# Determinants to Female Labor Income in the Vietnam's Informal Sector

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*Abstract*

*By investigating the earnings of female labor in the Vietnam's informal sector, this proposed research aims to: (a) Find out the determinants of earnings for female workers in the informal sector in Vietnam; (b) Search for an appropriate policy option for upgrading earnings for female workers in a sustainable way in the informal sector in Vietnam; (c) Increase the overall awareness about the role of female workers in the informal sector in Vietnam.*

*Keywords: Income, female worker, informal sector, Vietnam*

## 1. Introduction

Since the launch of the reform policy in 1986, Vietnam has made outstanding socio- economic progress. However, Vietnam is still a transitional economy that has the dual one including the formal and informal sectors. The development of formal sector is at the expense of the informal sector which has an important role in generating employment, response to shocks and having dynamic and good contribution to the economy. Vietnam has a large informal sector in term of the use of the female labor force. The Vietnam's informal sector is important and dynamic, accounting for a majority of self-employment, however, low earnings and poor labor condition. Female workers, which are large and discriminated, have poor quality of social protection.

Women labor has been seen as a significant resource to strengthen socio-economic development. Participants in the informal sector are vendors, hawkers, petty traders, the small neighborhood retail store owners and their assistants, the tricycle and pedicab drivers, housewives and homeowners engaged in small business and subcontracting jobs, micro and small entrepreneurs and the self-employed (Yuzon, 2005). The reasons for people to join in this market are (i*) easy entrance; (ii) reliance on indigenous resources; (iii) family ownership of enterprises; (iv) small scale of operation; (v) labor-intensive and adapted technology; (vi) skills acquired outside the formal school system; (vii) unregulated and competitive markets*. However, up to now the employment in this sector are largely ignored, rarely supported and discouraged by the Government (James, Heintz and Vanek, Joann. 2007; Ray, Bromley, 1978).

Therefore, the Government of Vietnam has implemented various policies which are aimed at human development, creating favorable conditions for all participants, both male and female. In fact, the potential of female workers have been promoted and their social status has been greatly enhanced as well. However, as for the informal sector, they are still faced with many difficulties and challenges. Therefore, the research aims to analyze determinants to female labor income in the Vietnam's informal sector.

## 2. Literature Review

Since 1986, Vietnam transformed from the centrally- planned economy to market-oriented one. One of the major reforms was to shift the government attitudes and policies towards the role of private enterprises (CIEM, 1997). As a result, informal economic activities have expanded. Also since the late 1980s, the expansion of the informal sector, particularly in urban areas, has been widely observed. This sector has noticeably expanded by the shift inward of a large number of workers who were made redundant from the process of state-owned enterprise reform. A substantial part among them was female, middle-aged, low skilled workers. Thus, being self-employment as small vendors or engaging in low paid jobs in informal household businesses are the feasible options for them (Evans, 2004).

The concept of the informal sector is ambiguous and disputable (ILO, 2002). The comprehension of the term

*"informal sector"* used today is broader than before. According to the ILO report in 1972, the informal sector activities consisted of pretty traders, street hawkers, shoe-shine boys and other groups *"underemployed"* on the street of the big towns, etc. Recently, the informal sector defined generally by the ILO has the following characteristics: "*ease of entry*"; "*reliance on indigenous resources*"; *"family ownership of enterprises"*; *"small-scale of operation*"; *"labor intensive and adapted technology*"; *"skills acquired outside the formal school system"*; *and "unregulated and competitive market*".

There has been the ambiguity and confusion in both terminology and related conception, resulting in difficulties in undertaking studies on these activities/sectors. Therefore, it is important to obtain an appropriate conceptual framework distinguishing these activities/sectors.

The 17th ICLS defined informal employment as the total number of informal jobs, whether carried out in formal sector enterprises, informal sector enterprises or households during a given reference period.

In Vietnam, women account for around 50 % of the total labor force. According to the Mid-term Review Report of the implementation of the Five year (2006-2010) Socio-economic Development Plan, in 2007, the labor force participation rate of women was 65.4 %, compared to 74 % for men, constituting a ratio of 0.88, which is higher than the average of the countries at the same income level (0.76). The Gender Development Index (GDI) was 0.732, ranking 91st in the total of 157 listed countries.

The informal sector plays an important role in employment creation and poverty reduction for female labor. Currently, around 70-80 percent of women in Vietnam are working in this sector, 60 percent of them are in the agriculture and 20 percent are in the non-agricultural sectors, which are mostly affiliated with small size production and service units (Linh, 2008). Female labor in the informal sector proved that their employment in this sector has a vital role in poverty reduction and creates sustainable employment. However, this sector receives very little attention from local authorities as well as the central government.

### 3. Income for Female Workers in the Informal Sector

Average hourly income of informal women workers is also much lower than formal ones', less than male informal workers, even lower than the average of the informal workers of both sexes. Informal female labor income is only by half the income for formal women workers. In 2004, an average informal women worker earned 3,471.404 VND per hour; in 2010, the number increased to 8,391.426 VND per hour. This, however, is still lower than the income of male informal workers, at respectively 4,329.526 VND per hour in 2004 and 11,380.55 VND per hour in 2010.

**Table 1:** Earnings per hours (Thousand VND)

| Year | 2004 | | | 2006 | | |
|---|---|---|---|---|---|---|
| AREA | Female | Male | Both | Female | Male | Both |
| Formal employees | 6.020818 | 6.899374 | 6.493887 | 7.925911 | 9.056573 | 8.522363 |
| Informal employees | 3.471404 | 4.329526 | 4.029256 | 4.120808 | 5.344982 | 4.909749 |
| Formal self- employed | 14.68524 | 19.61129 | 16.88416 | 18.62694 | 23.14833 | 20.68304 |
| Informal self- employed | 6.39606 | 9.371138 | 7.569777 | 8.579896 | 11.22277 | 9.624722 |
| 2008 | | | 2010 | | | |
| Female | Male | Both | Female | Male | Both | |
| 11.86192 | 13.61865 | 12.7844 | 16.89925 | 19.98696 | 18.45632 | |
| 5.977983 | 7.647428 | 7.06321 | 8.391426 | 11.38055 | 10.36652 | |
| 24.26926 | 31.68433 | 27.93001 | 32.13776 | 47.00799 | 39.06604 | |
| 13.32028 | 17.16286 | 15.04131 | **23.8787** | 27.79569 | 25.46994 | |

**Source:** VHLSS various years, authors' calculations

Self-employed informal labor has higher hourly incomes. Average hourly earnings of self-employed informal workers were 6,396.06 VND in 2006, rising to 27,795.69 VND in 2010. However, the hourly wage of self-employed informal female workers is still lower than male workers' in the same sector and much less than female and male workers' in the formal sector.

**Table 2:** Employment composition (%)

|  | 2004 | 2006 | 2008 | 2010 |
|---|---|---|---|---|
| **Formal employees** |  |  |  |  |
| Female | 46.05 | 47.03 | 47.07 | 49.57 |
| Male | 53.95 | 52.97 | 52.93 | 50.43 |
| **Informal employees** |  |  |  |  |
| Female | 36.54 | 36.4 | 36.1 | 35.35 |
| Male | 63.46 | 63.6 | 63.9 | 64.65 |
| **Formal self- employed workers** |  |  |  |  |
| Female | 60.57 | 54.35 | 50.63 | 51.72 |
| Male | 39.43 | 45.65 | 49.37 | 48.28 |
| **Informal self- employed workers** |  |  |  |  |
| Female | 55.28 | 60.5 | 55.21 | 54.93 |
| Male | 44.72 | 39.5 | 44.79 | 45.07 |

**Source:** VHLSS various years, authors' calculations

According to the VHLSS, less female than male labor takes part in the informal sector. For example, male informal workers constitute around 65%, while female informal workers account for about 35%. However, the percentage of self-employed female workers is higher than male workers', making up nearly 60% in 2006, down to 50% in 2008, while self-employed male labor's increased from 40% in 2006 to approximately 50% in 2008.

If classified by hourly earnings, formal labor income is higher than informal labor income. The income is greater in urban areas than in rural areas in both the formal and informal sector. For example, in 2004, the average income for informal workers in rural areas is 3,116 VND per hour, which is lower than in urban areas, 4,314 VND per hour; in 2010, the corresponding figures is 7,740 VND per hour and 9,893 VDN per hour respectively.

Self-employed informal labor has the income on average twice as high as paid informal workers. In 2004, the former earned 6,049 VND per hour in rural areas and 7,229 VND per hour in urban areas; in 2010, the figures increased respectively 22,090 VND per hour and 32,187 VND per hour.

If divided by the regions of the country, incomes are higher for men than for women, better in the regions with more favorable natural conditions than in remote and mountainous areas. As for women informal workers, in 2004, incomes are greatest in the Southeast, at 4,510 VND per hour, followed by the Northwest, 4,320 VND per hour. By 2010, the highest income of women informal workers is in the Southeast, at 10,350 VND per hour, followed by the Central Highland, 10,100 VND per hour. The Northwest's - which is mountainous and poor area – top position is due to the regional female informal workers' involvement in tourism and manufacturing and sale of traditional products.

Self-employed informal women workers averagely earn twice as much as the paid female informal workers do. In 2004, self-employed women workers have the highest income in the South East, at 9,210 VND per hour, followed by the Central Highland at 6,910 VND / hour, and the Mekong Delta region, at 6,310 VND per hour. The Red River Delta is in the tops, at 6,160 VND per hour, while the lowest is the North-central coastal regions, at 4,310 VND per hour. In 2010, the number highest for the Southeast, at 49,410 VND per hour, the second is the Red River Delta, 28,310 VND per hour, followed by the North Central Coastal regions, 20,610 VND per hour. The average income of female informal workers higher in some regions is due to their association with household production - processing businesses who export such items as wood, rubber, pepper, coffee, and seafood or services.

The majority of women workers in the informal economy only manage to earn rather low incomes and do dangerous jobs, but the source of income is important for their families to improve from poverty. Vietnam has 27% of the workforce as female breadwinner, that is, female labor income is the only source for 27% of families in Vietnam (World Bank, 2009).

## 4. Determinants to Female Labor Income

For incorporating and quantifying the effect of any potential factor on labor productivity, Jacob Mincer's model of earnings (1974) is used. Jacob Mincer's model of earnings (1974) is widely used as an empirical tool in economic studies for estimating return to schooling[1], return to schooling quality[2], and measuring the impacts of work experience on male-

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[1] *For example Ashenfelter, O. and A. B. Krueger (1994), and Krueger, A. B. (1993)*

female wage gaps[3]. In growth economics, the Mincer's model is also used to analyze the determinants of wage rates[4], and the relationship between growth and average schooling levels across countries[5]. The Mincer's model of earnings has been estimated using data from a variety of countries and time periods. Earnings of worker i are determined by the Mincer's equation as follows:

$$Y_i = X_i \beta_i + \mu_i$$

Where $Y_i$ - A column vector of logarithmic values of hourly wage for individuals;

$X_i$ - A vector of person specific explanatory variables including demographic variables;

$\beta_i$ - A vector of unknown parameters;

$\mu_i$ - The error term is assumed to be normally distributed.

Vector X includes the characteristics of workers, according to the conventional literature, it often include level of education, age, and occupation. Dummies of marital status and gender are also present. To control urban/rural variations in wages, dummy for urban-rural residence is used. By assessing the statistic significance of those variables in the regression, it is possible to compare and figure out which factors could play important roles in determining the informal female labor earnings. We use the econometric model to examine the factors that have impact on earnings of informal female labor, using primary survey data and data from the VHLSS in 2010. Lists of the variables in the earning functions are as follows.

| Variable | Explanations |
| --- | --- |
| Wage | Wage of individual per hour |
| L_wage | Log form of wage |
| Informal | Dummy variable, equal to 1 for informal labor and 0 for formal labor |
| Immigration | Dummy variable, equal to 0 for individual who registers for residency at his dwelling, and 1 for individual who registers for residency at other place |
| Gender | Dummy variable, equal to 1 for male and 0 for female |
| Agetv | Age of individual |
| Age2 | Age square |
| Edulevel | Edulevel is levels of education by: no degree to 1, primary to 2, secondary to 3, high school to 4, vocational to 5, college and higher to 6 |
| Urban | Dummy variable, equal to 0 for rural and 1 for urban |
| Skill | Dummy variable, equal to 0 for unskilled workers and 1 for skilled workers |
| Mar | Dummy variable, equal to 1 for the current marital status of individual is married and 1 for the current marital status of individual is never married, widowed, divorced, and separated. |
| Sectorpar | Dummy variable, equal to 1 for workers (who work in labor-intensive industry) and equal to 0, otherwise |

## 4.1 Data

The research also make uses of data from Vietnam Household Living Standard Survey (VHLSS) examine the labor and earning in informal sector. Vietnam Household Living Standard Survey (1993, 1998, 2002, 2004, 2006, 2008, and 2010) is designed to study living conditions and poverty and inequality issues. It was collected in 1993, 1998, 2002, 2004, 2006, 2008 and 2010. The earlier rounds of the survey (in 1993 and 1998) called Vietnam Living Standard Survey, or VLSS, were representative at the national, rural/urban, and regional levels

In addition, although having not been specifically designed to measure the informal economy, the VHLSSs do provide essential information for generating the best proxies (in comparison with other existing surveys) of informality (Roubaud et al., 2008). VHLSS is probably most used survey compared to others and its data quality is considered as reasonably good. Although it was not designed to be a labor survey, it has an employment section (employment status, working hours, migration, and wages of all family members). Nevertheless, it still provides an excellent source to study wage and wage determinants and its relation to poverty and income inequality at the national and provincial levels. The survey also offers indicators on labor force participation overall and by income sources (farm vs. non-farm, wage vs. non-wage, and by industry and occupation for those in wage employment). The data of VHLSS can be used to examine the Vietnamese labor market both from the demand and supply sides.

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[2] For example Card, D. and A. Krueger (1992)

[3] See Mincer, J. and S. Polachek (1974)

[4] See Willis, R. J. (1986)

[5] See Bils, M. and P. Klenow (2000)

Two types of data are drawn from the VHLSSs for our analyses. *First*, time series are constructed from the successive rounds of the Vietnam Household Living Standard Survey (VHLSS) in 2004, 2006, 2008 and 2010. We use this data in some analyses to detect labor market trends for informal female workers. *Second*, our research uses the latest VHLSS available in 2010 for the earning functions for informal female workers. The samples are used after discarding missing observations.

In this study, informal employment includes informal self-employed (those who self-employed running non-farm household businesses without business license) and informal waged employed (wage workers) who do not benefit from social allowances. Thus, Informal sector jobs are identified from VHLSS data by a combination of information related to both waged workers and self-employed workers in non-farm household businesses.

The VHLSS is the most popular survey of household with multi-objective studies in developing countries, consisting of all aspects of household economic activities. The VHLSS is not a specific survey for the informal employment and sector, thus, it has some shortcomings in measuring the informal sector such as income information is not enough to understand the detail informal sector, information related to job characteristics is also few. In spite of its shortcomings, we can explore the VHLSS for this study.

With regards to earnings, the wage workers receive wage, it is their individual earnings. For the self- employed workers, it's household earning because the household works together. Therefore, we took the earning on average for the self- employed workers.

## 4.2 Estimation results for wage workers

The conventional Jacob Mincer's log model of earning for the whole sample were estimated using three sets of data of overall sample, informal labor and informal female labor in 2010. The results are presented in table 3.

**Table 3:** Estimation Results of Earning Function for Wage Workers

| Variable | Overall (Model 1) | Informal labor (Model 2) | Informal Female labor (Model 3) |
|---|---|---|---|
| Gender | 0.208*** | 0.284*** | |
| | (0.000) | (0.000) | |
| Informal | -0.255 | | |
| | (0.000) | | |
| Agetv | 0.045*** | 0.038*** | 0.034*** |
| | (0.000) | (0.000) | (0.000) |
| Age2 | -0.001*** | -0.0005*** | -0.00045** |
| | (0.000) | (0.000) | (0.000) |
| Mar | 0.060*** | 0.061*** | 0.043 |
| | (0.000) | (0.004) | (0.225) |
| Skill | 0.171*** | 0.150*** | 0.203*** |
| | (0.000) | (0.000) | (0.000) |
| Schooling | 0.026*** | 0.013*** | 0.019*** |
| | (0.000) | (0.000) | (0.000) |
| Immigration | 0.126*** | 0.152*** | 0.076 |
| | (0.000) | (0.000) | (0.259) |
| Urban | 0.121*** | 0.096*** | 0.090*** |
| | (0.000) | (0.000) | (0.008) |
| Sectorpar | -0.175*** | -0.203*** | -0.229*** |
| | (0.000) | (0.000) | (0.000) |
| Constant | 1.191*** | 1.179*** | 1.221*** |
| | (0.000) | (0.000) | (0.000) |
| Adjusted R-squared | 0.3104 | 0.156 | 0.101 |
| Number of Observations | 7312 | 4403 | 1458 |

Note: P-value in parentheses
(*): Statistically significant at 10%
(**): Statistically significant at 5%
(***): Statistically significant at 1%

**Source:** VHLSS various years, authors' calculations

In three cases using three different sets of data, nearly all estimated coefficients are statistically significant with expected signs. There were only two coefficients that are statistically insignificant, namely, marital status and the dummy of immigration (in the case of informal female labor). This result in general meets almost all our expectations.

In all three earning equations, it was found that schooling, skill[6], and agetv positively impact the earnings of workers. The positive sign of the coefficient of the dummy variable of skill implies that the more the individual has been trained and equipped with improved skill, the more she can raise income. These findings are consistent with the common practice in many countries. Education and skill are often proved to be very important for improving productivity and management. Improved productivity and management in their turn will bring about more outputs, and hence, generating more income.

However, in the model for overall sample and informal labor, Gender is statistically significant. Thus, we have enough evidence to conclude that gender inequality exists in the labor market and informal labor sector, negative coefficient of gender implies that there is a significant income gap between female and male in the Vietnam's labor market, especially in the informal sector. The results of model 1 and 2 also show that gender was found important in generating income. Being a man tends to have higher income compared to being a woman, especially when they are informal employed. This result is quite common in developing countries in Asia such as Vietnam, where men are still in better position in accessing employment opportunities and raising income than women.

The negative sign of the urban variable indicates that workers working in urban areas also tend to bring about higher earnings compared to that in rural areas. This result is also consistent with the clear improvement of income level of the population in urban areas under the current process of industrialization and modernization in Vietnam. That is why there is an increasing flow of migrants from rural areas to industrial centers and cities to seek jobs and raise income. The number of unofficial workers (not registered with local authorities) in urban areas may accounts for about 10-15 % of the population in cities in Vietnam.

The effect of marital status (presented by dummy variable of Mar) on earning was statistically significant in case of overall sample and informal labor suggesting that earning of married persons are higher 6% than that divorced/separated and never married persons. This issue can be explained by social and economic benefits of marriage. The social benefits of marriage include social support during times of stress, which can protect health by reducing inflammation and increasing serotonin release to elevate moods, and encouragement to engage in healthy behaviors. Economic benefits of marriage include pooled assets, living in the same household, access to spousal health insurance, and shared household labor. Some of these benefits can also be gained by cohabiting with a partner, which may partially explain higher income of marriage person. In fact, working married women had median earnings somewhat higher than never married women or women of other marital status[7]. This is because working married women may have the stronger driving force, higher responsibility than the other marital status.

Similarly, the negative signs of the dummy variables of sector par in all cases of the three earning equations have shown that keeping other things being constant, the more the workers work in labor-intensive industry where women are mainly concentrated, the less the income they can earn. In other words, working in labor-intensive sector tends to have lower earnings compared to that in the other sector. The labor-intensive industries in this study include food and beverage production, tobacco production, textile, clothing, leather tanning and leather products including wallets, seats.

Immigration has a substantial role in improving the earnings of overall labor and informal labor. Other things being equal, the earnings are 12.6% higher for overall and 15.2% higher for informal labor for those who are migrant worker.

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[6] According to VHLSS, Skill is combination of complicatedness and scope of tasks and responsibilities. In order to understand skill meaning, VHLSS also gave classification as follows. Professions are classified basing on two main concepts: concept of the job done before and concept of workmanship. Job is tasks and responsibilities executed or the means employed to fulfill these tasks and responsibilities by a person that statistics agencies use for classification of professions. Workmanship is the ability to carry out tasks and responsibilities required by a profession. Workmanship is proven in two aspects: a. Skill; b. Specialisation: includes technical aspects required by the profession, machineries manipulated, materials used in production, the type of products and services produced. In consistence and comparison with international standards, the system of profession classification is divided into 4 general workmanship levels: a. First workmanship level: no technical qualification is required; b. Second workmanship level: equivalent to primary technical level or technical worker; c. Third workmanship level: equivalent to vocational training of secondary level or higher; d. Fourth workmanship: equivalent to university level or higher. The use of groupings of educational levels for profession classification does not necessarily mean that the tasks and responsibilities required by a profession can only be executed if a person has been formally educated or trained but that workmanship of a person can be accumulated through experience or non-formal education and training. Moreover, it should be emphasized that profession classification reflects the skill level needed to execute the tasks and responsibilities required by a profession

[7] According to VHLSS, marital status consists of types as follows: Not yet married, Married, Widower/widow, Divorced, and Separated.

For informal female labor, the first important factor for earning is skill. Other things being equal, skilled labor get 20.3% higher than unskilled labor in their earnings. The years of education and experience also have positive effect on the earnings of female labor but it is still minor since they are able to raise the earnings only by 1.9%. Area seems to be the important factor that affects earnings of informal female labor. Other things being equal, the gap between the earnings of those who reside in the urban area and those who reside in the rural area is 9%. The dummy variables of sectorpar are statistically significant in informal female labor case. Thus, female labor in labor-intensive industries is paid less than labor of other industries. Vietnamese women's employment is primarily concentrated in a narrow range of sectors (especially textile, clothing, services, where access to jobs is easier but wages are often lower and job security minimal). These jobs are not highly value and these are informal sector, so they do not provide the benefits of full-time work in the formal sector including steady wages, adequate occupational health and safety conditions, job security and social protection. The main reason for women holds these jobs because they do not require high education and skills.

### 4.3 Estimation results for self-employed workers

Similarly, the estimations results for self-employed workers are presented in table 4.

**Table 4:** Estimation Results of Earning Function for Self-employed Workers

| Variable | Overall (model 4) | informal labor (model 5) | informal Female labor (model 6) |
|---|---|---|---|
| Gender | 0.258*** | 0.262*** | |
| | (0.000) | (0.000) | |
| Informal2 | -0.392*** | | |
| | (0.000) | | |
| Agetv | 0.007 | 0.018** | 0.011 |
| | (0.318) | (0.029) | (0.307) |
| Age2 | -0.0002** | -0.0003 | -0.0002* |
| | (0.015) | (0.000) | (0.090) |
| Mar | 0.003 | -0.027 | 0.090 |
| | (0.951) | (0.641) | (0.197) |
| Skill | -0.044 | -0.112 | -0.338*** |
| | (0.387) | (0.132) | (0.003) |
| Schooling | 0.025 | 0.027 | 0.034 |
| | (0.000) | (0.000) | (0.000) |
| Immigration | 0.244 | 0.303 | 0.358 |
| | ( 0.04) | (0.005) | (0.014) |
| Urban10 | 0.232 | 0.156 | 0.197 |
| | (0.000) | (0.000) | (0.000) |
| Constant | 2.635 | 2.087 | 1.997 |
| | (0.000) | (0.000) | (0.000) |
| Adjusted R-squared | 0.097 | 0.053 | 0.036 |
| Number of Observations | 4495 | 2993 | 1721 |

Note: P-value in parentheses
(*): Statistically significant at 10%
(**): Statistically significant at 5%
(***): Statistically significant at 1%

**Source:** VHLSS various years, authors' calculations

The regression based on the data of VHLSS 2010 for self-employed workers VHLSS gives similar results. In general, influences of the independent variables on level of earnings are almost in the same direction and meet our expectation. However, there are some differences between the results of two cases (waged worker and self-employed workers). The sign of gender, informal, agetv, age2, immigration, schooling, urban variables are unchanged in three models in compare with the above models. Meanwhile, the dummy variable of skill is in the opposite situation. The sign of skill variable is negative in these models. However, the variables are not statistically significant in cases of overall sample and informal labor. Thus, we don't have enough evidence to conclude that the more the individual was equipped with improved skill, the more she increases earning. However, skill is significant negative for female labor that can be explained that the

questionnaire sometimes does not cover important skills of self-employed workers.

The sign of schooling is positive in three models that mean the high level of education is guaranteed to get a well-paid job or can run a self-employed activity in the non-farm economy.

## 5. Conclusions

Female employees in the informal sector often have low and unstable income and high risk of poverty. Female laborers in the informal sector often have to do so many housework without salary that they do not have time to study and improve their degree. With the same job, the income of women is usually lower than that of men in both formal and informal sector. The female workers often face the risk of physical safety and health. Female immigrants often search jobs in the informal sector, but their workings do not have social protection, and they have to face up with many risks.

Moreover, these findings are also consistent with the common practice in many countries that education and skill are often proved to be very important for raising income for wage female workers. Gender inequality exists in the labor market and informal labor sector. There is a significant income gap between female and male in the Vietnam's labor market. Female workers in urban areas also have higher earnings than these in rural areas. Marital status was significant on earnings for informal female labor. Female workers working in labor-intensive sector tend to have lower earnings in comparison with those in the other sector. Immigration has also impact on earnings of informal female labor./

## References

Anderson, J.H. (1998), "The Size, Origins, and Character of Mongolia's Informal Sector during the Transition", World Bank Working Paper 1916

Adger, W. N., Kelly, P. M., Winkels, A., Luong, Q. H., and Locke, C. (2002), "Migration, Remittances, Livelihood Trajectories, and Social Resilience", *Royal Swedish Academy of Sciences* 2002, Ambio Vol. 3, No. 4, June.

Agion P., Caroli, E., & Garcia-Pealosa, C. (1999). Inequality and economic growth: The perspective of the new growth theories. *Journal of Economic Literature*, 37, 1615–1660.

Aihie, Osarenkhoe (2009). "The oxymoron of informal sector: A framework for conceptualizing informal sector as enabler of economic development in developing countries". *International Journal of Business and Economics*. Volume 9(1): 118-132

Alesina and Rodrik (1994): "Distributive Politics and Economic Growth". *Quarterly Journal of Economics* (109).

Alesina and Perotti (1996): "Income Distribution, Political Instability and Investment". *European Economic Review*, 40 (6).

Amin, A. T. M. N. (2002), "The Informal Sector in Asia from the Decent Work Perspective", Working Paper on the Informal Economy, April, 2002, Employment Sector, International Labor Office, Geneva.

Ashenfelter, O. and A. B. Krueger (1994): "Estimates of the Economic Return to Schooling from a New Sample of Twins" in *Quarterly Journal of Economics*, 84(5):1157-73.

Baumol, W.J. (2007): "On income distribution and growth". *Journal of Policy Modeling*, 29, 545-548.

Bernabe, S. (2002), "Informal Employment in Countries in Transition: A Conceptual Framework", Centre for Analysis of Social Exclusion, London School of Economics, CASE Paper No. 56, April.

Bernabe, S. and Krstic, G. (2005), "Labor Productivity and Access to market Matters for Pro-Poor Growth, the 1990s in Bukina Faso and Vietnam", Operationalising Pro-Poor Growth study, World Bank: Washington D.C.

Bernarbe, S. and Stampini, M. (2009), "Labor Mobility during Transistion: Evidence from Georgia", *Economics of Transition*, Vol. 17 (2) 2009, 377 – 409.

Benabou, R. (1996). Inequality and growth. In B. Bernanke & J. Rotemberg (Eds.), NBER Macro-Annual 1996 (pp. 11–76). Cambridge: MIT Press.

Bils, M. and P. Klenow (2000): "Does Schooling Cause Growth?" in *American Economic Review*, 90(5), 1160-1183.

Bo Q. Lin (2003): "Economic growth, income inequality and poverty reduction in People's Republic of China". *Asian Development Review*, vol.20, no.2, 105-124

Bourguignon, F. (2005): "Poverty-growth-inequality triangle: with some reflections on Egypt". *Distinguished Lecture Series*, No. 22. Cairo, Egypt Economic Studies.

Card, D. and A. Krueger (1992): "Does School Quality Matter? Returns to Education and the Characteristics of Public Schools in the United States" in *Journal of Political Economy*. Vol. 100 (1). p 1-40.

Card, D. (1995): "Earnings, Schooling, and Ability Revisited" in *Research in Labor Economics*, Vol. 14, edited by S. Polachek, Greenwich, Conn: JAI Press, 23-48.

Cling, J.-P., Razafindrakoto, M., Roubaud, F. (2010), "Assessing the Potential Impact of the Global Crisis on the Labor Market and the Informal Sector in Vietnam", *Journal of Economics & Development*, June, vol. 38, 16-25.

Datt, G. & Ravallion, M. (1992): "Growth and redistribution components of changes in poverty measure: a decomposition with application to Brazil and India in the 1980s". *Journal of Development Economics*, 38(2), 275-295.

Dimova, R., Gang, I. N., and Landon-Lane, J., (2005), "The Informal Sector during Crisis and Transition", Working Papers RP2005/18, World Institute for Development Economic Research (UNU-WIDER).

Do Duc Dinh. Social equity in the process of industrialization in East and Southeast Asia. *World Economic Problem Review*, Feb. 1997 (in Vietnamese).

Dollar and Kraay (2000). Trade, growth and poverty. *Finance and Development.*

Dollar and Kraay (2000). Growth is good for the poor. World Bank.

Edi, Suharto (2002). Human development and the urban informal sector in Bandung, Indonesia: The poverty issue. *New Zealand Journal of Asian Studies*. Volume 4(2): 115-133

Evans, M. (2004), "Embedding Market Reform through Statecraft - The Case of Equitization in Vietnam", In *2004 PSA Conference*, Political Studies Association. Available: http://www.psa.ac.uk/cps/2004/evansm.pdf.

Geetika et al (2011). *Women working in informal sector in India: A saga of lopsided utilization of human capital.* International Conference on Economics and Finance Research.

Gorana, Krstic and Sanfey. Peter (2011). Earnings inequaliy and informal sector. *Economics of Transition*. Volume 19(1): 179-199

GSO (2006). Non-farm individual/household business establishments, 2002-2005: Results of surveys. National Publishing House, Hanoi.

GSO (2007). Report on labor force and employment survey in Vietnam 2007, Hanoi.

GSO (2008). Non-farm individual business establishments 2007: Results of surveys. National Publishing House, Hanoi.

GSO (2010). Report on labor force and employment survey in Vietnam 2007, Hanoi.

GSO (2012). Report on labor force survey in Vietnam 2011, Hanoi.

GSO (various years). Statistical yearbook of Vietnam from 2007 to 2012. National Publishing House, Hanoi.

Hart, K., (1973), "Informal Income Opportunities and Urban Employment in Ghana", *Journal of Modern African Studies*, Vol. II, No. 1, 61-89.

Hussmanns, R. (2004), "Measuring the Informal Economy: from Employment in the Informal Sector to Informal Employment", Working Paper No. 53, Policy Integration Department, Bureau of Statistics, ILO, Geneva.

ILO (2003). *Equality, labor and social protection for women and men in the formal and informal economy in Vietnam: Issues for advocacy and policy development.* Hanoi. Labor and Social Affairs Publishing House.

Krueger, A. B. (1993): "How Computers Have Changed the Wage Structure: Evidence from Micro data, 1984-1989" in *Quarterly Journal of Economics*, Vol. 108, No. 1., pp.33-60.

Mincer, J. and S. Polachek (1974): "Family Investment in Human Capital: Earnings of Women" in *Journal of Political Economy*, Vol. 82(2, part II): S76-S108.

Willis, R. J. (1986): "Wage Determinants: A Survey and Reinterpretation of Human Capital Earnings Functions" in *Handbook of Labor Economics*, ed. Orley Ashenfelter and Richard Layard.

World Bank (2002). Poverty Measurement and Analysis, in the PRSP Sourcebook. Washington,DC.

World Bank (1993). The East Asian Miracle, Economic Growth and Public Policy. A World Bank Policy Research Report, Oxford Univ. Press, World Bank. Etc.

World Bank (2005). Vietnam development report 2006: Business. The World Bank, Hanoi.

World Bank (2007). Vietnam development report 2008: Social Protection. The World Bank, Hanoi.

World Bank (2009). Vietnam development report 2010: Modern institutions. The World Bank, Hanoi.

World Bank (2011). Vietnam development report 2012: Market economy for a middle- income country. The World Bank, Hanoi.