection data, constructed by RikiyaMatsukura of NUPRI, (2011).

The gender trend in population reflects the labor force structure. In 2010, of the total labor force of 50.8 million, females accounted for 48.4%, slightly decreased from 49.6% in 2001 (table 2).

Table 2. Labor force by gender, 2001-2011

	2001	2005	2010
Total (1000 people)	40,108	44,382	50,837
By gender(%)			
Male	50.4	51.3	51.4
Female	49.6	48.7	48.6

Source: MOLISA, Survey on Labor and Employment, years 2001, 2005;

GSO, Report on the Survey of Labor and Employment 2010.

The labor force participation rate of women increased slightly from 70% in 2001 to 73% in 2010, while that of men increased from 77% in 2001 to 82% in 2010. This change is considered to be one of the proofs of the impact of economic downturn on the labor force participation capability of the women. The increase of women in education and the unbalanced proportion of women in non-economic activities and housework were also reflected in these numbers (Table 3).

Table 3. Labor force participation rate by gender, 2001-2011*Unit: %*

	2001	2005	2010
General	73.0	71.1	77.4
Male	76.8	75.5	82.0
Female	69.6	67.0	73.0

Source: MOLISA, Survey on Labor and employment, year 2001, 2005;

GSO, Report on the survey of Labor and employment 2010;

Furthermore, the educational level of male workers was higher than that of female workers. For example, in 2010, about 5.3% of female labor force was illiterate, compared to only 3.1% of male workers.

Table 4. Structure of labor force by education level and gender, 2010*Unit: %*

	Illiterate	Uncompleted primary school	Completed primary school	Completed lower secondary school	Completed upper secondary school	Total
Total	4.1	12.3	24.8	33.1	25.7	100.0
<i>By gender</i>						
Male	3.1	10.8	24.3	34.4	27.5	100.0
Female	5.3	13.9	25.3	31.8	23.8	100.0

Source: MOLISA, Statistic Year Book 2012.

The gender gap continued to exist in the levels of technical professional skill

(skilled workers). In 2010, only 13.5% female workers had undergone formal training, 3.6 percentage points less than male workers (17.1%). The quantity and proportion of female skilled workers were lower than that of male skilled workers at all levels, except the college level. This showed that barriers really did exist in the accessibility of education and training to women.

Table 5. Structure of Labor force by professional skill and gender, 2010

Unit: %

	Proporti on of skilled workers	In which,						Skill without certificates and unskilled
		Vocati -onal eleme -ntary	Vocati- onal second -ary	Profes- sional second -ary	Vocati -onal college	Profe -ssion alcoll -ege	Unive -rsity and higher	
Male	17.1	3.0	2.5	3.3	0.4	1.2	6.7	82.9
Femal e	13.5	0.9	0.7	4.1	0.2	2.3	5.4	86.5

Source: MOLISA, Statistic Year Book 2012.

Employment

In the period 2001-2010, of the approximately 1 million new jobs created, men took about 600 thousand jobs (accounting for 62%) while women claimed only 370 thousand jobs (38%). As a result, employment of female workers increased at a slower rate than men, leading to a further reduction in the employment share of female workers in the total employment. Thus, in the past 10 years, the annual employment growth rate for male was 2.8%, higher than 2.4% for females.

Table 6. Employment by gender, 2001-2010

	2001	2005	2010
1. Total (1000 people)	39,000	43,452	49,494
Male	19,744	22,313	25,536
Female	19,257	21,14	23,958
2. Share of female (%)	49.4	48.6	48.4

Source: MOLISA, Survey on Labor and employment, year 2001, 2005;

GSO, Report on the survey of Labor and employment 2010;

Also, the structure of employment by industry was uneven between males and females. More than a half of females worked in agriculture, only 16.5% worked in industry and 32.6% worked in the service sector.

Table 7. The working labor structure by industry and gender, 2010

Unit: %

	Agriculture	Industry	Services	Total
Total	47.6	22.3	30.1	100.0
Gender				
Male	45.6	26.1	28.3	100.0
Female	50.9	16.5	32.6	100.0

Source: GSO, Report on the survey of Labor and employment 2010

A large proportion of women worked in the informal sector (self-employed and unpaid family jobs) -68.8%, compared to only 55% of men. Since most of the jobs in the informal sector are unstable and bring low income, women are less protected and more exposed to poverty.

Table 8. Structure of working labors by position, gender in 2010

Unit: %

	Wages/salaries labors (including collective members)	Employers	Self-employed	Unpaid family workers	Others	Total
Whole country	35.3	3.1	43.3	18.2	0.1	100.0
Male	40.9	4.1	42.4	12.5	0.1	100.0
Female	29.2	2.0	44.2	24.5	0.1	100.0

Source: GSO, Report on the survey of Labor and employment 2010

The wage gaps between the state, FDI sector and others have increased gradually over the years due to the wage level growth rates in these two sectors were higher than those of others (for more information, please see the Annex 2). The results in the Annex 2 show that men's average wage level was higher than women's in almost all working sectors. In 2010, men's average wage level was 2,426 thousand dongs/month/person while women's average wage level was 1,993 thousand dongs/month/person. Compared to 2004, the growth rate of men's average wage level was 19.4 percent/year while the growth rate of women's average wage level was only 19.2 percent/year, which has also contributed to a slow increase in wage inequality between men and women.

Table 9. Rate of men's and women's monthly average wage (Unit: %)

Ownership	2004	2006	2008	2010
Non-state	69.92	74.66	70.67	74.61
State	94.41	94.21	101.66	87.91
FDI	64.07	61.91	63.16	53.33
Urban/rural				
Rural	79.17	81.30	82.39	79.74
Urban	79.30	83.01	80.04	79.07
Industry				
Agriculture – Forestry - Fishery	71.94	73.98	72.68	74.55
Mining	54.15	67.94	62.10	71.69
Processing	71.71	74.21	64.15	70.32
Electricity, gas and water distribution	127.44	108.48	81.96	95.22
Construction	79.79	76.52	85.53	83.27
Trade	92.34	91.84	96.97	88.64
Education				
No degree	72.80	76.90	72.86	68.32
Primary school	75.24	75.23	72.97	76.48
Lower secondary school	78.81	82.65	79.34	79.86
Upper secondary school	90.09	94.47	88.04	84.76
Technical worker	70.48	81.26	75.63	72.54
Professional High school training/education	97.20	87.04	84.70	95.00
Bachelor Degree	86.59	87.36	100.45	84.64
Master Degree & Doctorate	64.14	43.15	85.64	80.09
Total	82.83	84.55	84.72	82.15

Source: Calculations from VHLSS 2004, 2006, 2008 and 2010

Of different types of enterprises, wage paid to both men and women by the non-state sector is the lowest level, standing at 1,566 thousand dong/person/month for women, equivalent to 78.5 percent of women workers' monthly average wage and at 2,099 thousand dong/labour/month for men workers, equivalent to 86.5 percent of men workers' monthly average wage. In the period of 2004 to 2010, the average wage growth rate of women workers in the private sector was 20.5 percent, quite much higher the growth rates of the two remain women worker groups, which has contributed to reducing wage gaps of the women workers in this sector against the state and FDI one. However, for men workers, the situation is reverse, they have had the lowest wage level compared to the two remain ones, which leads to an increase in the wage gaps of the men workers in the private sector against the state and FDI one. Men have the wage level in the state sector much lower than in FDI while the wage level of women in the state sector tend to increase more than in FDI. The state and FDI have had the annual wage-level increase for men much higher than that of women, especially in the FDI. In 2004, the annual wage level of women workers was equivalent to 94.4 percent of the men ones in the state sector and in the FDI sector; the wage level of women workers was even much lower than that of men (64%). However, in 2010, the situation was worse, in the state sector, the wage level of women workers was equivalent to 88 percent of men ones and in FDI, the percentage was only 53.3 percent. The above-mentioned results show that wage level gap between men workers and women ones have been extended.

In 2010, the average monthly wage level of urban workers was 3,506 thousand dong for men and 2,772 thousand dong for women while the average monthly wage level of rural workers was much lower with 1,881 and 1,500 thousand dong for men and women, respectively or only equivalent to around 54 percent of the wage level of urban workers. Wage level growth rate between men and women workers in urban and rural areas tend to be opposite. While in rural areas, the

wage level growth rate of men workers is lower than men (18.8 percent compared to 19 percent), in urban areas, men get a higher wage level growth rate of 19.1 percent compare to 19 percent for women. For the quite uniformed wage level growth rate in urban and rural areas, in 2010, the wage gap between urban and rural areas was still almost constant.

Of the selected industries, the industry of electricity, water and gas distribution has paid a higher wage level for women than for men in the period of 2004 to 2006; however, in the period of 2008 to 2010, the wage level of men workers in this industry was higher than that of women ones. As a result, in the period of 2004 to 2010, the wage level growth rate of men workers was much higher than that of women ones (17 percent compared to 11.4 percent). In 2004, the women workers working in the industry of electricity, gas and water distribution got the highest wage level of all selected industries; however, by 2010, the rank declined to the third. Agriculture – forestry and fishery has generated the lowest wage level of all selected industries in this study for both men and women in 2004 (528.6 and 380 thousand dongs, respectively). The wage level growth rate of the workers in this industry was also slower than others in the period of 2004 to 2010 (16.4 percent for men and 17.1 percent for women). Therefore, by 2010, the average wage level of men and women workers in this industry was still low (1,314.5 thousand dongs for men and 980 thousand dongs for women) and it has a quite big gap compared to the wage level of the remain selected industries. The mining industry has witnessed a rapid wage level growth rate for women workers (25.2 percent/year). In 2004, the wage level of women workers in this industry was only equivalent to 54 percent of the wage level of men one; whereas, in 2010, this rate was 72 percent. The remain industries, namely, civil industry, civil construction, and trade have experienced quite similar wage level growth rates for both men and women, of which, civil industry and trade has had the higher wage level growth rate for men than women while in the construction, the situation is

reserve. The situation exposed that in the civil industry and trade, there are increasing differences in the wage level of men and women while in the construction, the differences tend to decline.

Technical and professional qualifications have made great contributions to the wage level of both men and women workers. The higher educational level women and men get, the higher wage level they have. The employees who have obtained Master or Doctorate Degrees have the highest wage level of 5,263 thousand dongs/person/ month in 2010. For the unskilled workers with no certificate, completing primary and secondary level, the wage level growth rate of men workers is higher than that of women ones, which has led to a big gap between the wage level of men and women in this group. Of those who have Master or Doctorate Degrees, the wage level growth rate of women workers is much higher than that of men ones (17.4 percent compared to 13.2 percent). As a result, wage inequality of this group has tended to fall

3. Objectives of the study

Research questions:

- What is the reason for this gap?
- Is it caused by the gaps in technical qualification between women and men or women's labour productivity is lower than men's or existing gender bias of employers towards women?

Develop a model to analyze the impacts of income inequality on the economic growth; develop a model for quantitative analysis to evaluate and measure the level of impacts of the factors causing income inequality by sex.

To make recommendations for narrowing wage and income gaps between men and women to reduce income inequality in society.

4. Scope and methodology

Scope of the study contents:

Income of female and male wage-earners in Vietnam; the factors which affect labour's wage such as educational level, number of working experience, economic sector, geographic areas, economic industries, ethnic group, marital status, level of difference in income of male and female workers.

Methodology:

The Blinder-Oaxaca decomposition, which was built and developed in 1973, reviews the income gap between males and females. This method has been widely applied in various countries in the world.

Based on the Blinder-Oaxaca decomposition, there have been many model developments by changing regression model or establishing additional steps in the process of wage decomposition (Juhn, Murphy and Pierce, 199; Brown, Moon and Zoloth, 1980).

The specific methodology is as following:

Estimating wage equation: In order to answer the question on whether there are differences in income by gender, the research uses the Mincer equation form. The dependent variable is the logarithm of worker's wage per hour, explanatory variable is the characteristics of human capital, which are dummy variables. Besides, this research also provides other control variables such as the occupation factor, which are dummy variables that take on the values 0 and 1.

The basic equation is as following:

$$\ln w_{it} = X_{it}\beta_{it} + \varepsilon_{it} \quad (1)$$

In which: w_{it} is the worker's wage per hour; x_{it} is an explanatory variable (including the number of school years attended, number of years of experience, squared number of years of experience, characteristics of occupation etc); ε_{it} is the error calculated by the unobserved characteristics.

Mincer (1997) has estimated salary and income of workers by using the following

equation:

$$\text{Ln}w_{it} = X_{it}\beta_{it} + D_{it}\alpha_{it} + \varepsilon_{it} \quad (2)$$

In which $D_{it} = 1$ if it is female and 0 if it is male, estimated coefficient of dummy variable on gender, α_{it} , is the estimated result on wage gap by gender.

Decomposition of wage and income gap: the estimations on labor market segments by gender and the decomposition of wage gap were developed by Blinder (1973) and Oaxaca (1973). A recent approach for wage gap decomposition was introduced by Neumark (1988) Cotton (1988) Blau and Kahn (1994) Jenkins (1994) and Appleton, Hodinott, and Krishnan (1999).

Daymont and Andrisani (1984) provided an expansion for Blinder - Oaxaca decomposition:

$$\begin{aligned} \text{Ln}w_{m_{it}} - \text{Ln}w_{f_{it}} &= (X_{m_{it}} - X_{f_{it}})\beta_{ft} + (\beta_{mt} - \beta_{ft})X_{f_{it}} + (X_{m_{it}} - X_{f_{it}})(\beta_{mt} - \beta_{ft}) + u_t \quad (3) \\ &= \quad E \quad + \quad C \quad + \quad CE \end{aligned}$$

In which: W_m and W_f : are the average wage of males and females presentatively; X_m and X_f are independent variables for males and females; β_m and β_f are estimated coefficients.

The above equation is used for reviewing the impacts of some factors on wage gap by gender.

Thus, this method allows explaining the differences between male and female wages, which are due to the 3 main components. Firstly, it is due to the differences in education, experience, age, occupation etc (these are observable characteristics and are labeled E). Secondly, the differences in wages are due to social prejudice, which are the social stratification in labor markets between males and females and are caused by policy institutions (these are unobservable characteristics between male and female workers, labeled C). Thirdly, the wage differences are due to the interaction between above components (due to the differences of observable and unobservable characteristics, labeled EC).

5. Data

Based on the data of Vietnam Household Living Standards Survey (VHLSS) in 2004, 2006, 2008 and 2010, wage and income gaps between men and women will be analyzed. Then key factors which mainly affect gender inequality in income in the period of 2004 – 2010 will be identified.

- Secondary data for the survey: VHLSS in 2004, 2006, 2008 and 2010 of General Statistics Office (GSO).

Key factors which affect gender inequality in income in Vietnam:

- Economic factors: profile of workers such as age group, sex, health status, marital status, the factors related to workers' employment: working experience, educational level, economic sectors, urban-rural areas, ethnic group, etc.

- Non-economic factors: gender bias, cultural conditions, environmental surroundings, stability, political environment...

- The study duration: 2004-2010.

Describe dataset

Wage/salary

The estimation of average values for male and female from VHLSS in 2004-2010 periods show that logarithm of month wage of male is still higher than that of female. Number of working years of men is lower than that of women; however, the average number of schooling years of men is higher than that of women. Therefore, labour productivity of men can be higher than that of women. Finally, men's average wage is higher than women's.

Table 10: Statistic of median values of several variables by sex

Variable	2004		2006		2008		2010	
	Male	Female	Male	Female	Male	Female	Male	Female
	Mean							
Inmwage	6.424	6.197	6.689	6.510	7.054	6.851	7.459	7.234
Number of schooling years	7.329	6.445	7.003	6.236	7.246	6.450	7.072	6.438
Working experience	17.162	19.568	16.678	19.073	17.239	19.976	16.920	19.343
(Working experience)^2	601.44	742.21	591.35	733.24	617.47	782.34	595.77	743.34
Rate of employees in urban areas	0.232	0.242	0.242	0.243	0.249	0.251	0.269	0.278
Rate of employees in the state sector	0.122	0.090	0.123	0.092	0.121	0.091	0.105	0.091
Rate of employees in FDI sector	0.009	0.015	0.012	0.021	0.014	0.026	0.014	0.027
Rate of employees working in mining industry	0.015	0.005	0.015	0.004	0.015	0.004	0.010	0.003
Rate of employees working in processing industry	0.112	0.129	0.124	0.143	0.115	0.142	0.142	0.174
Rate of employees working in electricity and gas distribution	0.006	0.001	0.006	0.002	0.008	0.004	0.008	0.003
Rate of employees working in construction	0.114	0.013	0.122	0.013	0.124	0.015	0.140	0.017
Rate of employees working in services	0.242	0.264	0.257	0.282	0.261	0.285	0.191	0.170

Source: Calculations from VHLSS 2004, 2006, 2008 and 2010

The difference in the average number of schooling years between men and women tend to narrow gradually. This difference in 2004 was 0.88 while in 2010 it reduced to 0.63. The narrowed gap has reflected women workers' better opportunities to access education.

Results from the survey samples also expose that rates of men employees in urban

areas, FDI sector, processing industry and services were often lower than the rates of women in the same industries and sectors in the period of 2004 to 2010. On other words, more women have worked in these sectors and industries.

Table 11: Differences in the median values between men and women

Variable	2004	2006	2008	2010
Inmwage	0.226	0.179	0.203	0.225
Number of schooling years	0.883	0.767	0.795	0.634
Working experience	-2.406	-2.395	-2.738	-2.423
(Working experience)^2	-140.8	-141.9	-164.9	-147.6
Urban	-0.010	-0.002	-0.002	-0.009
State	0.031	0.031	0.030	0.014
FDI	-0.006	-0.009	-0.012	-0.013
Mining	0.009	0.011	0.011	0.007
Processing	-0.018	-0.018	-0.028	-0.032
Electricity and gas distribution	0.005	0.004	0.005	0.004
Construction	0.101	0.109	0.110	0.123
Services	-0.022	-0.025	-0.024	0.021

Source: Calculations from VHLSS 2004, 2006, 2008 and 2010

The above statistic table illustrates that higher rate of women are working in urban areas, where the average income level is higher than other areas compared to men. Moreover, more women than men are also working in the FDI sector or services which also offer them higher income levels than others. However, in fact, women's average wage is 20 to 23 percent lower than men's. So, what is the reason for this gap? Is it caused by the gaps in technical qualification between women and men or women's labour productivity is lower than men's or existing gender bias of employers towards women. In order to identify the causes for this gap in wage and income of men and women, the following quantitative analysis

will expose the elements that have affected employees' wage and income as well as the wage and income gaps by sex.

6. Results and discussion

Appliance of Blinder-Oaxaca criteria to analyze disparities in wage can partly help to explain the differences among the elements determining the wage level such as technical level or seniority (experience). However, these criteria cannot explain the other disparities. Primarily, Oaxaca method will estimate wage equitation independently to clarify if the differences in wage and income between women and women exist or not?

The regression model (2) is estimated independently for men and women. The model is presented as below:

$$\text{Lnmwage} = a_0 + a_1 * \text{schooling} + a_2 * \text{exp} + a_3 * \text{exp}^2 + a_4 * \text{gender} + a_5 * \text{urban} + a_6 * \text{DN_NN} + a_7 * \text{DN_FDI} + a_8 * \text{Indus}$$

In which:

Dependent variable: Lnmwage (Log of monthly average salary of employees).

Independent variable: including the variables of working experience, squared experience (because working experience has the non-linear relation with wage); dummy variables include: "gender" (1 refer "male" and 0 refer "female", number of schooling years (schooling); "state-owned enterprises" (DN_NN); "FDI enterprises" (DN_FDI); "rural and urban"; and "Indus". The results of the estimations are as below:

Table 12: Results of the estimations of wage model

Independent variable	Total	2004	2006	2008	2010
	Dependent variable: lnwage				
Number of schooling years	0.066***	0.040***	0.049***	0.059***	0.057***
	[0.001]	[0.002]	[0.002]	[0.002]	[0.002]
Working experience/seniority	0.028***	0.026***	0.027***	0.032***	0.028***
	[0.001]	[0.002]	[0.002]	[0.002]	[0.002]
(Working experience)^2	-	-	-	-	-
	0.001***	0.001***	0.001***	0.001***	0.001***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Male	0.200***	0.225***	0.180***	0.216***	0.227***
	[0.008]	[0.015]	[0.014]	[0.015]	[0.015]
Urban	0.372***	0.431***	0.347***	0.330***	0.365***
	[0.009]	[0.016]	[0.015]	[0.016]	[0.016]
State economy	-0.030**	0.059***	0.031	0.006	0.123***
	[0.012]	[0.020]	[0.020]	[0.021]	[0.022]
FDI	0.393***	0.448***	0.276***	0.345***	0.406***
	[0.019]	[0.039]	[0.034]	[0.032]	[0.031]
Mining industry	0.269***	0.414***	0.416***	0.352***	0.345***
	[0.032]	[0.051]	[0.053]	[0.055]	[0.068]
Processing industry	0.127***	0.218***	0.272***	0.087***	0.147***
	[0.012]	[0.022]	[0.021]	[0.023]	[0.021]
Electricity and gas distribution	0.100**	0.126*	0.204***	0.122*	0.048
	[0.039]	[0.074]	[0.072]	[0.062]	[0.067]

Construction	0.257***	0.307***	0.331***	0.222***	0.328***
	[0.013]	[0.024]	[0.023]	[0.024]	[0.022]
Service	0.045***	0.175***	0.186***	0.119***	0.026
	[0.013]	[0.023]	[0.023]	[0.024]	[0.023]
Constant	5.740***	5.376***	5.605***	5.882***	6.283***
	[0.015]	[0.026]	[0.026]	[0.028]	[0.028]

Source: Calculation by the author from VHLSS

Most of the estimations have statistical significant. The coefficient of the “gender” variable is positive (+), i.e., men get higher wage and income than women do. Moreover, this result implies that the labour market is fragmented by sex. It can be seen that, in the period of 2006 – 2010, men’s wage level was 20% higher than women’s. This difference did not change much in the period of 2004 – 2010; however, there was a slight increase (the difference rate was 22.7 percent in 2010).

The study also considers other elements, namely, industry, economic sector, geographic area (urban/rural) in the model to compare the average wage level between men and women at the same conditions such as economic industry, ownership of enterprises or urban/rural areas where the employees are working.

Technical and professional qualifications of the employees have influenced their productivity and skills, which can help to improve their income. Coefficient of the “schooling” variable reflects that every an additional schooling year, the wage and income of the employee increase accordingly by %. The results from the estimations show that there was a gradual increase in the period of 2004 – 2010 (this coefficient was 0.04 and 0.06 percent in 2004 and 2010, respectively). The positive coefficient of the “schooling” variable implies that the role of education and training is a very important element directly affecting the income of the employees. The higher technical and professional level as well as skills the work requires, the higher wage level the employees can get. Therefore, those who can

obtain higher education and training can seek the jobs with higher income. Therefore, in order to improve the employees' income, it is needed to design and execute educational and training policies relevant to them.

The negative (-) squared coefficient indicates there is a more slowly grow in wage and income when the employees get older or there is a fact that the seniority is disproportional to the rapid rise of the employees' income. This is totally appropriate to the theory of slower marginal productivity.

The result table, once again affirms the average wage level of the employees in the urban areas is 37% higher than that of rural ones in the period of 2004 – 2010. On other hands, the female employees working in the urban areas are more than male ones. Therefore, it only considers the element related to geographical area (rural/urban), it can be concluded that women get more benefits in terms of wage and income compared to men.

By industry, if agriculture is the controlling industry, the employees working in industry, construction and service get higher wage and income. This is totally relevant to other study results.

Results from decomposition of Blind- Oaxaca estimations:

Decomposing the wage gaps can help to indicate a growth in wage gaps by time, logarithm of the wage wages between women and men was (-0.213) in 2004, (-0.18) in 2006 and (-0.217) in 2010. This implies that women get the monthly average income only equivalent to 80 – 85 percent of male and it tended to increase from 2004 to 2010.

Table 13: Blinder Oaxaca decomposition of wage gaps, 2004-2010²

	2004		2006		2008		2010	
Inm wage	Coef.	P>z	Coef.	P>z	Coef.	P>z	Coef.	P>z
Differential								
Prediction_1	6.259	0.000	6.557	0.000	6.902	0.000	7.300	0.000
Prediction_2	6.472	0.000	6.736	0.000	7.101	0.000	7.517	0.000
Difference	-0.213	0.000	-0.180	0.000	-0.199	0.000	-0.217	0.000
<i>Endowments</i>	<i>0.011</i>	<i>0.262</i>	<i>-0.002</i>	<i>0.854</i>	<i>0.021</i>	<i>0.040</i>	<i>0.015</i>	<i>0.174</i>
<i>Coefficients</i>	<i>-0.241</i>	<i>0.000</i>	<i>-0.216</i>	<i>0.000</i>	<i>-0.231</i>	<i>0.000</i>	<i>-0.240</i>	<i>0.000</i>
<i>Interaction</i>	<i>0.017</i>	<i>0.201</i>	<i>0.038</i>	<i>0.005</i>	<i>0.010</i>	<i>0.451</i>	<i>0.007</i>	<i>0.569</i>

Source: Estimation from the Blinder-Oaxaca model

The results show that the components of the observed element $E = 0.011$ or this element reduces 1.1 percentage point in the total wage gap in 2004. This exposes that female workers had been more improved in terms of their skills, qualifications, experience and occupational opportunities. However, the estimations by time illustrate that the indicator E in 2008 tended to double compared to that in 2004 and then it also fell slightly in 2010 by 0.015.

Though female workers have been improved regarding to qualifications and skills, etc., the contribution level of this element in wage gaps reduction remains limited. This can be brought about by a slower rise in labour productivity of female employees compared to male ones.

The second element (C) quantifies the changes in the wage level of women when there are existing gender bias in the labour market or inequality in society. This also means that gender bias and the impact of unobserved elements have created gaps in wage between men and women though they share the same resource characteristics. The results expose that the element (C) has risen 21 to 24

² Prediction_1 and Prediction_2 are prediction of Inm wage of female and male presentatively.

percentage points in the total wage gaps in the period of 2004- 2010.

The third element (EC) is the impact of both differences in resources (observed features) and social gender bias (unobserved features) on the wage gaps between two sexes. This element has caused unclear impacts on the wage gaps by sex.

The result table 14 below show that in 2004, the wage level of women was 21.3 percent lower than men, of which, the elements related to the characteristics of employees, workplace and working sectors have positively contributed to a fall in wage gaps between men and women though this decrease was quite small (1.1 percentage point). This improvement was mainly contributed from the female employees in FDI sector, urban areas, processing and service industry. The disparities in wage are still mainly caused by inequality in payment by sex in society (accounting for 24.1 percent points of the above-mentioned disparities). The result table also illustrates that of 24.1 percent points, the wage disparities between men and women caused by schooling years and working experience were 9.1 and 9.3 percentage points, respectively. Therefore, if looking at the total wage gaps between women and men in 2004, it can be seen that the differences are mainly resulted in by the disparities in education and working years of the employees.

The results in the table 14 also show that there is a similar trend influencing the wage gaps between men and women in 2004, 2006 and 2008.

Table 14. Decomposition of the disparities in wage by Blinder - Oaxaca

	2004				2006							
	E	C	EC	Total	E	C	EC	Total				
Years of schooling	-	0.001	-0.090	0.000	-	0.005	0.028	0.000	-	0.023		
experience	-	0.050	-0.093	0.009	-	0.134	-0.046	0.053	0.004	0.095		
Squared experience	-	0.043	0.055	0.007	-	0.091	0.038	0.037	-0.004	0.071		
urban	-	0.031	-0.028	0.006	-	0.003	0.020	0.040	-0.007	0.026		
State economy	-	0.004	0.091	0.019	-	0.106	-0.004	0.072	0.012	0.080		
FDI	-	0.013	0.005	0.007	-	0.025	0.010	0.004	0.005	0.019		
Mining	-	0.005	-0.005	0.002	-	0.008	-0.007	0.006	0.004	0.009		
Processing industry	-	0.032	-0.012	0.008	-	0.013	0.037	0.010	-0.006	0.021		
Electricity and gas distribution,..	-	0.001	0.004	0.003	-	0.000	-0.001	0.003	-0.002	0.000		
Construction	-	0.053	0.010	0.008	-	0.052	-0.066	0.025	0.021	0.070		
Service	-	0.007	0.062	0.013	-	0.081	0.011	0.038	0.009	0.058		
Constant	-	-	-0.241	-	-	0.241	-	0.207	-	0.207		
Total	-	0.011	-0.241	0.017	-	0.213	-	0.002	-	0.216	0.038	0.180

	2008				2010			
	E	C	EC	Total	E	C	EC	Total
Years of schooling	0.008	-0.025	0.000	0.017	0.015	0.049	0.001	0.065
experience	0.042	-0.221	0.013	0.251	-0.059	0.274	0.023	0.310
Squared experience	0.042	0.136	0.013	0.166	0.054	0.194	-0.022	0.226
urban	0.023	-0.020	0.004	0.001	0.020	0.027	-0.004	0.011
State economy	0.006	0.091	0.015	0.101	0.005	0.016	0.004	0.025
FDI	0.016	0.005	0.009	0.030	0.023	0.004	0.006	0.033
Mining	0.006	-0.005	0.003	0.008	-0.004	0.001	0.001	0.004
Processing industry	0.025	-0.026	0.021	0.022	0.035	0.045	-0.031	0.040
Electricity and gas distribution,..	0.002	-0.004	0.002	0.004	0.000	0.001	0.000	0.000
Construction	0.043	-0.005	0.004	0.044	-0.073	0.026	0.021	0.078
Service	0.007	0.012	0.002	0.021	-0.001	0.029	0.007	0.035
Constant		-0.170		0.170		0.158		0.158
Total	0.021	-0.231	0.010	0.199	0.015	0.240	0.007	0.217

Source: Calculation from the Blinder-Oaxaca Model

In 2010, impact trend of education on the wage disparities was different in the period of 2004 – 2008 when female workers who could be trained and accessed the educational system tended to be better than male workers, which has narrowed the wage gaps by sex. This has been caused by the domestic economic crisis since 2009, which directly affects production activities of enterprises, especially, those getting involved in the deeper and wider economic integration. On other hands, most of the employees working in this sector are male with higher technical skills. Therefore, this labour group has got a slower increase in or even decreased income due to the impacts of the crisis. Total wage gaps in 2010 by sex were 21.7 percent but the differences caused by the elements of the employees account for very small rates (around 1.5 of 21.7 percentage points). About 24 percent are caused by inequality in society. The experienced employees are still expected to create high labour productivity; therefore, their wage should be higher.

7. Conclusions

Income is the driving force for the employees to enhance their economic efficiency and to promote socio-economic development. Minimization of gender inequality existing in income not only helps to liberalize labour force but also to take advantage of resources to create a healthy and competitive labour market and to promote economic growth.

Results from Oaxaca decomposition show that wage gaps by sex are mainly caused by the fragmented labour market. The elements such as access to employment, education as well as workplaces tend to create equality between men and women. Therefore, these endowments have helped to reduce wage gaps. However, in fact, social bias still exists and employers often believe that male workers can produce higher labour productivity than female ones. As a result, it is undoubted that they get higher average wage. Results from the estimations also expose that the higher level of employees are, the higher their wage levels are. Moreover, income

inequality between male and female workers also tends to be narrowed.

If only looking at the disparities in resources, female workers have more advantages than male ones in payment. When both men and women share the same characteristics in human resources with no social bias, female workers have more opportunities to be paid with higher wage level than male ones. However, due to too big social bias, when reviewing all the impacts of endowments on wage gaps, women are still more disadvantaged in the labour market.

Results from the study once again affirm that traditional concepts and social bias towards women have prevented them from accessibility to education and training, selection of occupations, and opportunities to improve their professional and technical qualifications. Labour division by sex in different occupations, labour and work post arrangement in the same occupation and sector has created obvious differences, which also affect wage and income gaps.

Policy implications

Fostering policy making and revision in education and training, considering the gender-sensitive demands of the labour market and education and training.

It is needed to eliminate the thinking of giving more privilege to boys rather than girls to go to schools, especially in rural, mountainous and remote areas.

It is needed to strengthen investments, encouraging technical and professional qualifications, creating favourable conditions for female workers to pursue higher productivity and improve their wage level.

Investments in shifting occupational structure should pay attention to reasonable labour structure by sex. It is needed to develop and deploy active policies to encourage women to more participate in different economic sectors and to overcome barriers to get promotion in their career. (Female workers can work in construction or industry, which will positively contribute to reducing wage and

income gaps).

It is needed to create an equal environment for both men and women in access to occupations in all different economic sectors.

Results from the experiments show that working experience or age has had positive influence on reducing the wage difference of men and women, which totally support for the viewpoint of enhancing the retirement age of women equal to men (at present, as regulated, women retire at 55 while men retire at 60 years old) or lengthening working duration for women to create more opportunities to them to get equal wage level to men.

Appendix

1. Blinder Oaxaca decomposition of wage gaps

	2004		2006		2008		2010	
Inmwage	Coef.	P>z	Coef.	P>z	Coef.	P>z	Coef.	P>z
Differential								
Prediction_1	6.259	0.000	6.557	0.000	6.902	0.000	7.300	0.000
Prediction_2	6.472	0.000	6.736	0.000	7.101	0.000	7.517	0.000
Difference	-0.213	0.000	-0.180	0.000	-0.199	0.000	-0.217	0.000
Endowments								
yrsch	-0.001	0.826	0.005	0.260	0.008	0.206	0.015	0.017
exp	-0.050	0.000	-0.046	0.000	-0.042	0.000	-0.059	0.000
exp2	0.043	0.000	0.038	0.000	0.042	0.000	0.054	0.000
urban	0.031	0.000	0.020	0.000	0.023	0.000	0.020	0.000
D2	-0.004	0.007	-0.004	0.008	-0.006	0.001	0.005	0.007
D3	0.013	0.000	0.010	0.000	0.016	0.000	0.023	0.000
Nganh2	-0.005	0.000	-0.007	0.000	-0.006	0.000	-0.004	0.001
Nganh3	0.032	0.000	0.037	0.000	0.025	0.000	0.035	0.000
Nganh4	-0.001	0.298	-0.001	0.092	-0.002	0.031	0.000	0.649
Nganh5	-0.053	0.000	-0.066	0.000	-0.043	0.000	-0.073	0.000
Nganh6	0.007	0.003	0.011	0.000	0.007	0.001	-0.001	0.511
Total	0.011	0.262	-0.002	0.854	0.021	0.040	0.015	0.174
Coefficients								
yrsch	-0.090	0.020	-0.028	0.453	-0.025	0.506	0.049	0.180
exp	-0.093	0.200	-0.053	0.421	-0.221	0.002	-0.274	0.000
exp2	0.055	0.197	0.037	0.337	0.136	0.002	0.194	0.000
urban	-0.028	0.005	-0.040	0.000	-0.020	0.045	-0.027	0.013

D2	0.091	0.000	0.072	0.000	0.091	0.000	0.016	0.087
D3	0.005	0.010	0.004	0.081	0.005	0.017	0.004	0.125
Nganh2	-0.005	0.113	-0.006	0.040	-0.005	0.128	-0.001	0.649
Nganh3	-0.012	0.154	-0.010	0.232	-0.026	0.001	-0.045	0.000
Nganh4	0.004	0.114	0.003	0.100	-0.004	0.111	0.001	0.590
Nganh5	0.010	0.535	-0.025	0.120	-0.005	0.770	-0.026	0.094
Nganh6	0.062	0.000	0.038	0.010	0.012	0.469	0.029	0.023
_cons	-0.241	0.000	-0.207	0.000	-0.170	0.002	-0.158	0.004
Total	-0.241	0.000	-0.216	0.000	-0.231	0.000	-0.240	0.000
Interaction								
yrsch	0.000	0.827	0.000	0.532	0.000	0.556	0.001	0.241
exp	0.009	0.208	0.004	0.425	0.013	0.012	0.023	0.001
exp2	-0.007	0.209	-0.004	0.347	-0.013	0.012	-0.022	0.001
urban	-0.006	0.009	-0.007	0.001	-0.004	0.055	-0.004	0.026
D2	0.019	0.000	0.012	0.000	0.015	0.000	0.004	0.100
D3	0.007	0.012	0.005	0.085	0.009	0.019	0.006	0.126
Nganh2	0.002	0.138	0.004	0.049	0.003	0.137	0.001	0.650
Nganh3	-0.008	0.156	-0.006	0.234	-0.021	0.002	-0.031	0.000
Nganh4	-0.003	0.125	-0.002	0.132	0.002	0.150	0.000	0.600
Nganh5	-0.008	0.535	0.021	0.120	0.004	0.770	0.021	0.094
Nganh6	0.013	0.001	0.009	0.014	0.002	0.471	0.007	0.030
Total	0.017	0.201	0.038	0.005	0.010	0.451	0.007	0.569

2. Average wage/salary by gender

	2004		2006		2008		2010		Tốc độ tăng lương bình quân	
	female	male	female	male	female	male	female	male	female	male
Ownership										
Non-state	511.5	731.6	703.1	941.7	997.7	1,411.8	1,565.9	2,098.7	20.5	19
State	1,005.2	1,064.7	1,313.8	1,394.6	2,073.1	2,039.2	2,805.0	3,190.8	18.7	20
FDI	1,026.0	1,601.4	1,183.8	1,912.0	1,701.4	2,693.8	2,605.9	4,886.3	16.8	20
Urban/rural										
Rural	529.1	668.3	723.1	889.4	1,051.9	1,276.8	1,500.0	1,881.1	19.0	18
Urban	975.5	1,230.1	1,257.0	1,514.3	1,881.4	2,350.6	2,772.2	3,506.0	19.0	19
Industry										
Agriculture – Forestry - Fishery	380.3	528.6	513.6	694.2	749.1	1,030.7	980.0	1,314.5	17.1	16
Mining	624.8	1,153.8	966.7	1,422.8	1,393.0	2,243.3	2,407.7	3,358.4	25.2	19
Processing	674.7	940.9	894.1	1,204.8	1,140.0	1,777.2	1,817.8	2,585.1	18.0	18
Electricity, gas and water distribution	1,196.0	938.5	1,504.2	1,386.6	1,510.9	1,843.4	2,290.0	2,405.0	11.4	17
Constructio n	636.5	797.7	771.6	1,008.4	1,199.2	1,402.0	1,884.2	2,262.8	19.8	19
Trade	917.6	993.7	1,172.3	1,276.5	1,885.8	1,944.7	2,612.8	2,947.5	19.1	19

Education										
No degree	417.5	573.5	546.3	710.4	769.7	1,056.4	1,073.3	1,571.0	17.0	18
Primary school	512.0	680.5	670.9	891.8	885.3	1,213.3	1,366.7	1,787.0	17.8	17
Lower secondary school	564.7	716.5	754.0	912.3	999.0	1,259.1	1,550.9	1,942.1	18.3	18
Upper secondary school	821.5	911.9	1,049.7	1,111.2	1,450.7	1,647.7	1,884.6	2,223.5	14.8	16
Technical worker	771.9	1,095.2	1,089.4	1,340.7	1,452.0	1,920.0	2,083.9	2,872.9	18.0	17
Profesional Highschool training/edu ctra	1,022.2	1,051.7	1,164.7	1,338.1	1,760.9	2,078.9	2,502.9	2,634.5	16.1	16
Bacheclor Degree	1,388.9	1,604.0	1,884.6	2,157.4	2,504.4	2,493.2	2,899.4	3,425.7	13.1	13
Master Degree & Doctorate	1,607.4	2,506.1	2,316.7	5,369.5	3,194.7	3,730.3	4,215.6	5,263.3	17.4	13
Total	693.7	837.5	916.8	1,084.3	1,361.1	1,606.6	1,993.1	2,426.3	19.2	19

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