

## **Job mobility and low wage change in Thailand's labor market: Analysis using a multinomial endogenous switching model**

By

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The main purpose of this study consists in highlighting the complex relationship between job mobility and wage change in low wage sector. Moreover, we try to bring answers to the persistent wage instability within this group of individuals using the analysis of wage mobility. To take into account the specific methodological shortcoming of the unobserved heterogeneity, we consider a Probit multinomial endogenous switching approach, instead of using the linear model. In the light of the socio-economic panel data, collected between 2005 and 2007, it enable us to carry out an empirical analysis leading to show the dynamic of the urban labor market in Thailand. Thus, several observations directly drive to the main conclusion according to which the endogenous selection model is more relevant than exogenous one. In fact, the majority of the parameters from wage functions seem to be underestimated from the linear approach. Therefore, it is technically accurate to adopt for the relevant multinomial switching model. The fundamental result from this study shows the fact that there has been a positive correlation between the job mobility and the low wages. Low wage employees are more likely to perform a high job change. Moreover, while the wage penalty from job mobility under exogenous model seems to be relatively low, it is particularly high along the lines of the endogenous approach. In this case, the wage losses have been estimated about 4.3 percent for low wage mover referred to stayers. Most people implied in these wage losses include the employees with high educational level, the prime-age workers, those who have more tenure in the last job, those who come from the long spell of unemployment, those who have a full-time job and particularly those who work within big firms. The extent of the wage penalties calls upon the specific programs of public policies in order to minimize the negative effects on wage instability in this specific sector.

**Keywords:** job mobility, wage change, wage function, urban labor market, Thailand.

**JEL :** J21, J234, J62

### **Analyse des mobilités d'emploi et de bas salaires appliquée au marché du travail thaïlandais : À l'aide du modèle Probit multinomial à changement de régime endogène**

L'objectif de cette étude consiste à mettre en évidence une relation complexe entre la mobilité professionnelle et le changement de salaires dans un secteur à bas salaire afin de dresser les réponses à la problématique de l'instabilité chronique de salaires, principale responsable de l'inégalité salariale. Pour dépasser les limites méthodologiques spécifiquement connues de l'hétérogénéité, au lieu de recourir au modèle de sélection exogène, nous considérons un modèle Probit multinomial à changement de régime endogène à l'issue duquel les estimations sont convergentes, sans biais et axiomatiquement efficaces. Avec les enquêtes socio-économiques de Panel, collectées entre 2005 et 2007, une démarche empirique permet d'appréhender le fonctionnement dynamique du marché du travail urbain en Thaïlande. Plusieurs observations conduisent à la conclusion intéressante selon laquelle le modèle de correction des effets endogènes est plus pertinent que celui de sélection exogène car la majorité des paramètres des fonctions de gains semble être sous-estimés. L'essentiel de cette étude tient au fait qu'il existe une corrélation positive entre le changement d'emploi et le bas salaire. Ainsi, les employés à bas salaires sont plus susceptibles de changer d'emploi, confirmé par la significativité du coefficient de corrélation. Ensuite, nous chercherons à savoir si la mobilité d'emploi à bas salaire est profitable aux employés mobiles de ce secteur. Les pertes salariales sont de l'ordre de 4,3 pour cent pour les personnes mobiles à bas salaires comparé aux immobiles. Les plus touchés par ces pertes en termes monétaires englobent les plus éduqués, les travailleurs en âge de travailler, ceux ayant une ancienneté importante, les individus ayant une longue durée de chômage, les personnes ayant un travail à temps plein et ceux qui travaillent dans les grandes entreprises. L'ampleur des coûts d'opportunités supportés par les personnes à bas salaires fait appel aux programmes spécifiques de politiques économiques afin de minimiser ces effets négatifs liés à ces phénomènes.

**Mots-clés :** mobilité professionnelle, mobilité salariale, fonction de gains, marché du travail, Thaïlande.

**JEL :** J21, J234, J62

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## 1. Introduction

The empirical studies on job mobility and wage change have received a particular attention with an increasing availability of longitudinal data. Given the high level of the job mobility in low wage sector<sup>2</sup>, our specific concern is to identify the existence of the effects of job mobility on current wage and especially on earnings gap within the low pay sector. In fact, it appears that low wage movers suffer mostly from the random fluctuation of incomes caused by unstable jobs [Cappellari (2000), Glewwe and Nguyen (2002)]. The explicit assumption follows the idea according to which job change basically yields a persistent low wage and a downward wage mobility that could be harmful for long-term income. As a result, we consider the simultaneity of job mobility and low wage dimensions which likely reveals the potential wage penalty due to wage losses from such job change. Broadly speaking, the empirical evidence aims to quantify the wage penalty by taking the difference between what movers in the low wage sector earn and what they would have earned had they not experienced the job mobility. For this purpose, our study tries to confront the neoclassic theories saying the human capital, the job matching and the job search theories, claiming the general wage growth for low-wage job mobility, to the segmentation theory according to which the high job mobility of the low wage workers leads to the persistent wage inequality in the urban labor market.

The increasing concern about the low wage instability calls the new topic of research on the causes of wage inequality. For instance, the low wage network *European Low-Wage Employment Research Network* (LoWER), initiated in 1996, generally contributes to the analysis of impact of the labor market institutions on wage mobility and inequality in the low wage sector [Gregory *et al.* (2000)]. The programs explore the public policies implementations aiming to create the best conditions at work and the supporting programs for upward earnings mobility for the poor. The research fields of the low wage analysis include several labor scopes that consider, for instance, the minimum wage modeling, the improvement of the law on discrimination. Although the institutional constraints commonly involve the rigidity of wage structure in the labor market, they permit setting up the needed policies instruments so as to improve and protect low wage workers from job insecurity [Lucifora (1999) p.10]. Borrowed from this concept, our attention has been turned to the case of Thailand. In fact, since the economic recession due to the financial crisis at the end of 1990's, the wage and job flexibilities observed in Thailand have been arisen, particularly among the workers with low wage<sup>3</sup>. At the time of the economic adjustment, a substantial number of workers have largely involved in wage cut and job destruction while rising costs of production consecutive to low domestic demand. Several studies agree, however, with the fact that the practice of job adjustment was substantially common in comparison to wage cut. Basically, the real wages which were evaluated after

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<sup>2</sup> Farber (1998) argues that the high paid workers change job less frequently than those having low wage [Farber (1998) p.48]

<sup>3</sup> With regard to the job adjustment, we note the increasing rate of unemployment which raised from 1.1 % in 1996 to 3.4 % in 1998, equivalent to 779 700 unemployed persons.

the announcement of the devaluation of Baht unexpectedly exceeded the level prior to the crisis, likely due to the compensatory effect of the quantitative adjustments. The low flexibility of wages in the Thailand's labor market has been a surprise feature, given the absence of the intensive indications of unionization [Behrman *et al.* (2001) p.4].<sup>4</sup> Obviously, the low wage workers were mostly concerned about the job destruction and the wage cut since their supply, mainly with low skills, exceeded the expected labor demand at the crisis period. Given the lack of the feasible panel data, the empirical evidence with respect to the job mobility and wage dynamics in Thailand becomes sparse. In addition, although there have been constantly researches on those questions within the developed countries [Mincer (1993), Bartel and Rojas (1981), Jovanovic and Mincer (1978)], they often refer to the whole sample of movers instead of low wage movers while taking into account such specific movement yields a main issue of poor people.

In order to overcome certain shortcomings of the econometric estimates, we use the endogenous multinomial switching approach applied to the socio-economic panel data from Thailand. Contrary to the exogenous selection model and the two stages of estimates, the use of the endogenous approach gives us the most relevant coefficients with consistence and full efficiency. Generally, this type of approach tends to correct the errors of unobserved heterogeneity from which the earnings function suffer. Once estimated, the wage and job motilities will be simultaneously examined by the means of a statistical approximation of wage losses from the job mobility in low wage sector. In other words, we seek first to know if there has been a systematic connection between the job change and low wage. Do these joint effects influence current wage? Does the high level of job mobility lead to modify the structural distribution of low wages? And finally do the low-wage movers gain or lose from job changes? Our paper will be organized as follows. The theoretical background will enable us to plan the empirical examination and the direction of this relationship. Then, we carry out the description of the statistical data, the variables of selection and the model specification. Finally, the estimates results aim to clarify the joint effects on the wages and the consecutive wage penalty in low wage sector.

## **2. Theoretical backgrounds and model specification**

The review of the theoretical and empirical literatures and the econometric method used in this analysis will be consistently specified. Then, the definitions of job mobility and low wage sector and the variable selection will be jointly presented.

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<sup>4</sup> The wage flexibility is harmful to the poor to the extent that they are victims of an artificial wage cut and illegitimate wage determination. The poor workers will certainly undergo the unexpected consequence of the income fall or reducing hours of work in order to keep current job [Medhi *et al.* (2006) p. 44]

## 1. Review of the theories and some empirical evidences

### a. *Theoretical literature*

The theoretical supports of the job mobility in the low wage sector can be divided in two directions. The neoclassic theories consist of three mains models including the human capital, job matching and job research approaches which tend to associate observed phenomenon to the individual rationality in the way that the core determinants of job mobility generally belong to personal characteristics likely to enhance individual productivity and wage. However, the studies of the labor market structure found an opposite conclusion with respect to the determination of the job mobility in low pay. While the neoclassic theories tend to support a general wage growth given optimal job research strategies, the segmentation model argues that wage instability generated by the characteristics of precarious job is more likely.

There has been no common theoretical fact with regard to the direction of the causality between job mobility and low wage mobility. According to the orthodoxy theories, the wage mobility has been often considered as a consequence of an individual decision. Workers adopt for an optimal strategy by changing job as they notice an insufficient wage level by means of comparing current wage to alternative one. Many models have been developed following the study of Blument *et al.* (1955) called mover-stayer approach. In fact, the professional mobility is considered as an intrinsic character of worker. While workers with high productivity avoid job change, those with low productivity are likely to undergo involuntary job mobility throughout their career. Consequently, the wage cut merely occurs in this low wage sector while the job mobility represents an advantageous step in wage growth for high productive workers. In fact, the probabilities of the job mobility of low and high worker results partly from individual heterogeneity and partly from the particular job relationship at work. The fact is that all workers have different productivities and their job relations are particular. However, as proposed by the orthodox theories, the job change could not be constantly an intrinsic personality. In other words, the job change can be explained by the rational behavior of workers to the extent that individuals need to change their job mobility profiles in time. The dominant theory which defends this idea is the specific human capital model developed by Becker (1964). The higher the individual productivity with specific human capital is, the grater their current wage is, as a result of the accumulated specific knowledge of firm. To this observation, the analysis of Parsons (1972) derives an opposite relationship between the job change and the specific human capital level. Contrary to the mover-stayers approach, the professional mobility decreases with experience or tenure. In addition Mortensen (1978) tried to set up the more appropriated approach linking the specific human capital and the professional mobility. The central idea belongs to the fact that the probability of job change depends negatively on the fraction of specific human capital in job matching. The concept of the specific human capital and job mobility has been held again by Farber (1998) in his essay on the

efficiency of job separations. Moreover, the job matching model, developed by Jovanovic (1979), considers a job relationship as being the crucial key of the success of job matching whose the quality, which is not known *ex ante*, is a pure good experience of job or job shopping. In fact, the quality of matching is strictly unknown by the worker, but it appears up to time given all information available. Therefore the incidence of job mobility depends on the incomparableness of employee and job revealed by a set of the news arrival of information [Jovanovic (1979) p. 973]. This approach allow for the conditions of job mismatch by a revelation of available information upon the period. Thus, the worker leaves his job if and only if the quality of job matching is lower than that of expectation. Moreover, to specify the effects of jobless on job mobility, we refer to the analysis of prospective unemployment which combines with the job search model, proposed by Burdett (1978). In this approach, the efficiency of job search has a positive impact on the future earnings. Contrary to the specific human capital model, the individual productivity is supposed to be constant in time but differs from one firm to another depending on the way in which the firms evaluate its employees. By assumption, worker makes a comparison between costs and benefits of his research to which time and efforts will be all devoted. There has been however differences between on-the-job search and through-unemployment job search to the extent that if occupied worker seeks a job, the best strategy consists in fixing a reservation wage level<sup>5</sup> as criterion of the acceptance of the wage offer with regard to an alternative job. Worker will accept the wage offer and leaves current job if and only if the new wage offer are at least equivalent to its reservation wages while taking account all the costs of job change [Burdett (1978) p. 121]. Job separation mostly becomes accurate as the reservation wage is specifically high for low wage workers. In other words, the difference between current and reservation wages has been positively related to current wage [Mortensen (1986) and van den Berg (1992)]. To this effect, the way to minimize those cost of job mobility is to reduce this gap, or to search for job with a higher wage level. Consequently, since the difference between expected and reservation wages is basically higher in low wage sector compared to the high wage market, one expects that the probability of job change for low wage workers is relatively substantial [van den Berg (1992)]. Then the optimal job search model leads to the conclusion according to which all job change in low wage sector generally enhances income level as a result of worker rationality in expecting further high wage throughout their career. Contrary to the competitive labor market approach, the theory of the labor market segmentation assume a range of existing interactions between segments, namely secondary and primary sectors. Indeed, the limited inter-segments mobility is likely to introduce rigidity in the dynamic operation of market. Concerning the internal mobility, workers belonging to the primary market are particularly immobile as a result of their incentives to establish a long term relationship with their employers in order to receive a further promotion of career. By contrast, high job mobility

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<sup>5</sup> These reservation wages or wage acceptance mean the costs and marginal profits of job search, which depends largely on the wage distribution in economy, on the degree of job stability and on the impatience of each applicant for work.

seems to enhance the wage of poor people within the secondary sector. The concepts of job mobility differ from the neo-classic approaches to the segmentation model, borrowed from two different paradigms. In fact, Viatorisz and Harrison (1973) observe a divergence of the dynamic processes of the two markets instead of the convergence of the economy towards equilibrium claimed by neoclassic economists. Then the persistent poverty and increasing wage inequality have been related to the situation called *self-reinforcement cycle of stagnation* within the low wage segment. Interestingly the self-reinforcement cycle could be *a priori* observed since people enter into labor market and could also be identified by personal characters such as socio-economic backgrounds [Piore (1975) p. 128]. Thus remaining in the internal market for a long period does not occur any risk of wage losses while working in the secondary sector for a long period yields a potential wage loss due to an economic and social devaluation of qualification. Overall the theoretical framework from the segmentation model brings to the fact that job mobility could be possibly harmful to wage losses in the low wage sector while it would be considered as the quickest way to improve wage in labor market [Apostle *et al.* (1986) p. 341].

*b. Review of the empirical literature*

Given various forms of job mobility, the studies of the relationship between wage and professional mobilities become complexes in technical terms. Voluntary or strategic mobility normally improves worker position in the wage structure while involuntary or forced mobility outcomes earning decrease as a result of the increase in unemployment spells. Accordingly, it is interesting to make difference between the various kinds of job movement which affect different wage trajectories. In addition, when we consider the job mobility across age, the structure of job change differs from one age to another. While considering the impact of job mobility on wage throughout age, the job change at the beginning of career seems to be more advantageous than at the end of the career [Keith and McWilliams (1997, 1999), Topel and Ward (1992)]. Although the job mobility has been frequently related the loss of the specific human capital stock, the young workers has accumulated more skills as fast as those who stay at the same job.

The wage differential is supposed to disappear with time [Bougheas and Georgellis (2004)]. Moreover, the positive effects of job mobility on wage growth have been jointly explained in the job matching and job research by a high intensity of job search that allows some workers to directly reach more lucrative job [Munasinghe and Sigman (2003) p.217]. However, while taking into account voluntary and involuntary mobility, their effect on wage mobility differs from one to another. In the empirical analyses applied to the United States, Mincer (1986) argues that wage growth generated by all job mobility is statistically confirmed, except for older-worker class which is largely identified by a number of hired workers [Mincer (1986) p. 184]. Unemployment duration has also to do with a substantial impact of job change on wage losses. While following the imperfect information approach,

it turns out that the unemployment duration consecutive to job change has a negative effect on wage. According to Blanchard and Diamond (1994) and Lockwood (1991), unemployment will involve a large negative impact if the jobless duration is a long spell and rather frequent. Therefore without allowing for the unemployment spell which could moderate the positive effect of job mobility on wage growth, it is possibly wrong to conclude that such labor dynamic maintain upward wage mobility.

Moreover, the empirical evidence with regard to the determinants of low wage, applied particularly to the European countries, play an important role in justifying policies implementations of reducing poverty. In fact, Gosling *et al.* (1997) suggest that, between 1991 and 1994, only fifty percent of the persistence in the low wages among the men has been explained by the personal characteristics whereas the second half remains unexplainable. Van Opstal *et al.* (1998) argue that the specific human capital is far from being the only determinant of upward wage mobility while the professional experience explains the significant part of it. As a result, the most determinants of persistence in low wage link on the one hand to the worker characteristics called the effect of individual heterogeneity and on the other hand to the time spent in low wage, known as the structure of dependence. For Sloane and Theodossiou (1996), this last component seems to be the most important fact than the first one since workers mostly face the external constraints such as the barriers to job mobility. Accordingly, the policies intervention by the means of the institutional instruments aim not only to reduce the effects of wage compression for low wage workers, but also to protect them from various risks related to the fluctuations in labor market [Sloane and Theodossiou (1996) p. 99].

## 2. Statistic data and descriptive analyses

This paper is based on the socio-economic panel survey over the period from 2005 to 2007, annually collected within the national Partnership for development project (CDP-PAM). It concerns the first realization of the longitudinal data in Thailand by the National Statistical Office. The data base, set up by the questionnaires for 6000 households, contain two main parts related to joint information of the households and the personal data in labor market. The second part of the data is of particular interest since most variables with regard to the personal and job characteristics belong to our empirical investigations. Since the data are of longitudinal size, it becomes possible to compose the professional trajectories of workers. However certain features of the data must be specified. In fact, although the longitudinal investigation has been only carried out since 2005, there is available information on the histories of job changes up to time in the past, restricted to three consecutive periods. Contrary to other statistical sources in which all kind of job change are generally collected on a basis of reference year, several variables recorded in the socio-economic file refer to years prior to the reference period, such as the separation and hiring dates which allow for matching months and years of mobility, the profession, the work statutes, the sizes of the firm and so on. Moreover, it is worth noting other variables based on reference year which include the number of job undertaken by

worker during a year, the received formations, the health conditions, the sector and professional categories and so on. By definition, job mobility is assimilated to the separation of current employer or the external job mobility that could occur together with geographic or sector changes<sup>6</sup>. In addition low wages include all incomes that are lower than the two thirds of the wages median<sup>7</sup>. The data selection concerns only workers aged between 15 years and more in 2005, being economically active, living in urban area and non-self-employed workers and being present throughout three consecutive interviews. Wages must be positively declared for the whole period. Note that the wages are computed at a monthly scale and deflated by the consumption prix index. The procedure of the data selection leads to 1883 representative units which will be used in our analyses. The reasons why we exclude the workers from rural area and self-employment follow the fact that workers in rural area first mainly implies agricultural income that makes difficult to evaluate the wage amount from job allocation and second it concerns the statistic issue meaning that the panel data does not support the self-employment income since informal labor market survey has been separately conducted by another project.

To measure the extent of job mobility and low wage, a brief description will give us some feature of labor market structure. To do so, one allows for the job mobility and low wage incidences across educational levels, gender, age, tenure and size of the firm. We observe the common facts claimed by previous researches.

**Table 1-1: job mobility and low wage incidences.**

	<i>Job mobility</i>	<i>Low wage</i>
<b>Schooling</b>		
no education	24.7	62.9
primary	24.9	46.5
secondary	18.2	24.9
university	10.6	4.3
<b>Gender</b>		
Male	19.5	28.6
Female	16.9	34.6
<b>Age (year)</b>		
15-20	44.5	77.4
21-30	25.7	34.4
31-40	12.8	28.3
40-50	11.4	23.7
more than 50 years	17.3	29.6
<b>Tenure (year)</b>		
less than and equal to one	64.2	63.6
2-5	23.6	39.2
6-10	4.5	27.6
more than 10 years	3.9	15.2
<b>Size of firm</b>		
Less than and equal to 10	34.6	69.6
11-100	17.4	27.8
More than 100	13.3	20.6
<b>Total</b>	18.4	31.3

*Source: Socio-economic Panel Survey (HSEPS), 2005-2007.*

<sup>6</sup> The immigration is a part of the research topic in contemporary economy, see Borjas (1994) and Borjas *et al.* (1996) and Roy (1997).

<sup>7</sup> The threshold is subjectively and statistically fixed. It was also used in analyses of Alfouso (2004) and Cappellari (2000).



In fact, in Table 1-1, the job mobility incidence for whole sample is estimated to 18.4 percent while low wage incidence is about 31.3 percent. Certain productive characteristics highly meet job mobility and low pay. The probability of changing job decreases with schooling since those who have no education and a primary schooling imply the most in job mobility, equivalent respectively to 24.7 and 24.9 percent compared to 18.2 and 10.6 percent for those who have a secondary and university certificate, respectively.

The similar correlation has been also revealed within the low wage sector with the high possibility of being in low pay for low education level. There has been a slight disparity between man and woman in terms of job change but low wage seems to be a visible characteristic of women. While women have approximately 34.6 percent of being in low pay, only 28.6 percent is attributed to men. In addition, age plays a crucial role in the joint probabilities of job change and low wage to the extent that the professional mobility and low wage rates decrease with age, except for the workers being more than 50 years-old which frequently undergo job mobility. It should be noted that an increasing accumulation of tenure reduces the probabilities of changing job and being in low wage sector as predicted the neoclassic theories. Thus, nearly 64.2 percent of the job mobility incidence is given to those having less than one year of tenure while 3.9 percent is attributed to those having more than ten years of tenure. Again, 63.6 percent of the low wage ratio is related to young workers compared to 15.2 percent for oldest ones. Finally, it appears that individual working in small firms having less than ten people suffer the most from low wage and the high job change. Overall, our quick descriptive study of these simultaneous choices must be regarded as a preliminary examination of the empirical investigations. We then carry out the methodological use and the variables selection.

### 3. Specification of the model and variables selection

#### *a. Methodological framework of the analysis*

The estimates of the wage functions using the ordinary least square method potentially generates biased coefficients of independent variables since job change and being in low wage sector could be in perfect correlation with other observed and unobserved factors, such as family background and labor market structure. Following Heckman (1979)<sup>8</sup>, the use of the linear approach leads to an econometric problem of selection bias and unobserved heterogeneity. For this purpose, it is worth adopting for the alternative method taking into account the unobserved components which is likely to influence the simultaneous decisions of job mobility and the low wage choice. The econometric literature proposes several solutions with regard to the estimation techniques which correct the problem of endogeneity. We firstly refer to the two steps estimation proposed by Heckman which

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<sup>8</sup> The endogenous selection problem is borrowed from Roy (1951) and the consequences of the selectivity in the econometric studies are carried out by Gronau (1974) and Heckman (1979).

naturally allow correcting the selectivity issue. The first step consists in estimating the selection equations using the Bivariate probit model in order to sort the needed parameters of correction known as lambda vectors. The second step will take into account the endogeneity in regression by estimating the earnings functions with correcting components from the first stage. Using such a technique, the estimated parameters remains convergent and unbiased under the assumption of the normality of error terms. Although the majority of researches tend to use this convenient technique because of the available preset program in statistical software, a number of shortcomings must be noted. First, the estimators of the standard deviations are not convergent since the regression of the second stage appears heteroscedastic due to the process of selection<sup>9</sup>. Second, the coefficient value of correlation between error terms of wage function and selection equation, which is supposed to be comprised between -1 and 1, is often violated. Given those restrictions, the full information likelihood maximum induces the estimators with the best robustness, convergence and efficacy<sup>10</sup>. In other words, the multinomial endogenous switching model will be used in the analysis.

To specify the model, it should be noted that each observation will be identified by the dependent variable  $Y_{ji}$  with  $J = 0,1$  and  $I = 0,1$ . The index  $J$  is equal to 1 if worker is mover and 0 otherwise. And if  $I = 1$ , worker will be classified to the low wage sector and 0 otherwise. Consequently, the wage related to the job mobility in low wage sector is identified by  $Y_{1,1}$  as follows

$$Y_{1,1} = \beta_{1,1}' X_{1,1} + v_{1,1} \quad (1-1)$$

$X_{1,1}$  is a vector of independent variables which also includes human capital variables and other dummy variables.  $\beta_{1,1}$  represent all estimated parameters and  $v_{1,1}$  is the error terms of wage function. As noted above, the estimates of this function by the linear method potentially give biased coefficients because the independent variables may be correlated with unobserved characteristics of individuals. If this strict relationship takes place, it is likely that these estimate processes suffer from the problem of selection. The expected wage then turns out to be:

$$E(Y_{1,1}) = \beta_{1,1}' X_{1,1} + E(v_{1,1} | \text{unobserved factors}) \quad (1-2)$$

To correct the selection bias, Heckman (1979) proposes to introduce the instrumental variables into the original equations. For this purpose, the selection process will be performed through selection equations with the latent variables defined as statistical probability to be classified in a state  $J$  given a state  $I$ . The selection equations could be expressed as follows:

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<sup>9</sup> What is the value of  $Var(v_j | \varepsilon > 0)$

<sup>10</sup> The efficiency of the estimators means minimum of variance. The precision is better if the variance is weak.

$$I_j^* = \delta_j' Z_j + \varepsilon_j \quad (1-3)$$

$$S_i^* = \gamma_i' Z_i + \omega_i \quad (1-4)$$

Where  $Z_j$  and  $Z_i$  represent a vector of independent variables explaining the job change and the low wage.  $\delta_j$  and  $\gamma_i$  are parameters to be estimated.  $\varepsilon_j$  and  $\omega_i$  are the error term of the selection equations of job mobility and the low wages, respectively.  $I_j^*$  and  $S_i^*$  are considered as the latent or unobserved variables of the equations of job change and the low wage sector, respectively. Note that the first variable  $I_j^*$  denotes the probability of job mobility compared to job stability and the second latent variable  $S_i^*$  tend to capture the probability of being in low pay compared to those having wage higher than the threshold (two thirds of wage median). The study adopts for the assumption of the normality of error term distributions. As a result, the selection process according to the endogenous switching model will be described as follows:

$$Y = \begin{cases} Y_0 & \text{if } I^* > 0, S^* > 0 \\ Y_1 & \text{if } I^* \leq 0, S^* > 0 \end{cases} \quad (1-5)$$

In fact, the first condition,  $Y = Y_0$ , yields the effects of job mobility held in the low wage sector on current wages while the second one,  $Y = Y_1$ , explains the job stability on wage within the same segment. To perform an estimate of these equations with correction, we need to find the optimum of likelihood function that can be drawn as follows:

$$\begin{aligned} & \ln L(\delta_j, \beta_{ji}, \gamma_i, \sigma_{u_j}, \rho_{\varepsilon_j v_{ji}}, \rho_{\varepsilon_i v_{ji}}, \rho, X, Z, I^*, S^*) \\ &= \sum_{\substack{I^* > 0 \\ S^* > 0}} [\ln(\Phi_2(I^* > 0, S^* > 0, \rho)) - \ln(\sigma_{u_{1,1}}) + \ln(\phi(\frac{y_{1,1} - \beta_{1,1} X_{1,1}}{\sigma_{u_{1,1}}}))] \\ &+ \sum_{\substack{I^* \leq 0 \\ S^* > 0}} [\ln(\Phi_2(I^* \leq 0, S^* > 0, \rho)) - \ln(\sigma_{u_{0,1}}) + \ln(\phi(\frac{y_{0,1} - \beta_{0,1} X_{0,1}}{\sigma_{u_{0,1}}}))] \\ &+ \sum_{S^* \leq 0} [\ln(\Phi_2(I^* \leq 0 \text{ ou } I^* > 0, S^* \leq 0, \rho))] \end{aligned} \quad (1-6)$$

The estimates of the simultaneous equations using the optimization of the likelihood function give us a vector of following estimators: the coefficients relative to two wage functions and two selection equations ( $\beta_{ji}, \gamma_i, \delta_j$ ), the variances of the earnings functions ( $\sigma_{u_{ji}}$ ), the correlation coefficients of error terms ( $\rho_{\varepsilon_j v_{ji}}, \rho_{\varepsilon_i v_{ji}}$ ) and the correlation coefficient between the selection equations ( $\rho$ ). It is worth noting that the variances of the selection equations should be restricted to one since it seems impossible to measure the extent of such variables. However, the model naturally becomes exogenous

if there is any no relational link between the residues of the wage functions and selection equations. In other words, if the values  $\rho_{\varepsilon_j v_{ji}}$  are estimated to zero, the wage functions automatically follow linear model. However, it is possible that the correlation coefficient of the selection equations is not significant. Such a case does not automatically imply an exogenous model since it simply indicates the non-simultaneous decisions of job mobility and the low pay. Otherwise, the fact that workers have low wage does not imply the high job change as low wage and job mobility becomes independents. Although the comparison of estimation results from wage functions is importantly explored, it does not enable us to observe wage losses relative to job change in low pay. To do so, we will allow for the comparative analysis of the wage prediction taking into account the endogenous effects. Technically, this aims to calculate on the one hand the unconditional wages resulting from an application of the coefficients of the wage functions with corrected terms to the characteristics of mover in the low wage sector, and on the other hand, the conditional wages approximated by the same method but with the coefficients of wage function relative to the job stability in low pay. To illustrate, predicted wages in the endogenous model for low-wage job movers versus job stayers is expressed as follows<sup>11</sup>:

$$E(Y_{0i} | I^* > 0, S^* > 0) = \beta_{1,1} ' X_{1,1} + \frac{\sigma_{v_i}}{(1-\rho^2)} (\theta_{01} \lambda_1 + \theta_{00} \lambda_0) \quad (1-7)$$

Where  $\sigma_{v_i}$  is the variance of the wage function.  $\theta_{01}$  and  $\theta_{00}$  show the correlations between the error terms of the earnings functions and the selection processes. They can be defined as follows:

$$\theta_{00} = (\rho_{\varepsilon_0 v_0} - \rho \cdot \rho_{\varepsilon_1 v_0}), \theta_{01} = (\rho_{\varepsilon_0 v_1} - \rho \cdot \rho_{\varepsilon_1 v_1}) \quad (1-8)$$

It should be noted that if the job change and being in low wage sector are not basically correlated, one should have a  $\rho$  value which is not significantly different from zero. In this case, the selection mechanism becomes exogenous and the equation (1-7) follows linear approach. The terms  $\lambda_1$  and  $\lambda_0$  aim to control the bivariate processes of the probability of changing job instead of stayer and being in the low wage sector compared to high wage.

$$\lambda_0 = \phi(\delta_0^* Z) (1 - \Phi(-\delta_0^* Z))^{-1}, \lambda_1 = \phi(\delta_1^* Z) (1 - \Phi(-\delta_1^* Z))^{-1} \quad (1-9)$$

Overall, the wage losses from job mobility given low wages compared to job stability in low pay could be obtained by taking the difference between the predicted wage of movers and stayers in the low wage sector.

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<sup>11</sup> The model is applied by Fische *et al.* (1981). Formulation is reconsidered by Maddala (1983) p. 282. This mathematical form is borrowed from Pérez and Sanz (2005).

### *b. Variable Selections*

The definition of selected variables is presented in Table A-1 in appendix. They may be divided into two following groups. On the one hand, there have been the variables referring to the earnings functions and on the one hand to the selection equations. The wage function shows the functional relationship between the wages and all independent variables such as schooling, experience, tenure, experience squared aiming to capture the human capital depreciation. In addition, there is the dummy variable group leading to specify the returns of being male workers compared to women, of working in Bangkok compared to the other regions. The size of firm is of continuous nature mainly trying to display the negative impact of labor market structure on low wage. The second set of variables concerns the selection equations which distinguish worker characteristics from job feature. We hold the primary and university educations as independent variable in order to compare their probability of changing job or reaching the low wage compared to those having a secondary study. Furthermore, we expect having negative effects on all state probabilities for a man and/or a head of household and/or being married. The potential experience, the experience squared and the number of members in family are in continuous terms. The expected results show the fact that experience accumulation and tenure will entail a negative impact on job mobility and the low wage. The information on job feature leads to set up a vector of independent variables of the selection equations as follows: having a public and semi-public job compared to the other professions would reduce the probability of job change and being in low wage sector. Moreover, the size of the firm has been supposed to reduce the job mobility in low wages. The characteristics of work are identified by the temporary job, the number of jobs experienced by the worker and the working day per month. The first two characters seem to support the simultaneous probabilities while the number of working day per month is likely to diminish them. Finally, we allow for the impact of the macroeconomic sound on the combined effects of mobility and the low wage by introducing quarterly unemployment rate up to time of changing the last job as explanatory variable.

## **3. Estimation results**

### **1. Determinants of job mobility and low wage**

Using the Socio-economic Panel survey from Thailand, the estimate of the endogenous switching model has been run under Stata 8<sup>12</sup> with the starting values drawn from coefficients of the exogenous models. Table 1-1 shows the determinants of the probabilities of job change and the low wage distribution. In order to compare the results from linear and non linear models, the estimators

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<sup>12</sup> It is important to notice that contrary to the other software, Stata 8 has a special interface intended to facilitate the likelihood maximum search by the use of command ML. See Gould and Sribney (2003).

relative to the exogenous and endogenous models are jointly presented. Several statistic tests with regard to the econometric models confirm the relevance of the endogenous approach. To begin with, the setting up of the Chi-square tests or Wald test enables us to check for the overall significance level of estimators which lead to inform a better model specification. Thus, the test values set out in Table 1-2 exceeds far behind the critical value of the Chi-square statistics with twenty degree of freedom at one percent of error. The latter is equivalent to 8.26. Moreover, the significance level of certain variables relative to the selection equations differs from the endogenous to exogenous approaches. For instance, the impact of primary and non education levels on the probability of changing job has been absent in the exogenous model while it seems to be positive and significant in the correcting endogenous model. All other variables show the slight differences in significance level between the two. In this view, the multinomial switching approach has been necessarily accurate. We approached the assumption of the positive correlation between the probabilities of changing job and of having low wage which could be validated by an inspection of the correlation coefficient of the selection equations.

**Table 1-2: selection equations - job mobility and low wage**

Variables	Job mobility				low wage sector			
	Exogenous		Endogenous		Exogenous		Endogenous	
	$\beta$	$t^{(1)}$	$\beta$	$t$	$\beta$	$t$	$\beta$	$t$
<b>Worker characteristics</b>								
Constant	-0.378	-0.700	-0.392	-0.84	0.370	0.700	-0.255	-0.540
Primary and no education	0.124	1.080	0.189	1.970**	0.786	6,860*	0.713	7,820*
University level	-0.345	-2.860*	-0.462	-4.050*	-1,218	-8,030*	-0,846	-6,230*
Experience	-0.069	-5.190*	-0.04	-2.820*	-0,035	-2,450*	-0,021	-1,810***
Exp <sup>2</sup>	0.001	4.970*	0.001	2.970*	0.001	2,270**	0,000	1,870**
Tenure (<10)	0.962	8.190*	0.875	8.910*	0.398	3,850*	0.296	3,480*
Male	0.026	0.270	-0.046	-0.54	-0,452	-4,940*	-0,441	-5,730*
Married	0.055	0.570	-0.065	-0.83	-0,210	-2,130**	-0,154	-2,030**
Head of household	0.039	0.350	-0.037	-0.41	-0,504	-4,740*	-0,296	-3,410*
Members in family	0.005	0.190	-0.007	-0.38	-0,025	-0,950	0,008	0,410
<b>Job features</b>								
Public or semi-public	-0.292	-2.290**	-0.236	-2.330**	-0,084	-0,610	<b>-0,05</b>	<b>-0,51</b>
Working-class	-0.016	-0.070	0.047	0.31	0,414	1,520	0,109	0,600
Working day by month	-0.008	-0.500	-0.012	-0.83	0,013	0,810	0,016	1,140
Size of firm	-0.048	-1.820***	-0.053	-2.430*	-0,106	-4,190*	-0,103	-4,700*
Multi-activity	1.263	8.660*	0.706	5.840*	0,514	2,920*	0,353	2,180**
Temporary job	0.275	2.310**	0.085	0.96	1,055	9,670*	0,702	6,990*
<b>Regions</b>								
Bangkok	-0.156	-0.960	-0.002	-0.02	-0,681	-4,420*	-0,514	-4,230*
Centre	-0.069	-0.410	0.208	1.690***	-0,220	-1,370*	-0,053	-0,43
North	0.251	1.360	0.338	2.310**	0,067	0,350	-0,049	-0,350
South	-0.619	-2.770*	-0.234	-1.53	-0,363	-1,830**	-0,159	-0,970
Quarterly unemployment rate	-0.081	-1.240	-0.019	-0.38	0,089	1,320	0,069	1,290
Correlation coefficient( $\rho$ )			0.394	2.350*			0,394	2,350*
Pseudo-Log likelihood <sup>(2)</sup>		-689.3		3986749.9		-666.7		3986749.9
Wald test (20)		305.7		322.6		540.3		322.6
N (weighted)						1883		

**Notes:** (1) statistic of t student =  $\beta$ /standard deviations; \* = significant at 1%; \*\* = significant at 5 %; \*\*\* = significant at 10%; (2)The use of estimation robustness of variance-covariance of Huber/White/Sandwich impose automatically the pseudo-log likelihood in Stata 8. See White (1982).

Source: Socio-economic Panel Survey (HSEPS), 2005-2007.

Table 1-2 indicates that such a presupposition is statistically validated since this coefficient is positively and significantly different to zero at one percent. This merely means that the workers having low wages are mostly likely to change job as assumed above. The decisions of job mobility and having low pay have been then simultaneously observed. Moreover, the main estimators show the signs corresponding to results from previous researches. Table 1-2 highlights an existing functional relationship between probabilities of job change at low wages which require more comments.

Firstly, Table 1-2 shows that the schooling, the experience and the tenure level of workers determine importantly job dynamics. From a theoretical point of view, it may be truly worth saying that any decision of professional mobility partly belongs to worker whose personal characteristics induce the possibility of low-wage job change in order to maximize their utility. In fact, although having the primary certificate or no education substantially increases the probabilities of job change and having low wages, a university diploma compared to the secondary level considerably reduce such possibilities. This observation could be confirmed by the fact set out in Table 1-2 that the primary education and no instruction variables are positively and significantly different to zeros while those related to higher education level have a negative sign. Furthermore, the converse relationship between the experience at work and the possibilities of job change in the low wage sector have been revealed by Table 1-2 according to which the coefficients of the experience variable in each state (mobility and low pay) are negatively and significantly different to zero with one percent of the risk, except for that of the low wages which is significant with ten percent. In other words, job instability decrease as the experience and the educational level increase. This result should not mask the validity of the neo-classic assumption according to which the accumulation of the general or specific human capital tend to fall the joint propensities to change job in low wage sector. In addition, the substantial increase in tenure plays a crucial role in reducing these probabilities. To do so, we include a dummy variable indicating lower or equivalent to ten year of tenure compared to those having tenure more than ten years. Hence, having less tenure compared to those obtaining more than ten years of tenure implies all things being equal a very high likelihood of jointly generating a job change and low wages. Finally, for professional mobility, other dummy variables on propensity to change job has been quasi-absent while within a low wage framework the impact of these variables on low wages is clearly considerable. Thus, being a male worker referred to women, all things being equal, induces positively a probability to escape from low pay. The same facts are generally true for those being married and/or the head of household. Consequently, a minority of workers having low wages specially encompass the low educated workers, having less experience, low tenure and particularly being woman.

Secondly, combined with the personal characteristics factors, the labor market structure and the job attributes do remain important in the way to evaluate low-wage job mobility determination. It is first interesting to underline the reducing effect of working in public and semi-public sectors on the possibility of changing job to the extent that the coefficient of such variable seem to be negatively and significantly different to zero at one percent while having small influence on low wages. This evidence is completely common since the public and semi-public sectors in Thailand have been characterized by high job rigidity which involves low intensity of job change. Although the public and semi-public sectors offer certain job stability and non-pecuniary advantages such as the social security and the solid system of retirement, wages in this sector are inappropriately up to date. However, it seems that the increasing size of firm in which worker is confined in show a negative impact on the propensity to change job and to reach low wages. In other words, the probabilities of separating from job and to

have low wages are reduced more especially as the size of firm increases. To this effect, the individuals working in the small companies undergo persistent job instability relative to those in the big companies. While taking into account multi-activities undertaken by worker, it appears that individual having more than one job at the same time are likely to change job more frequently than those having only one job in low wage sector. Obviously, since the main activity probably generates low income, low wage workers tend to adopt for an alternative strategy aiming to switch to several jobs so as to increase their additional incomes, derived from high job mobility. Moreover, the result in Table 1-2 helps to confirm that the labor market instability of low wage sector has been linked to the temporary feature of job which systematically induces a random fluctuation of wages. Technically, although its effect on propensity to change job is mostly sparse, they seem to be substantial on the low wage sector.

## 2. Impact of the job mobility on the low wages

To gauge the extent of simultaneous effects on current wages, the analysis consider the wage function borrowed from Mincer (1958,1974) which combines the variable dependent – the logarithm of monthly wages in 2006 – with the independent variables corresponding productive characteristics of individual. Using the nonlinear and linear estimates, the findings illustrated in table 1-3 help to compare the relevant switching model to exogenous one.

**Table 1-3: earnings function for job mobility and low wage and job stability and low wage**

Variables	Job mobility				Job stability			
	Exogenous		Endogenous		Exogenous		Endogenous	
	$\beta$	$t^{(1)}$	$\beta$	$t$	$\beta$	$t$	$\beta$	$t$
Constant	8.073	28.390*	7.627	30.450*	7.889	53.070*	7.981	50.200*
Schooling	0.023	1.660***	0.084	5.530*	0.027	3.260*	0.062	5.550*
Potential experience	0.001	0.090	0.033	2.480*	0.020	2.350*	0.021	2.220**
Experience <sup>2</sup>	0.000	-1.050	-0.001	-2.700*	0.000	-3.070*	0.000	-2.380*
Tenure (years)	0.013	2.070**	0.022	3.310*	0.005	1.580	0.008	2.250**
Male	-0.007	-0.080	0.114	1.490	0.071	2.130**	0.183	4.020*
Size of firm	0.017	0.710	0.071	3.290*	0.027	2.620*	0.027	2.010**
Residence in Bangkok	0.230	1.990**	0.509	4.520*	0.155	4.630*	0.227	5.280*
Adjusted R <sup>2</sup>	0.1956				0.2652			
F(sig)	3.88(0000)				14.93(0000)			
$\rho_{elui}$							-0.922	-42.400*
$\rho_{elui}$							0.884	22.290*
$\rho_{elui}$							-0.835	-18.600*
N (weighted)	1883							

Notes: Independent variable is monthly wage from 2006; (1) statistic of t student =  $\beta/s.d$  ; \* = significant at 1% ; \*\* = significant at 5 % ; \*\*\* = significant at 10%.

Source: Socio-economic Panel Survey (HSEPS), 2005-2007.

To validate the relevance of multinomial endogenous switching model, one need to show that the estimators from linear model are naturally biased compared to endogenous selection. The findings set out in Table 1-3 show that certain variables have been underestimated in an exogenous regression. In fact, the significance of earnings function variables differs from those conducted under the endogenous choice model. Therefore without correcting for the endogeneity bias, the experience, the experience squared, male worker and size of firm variables for job movers are all insignificant while the correction of the error terms makes them significant at one percent. This result shows that the



selectivity bias is basically strong. Furthermore Table 1-3 highlights the impact of the worker characteristics and job attributes on wages across various categories of job dynamics. First, it should be noted that schooling has all substantial impact on wage across job mobility and stability in low wage sector as one more additional year of schooling induced an increase of wage. However, Table 1-3 show the marginal rate of return to schooling reaches only about 6.2 percent for stayers but more than 8.4 for movers. Otherwise this means that all things being equal it is completely rewarding for workers having same years of schooling to change their job in order to perceive more wage gains. Moreover one expects that the coefficient of the experience is positively significant in all cases. Such assumption could be verified by the impact of the potential experience on wage which seems to be large across all low-wage job mobility and stability. The specific human capital plays a crucial role in wage growth within low wage sector. In fact, despite its abstract assessment of the specific human capital stock, tenure in past job display, all things being equal, a positive sign of impact on current wages across all states. However, the disparities between males and female workers with regard to wage perception are sparse among movers while there have been obviously strong impact throughout low wage stayers. With respect to firm structures approximated by the size of firms significantly contributes to influence wage change, particularly among movers. Similarly, it turns out that job mobility in low wage sector become more advantageous when it occurs in Bangkok compared to other geographical areas. However, the return to residence in Bangkok for stayers seems to be more substantial than that of movers. It is then rather general that working in the capital concentrated by industrial activities entails a more job opportunity in terms of wage gains, likely to widen a gap of incomes between regions.

### 3. Analysis of wage penalty relative to job mobility in low wage sector

An inspection of the findings in terms of rate of returns must be completed by the comparison of wage trajectories between the movers and stayers in low wage market. In fact, the results from the econometric estimates do not make more sense with regard to wage losses from job change. We need to call the statistical computation in order to do such comparative analysis. As noted above, we seek to show wage penalty by taking the difference between what workers perceive while changing job and what they would have had they stay at the same job. In this framework, a statistical analysis will aim to display a potential wage loss or a monetary cost from which the low wage mover suffer. To gauge the pecuniary penalty of professional mobility, one has to compare the various wage trajectories in all states. The study adopts for stimulation technique leading to approximate current wage expectation and counterfactual wage. The first one consists in applying the coefficients of the wage function corrected for the endogenous selection for movers to personal characteristics while the second one will be calculated by combining the coefficients of the earnings functions with correction for stayers with the characteristics of movers. Doing so, it is worth checking out if there has been the tight connection

between the earnings function and selection equations guiding, to a certain extent, the existing unobservable heterogeneous effects on independent variables of the wage function as supposed above. Basically, since the error terms of these equations are obviously correlated, the endogenous model becomes necessarily relevant for correcting the selectivity issue. Thus, Table 1-3 figured above displays the results for the correlation coefficients of the error terms which are all significant at a percent. Once again, it seems to be accurate to consider an endogenous model instead of a linear approach as the latter potentially leads to underestimate wage losses in low wage sector. The statistic computation of predicted wages differential permits describing a depth of job losses in pecuniary terms. Table 1-4 highlights the wage penalty estimated by a mean rate of wage decrease in percentage across personal and job characteristics.

**Tableau 1-4: wage losses from job mobility in low wage sector (%).**

Variables	Male	Female	Total	Standard deviations
<b>Schooling</b>				
no education	-3.4	-2.9	-3.2	4.5
primary	-4.9	-2.8	-4.1	3.3
secondary	-6.7	-4.7	-5.7	3.8
university	-11.2	-8.6	-9.4	3.5
<b>Age (year)</b>				
15-20	-3.4	-2.5	-3.1	3.9
21-30	-5.7	-4.6	-5.2	3.8
31-40	-5.7	-5.6	-5.7	4.0
40-50	-2.8	-2.6	-2.7	4.5
more than 50 years	-3.1	-0.4	-1.9	5.2
<b>Tenure (year)</b>				
less than or equal to one	-3.8	-3.2	-3.6	4.2
2-5	-6.1	-5.0	-5.4	3.4
6-10	-5.4	2.5	-0.7	5.7
more than 10 years	-6.8	-3.8	-5.6	6.9
<b>Unemployment spells (months)</b>				
less than and equal to 3	-4.5	-3.7	-4.2	4.3
4-6	-5.1	2.0	-4.1	5.8
7-12	-5.5	-6.0	-5.7	4.8
more than 12	-9.4	-3.8	-5.7	3.7
<b>Job characteristics</b>				
Public or semi-public job	-5.9	-7.9	-1.5	4.6
Working-class	-1.8	-0.9	-1.5	4.6
Temporary job	-3.0	-3.7	-3.3	3.7
Full time job	-6.2	-3.9	-5.2	4.8
<b>Size of firm<sup>(4)</sup></b>				
Less than and equal to 10	-4.0	-1.8	-3.2	4.8
11-100	-4.3	-4.9	-4.6	4.1
More than 100	-6.6	-4.9	-5.8	3.5
<b>Total (endogenous)</b>	<b>-4.7</b>	<b>-3.8</b>	<b>-4.3</b>	<b>4.4</b>
<b>Total (exogenous)</b>	<b>-2.2</b>	<b>-1.3</b>	<b>-1.8</b>	<b>1,3</b>
<b>N (weighted)</b>			<b>1883</b>	

Source: Socio-economic Panel Survey (HSEPS), 2005-2007.

In technical terms, if the estimates of the earnings functions using an ordinary least square method create biased coefficients potentially due to the selectivity problem, the approximation of the differences between conditioned and unconditional wage predictions will also be statistically biases. Such an assumption can be validated by the results displayed in Table 1-4. In fact, the opportunity cost related to the job mobility in low wage sector under the exogenous selection model has been underestimated equivalent to wage losses rather lower than that appeared in the switching model. It is evaluated to wage losses of -1.8 percent while the endogenous model generates more than -4.3 percent of wage penalty. To this effect, male workers seem to undergo more the wage loss referred to female

workers that reach about - 4.7 percent compared to – 3.8 percent for the female movers. Broadly speaking, taking into account the non-random effects in estimates is obviously crucial in explaining the extent of wage losses in low pay sector. Now, we can confirm that contrary to the neo-classic assumption claiming that job mobility in the low wages induces immediately and generally an increase in wages for those looking for a better paid job, we have shown that wage cut has been the most realistic view of urban labor market in Thailand. Although the wage decrease is not such considerable as expected, its intensity differs across social subgroups.

Firstly, the productive characteristics of worker remain the primary determinants of the probability of having wage fall. The wage losses follow an increasing function of years of schooling in the way that low wage movers compared to stayers have increasing wage penalty as they become more and more educated. This result could be explained by the fact that the increasing accumulation of years of schooling enhances the wage level by the means of a raise in the job productivity. The unexpected and sudden loss of such a human capital stock induced a substantial wage cut as skills become more specific or non-transferable to alternative firms. Table 1-4 show that about -8.6 percent of a wage penalty due to job change are attributed to graduated workers from university while only -3.2 percent of wage losses are given to the less educated workers – no instruction. Moreover, among the workers having a university diploma, males seem to suffer the most from losses in income, evaluated to -11.2 while estimating only -8,6 percent for women. In addition, the wage decrease and age perform a particular relationship showing that the intensity of wage loss still increases up to certain age and then strictly reduce afterwards. It is noticed that people aging from 21 to 40 years substantially bear the costs of wage cut with a rate of wage losses comprise between - 5.2 and -5.7 percent compared to -3.1 and -1.9 for young workers (15-20 years) and the oldest (more than 41 years), respectively. As expected, the tenure in past job seems to explain wage instability in the low wage sector. It turns out that the increasing accumulation of the years spent in last job implies the importance of wage penalty, in particular among those who have more than ten years of tenure. Table 1-4 shows that the low wage mover with more than ten years of tenure have a relatively important wage cut, said -5.6 percent while those with lower than one year of tenure have only -3,6 percent of wage penalty. Moreover, we take into account unemployment spells in order to qualify negative effects of jobless on low wage. Interestingly, such an assumption has been validated by the inspection of the results in Table 1-4. One notes a difference in terms of wage losses between workers having less than six months of unemployment and those having more than this threshold. In reference to stayers, the rate of wage growth for the first group varies between - 4.1 and - 4.2 percent while it is close to - 5.7 percent for the long unemployment spells. Consequently, policies intervention need to reduce the duration of unemployment in low wage sector so as to help poor people confined in this segment.

Secondly, it can be noted that certain job characteristics constitute a particular liaison with wage losses. To begin with, although there has not been a fundamental difference of wage losses between the public or semi-public employees and the working-class, full-time workers who change job are

likely to suffer the most from the wage penalty. Table 1-4 indicates that about -5.2 percent of a wage cut has been given to full-time job change compared to only -3.3 percent of wage loss for the part-time workers. This contrast could be explained by the fact that part-time job usually is characterized by a very unstable feature of job which involves a low accumulation of the human capital, while the full-time work asks for not only a minimum job relationship but also more specific skills. Given these substantial skills accumulation, job mobility produces a considerable loss contrary to the first job category. Furthermore low wage movers are likely to generate wage losses while working at big firms. Table 1-4 suggests that the latter has nearly -5.8 percent of wage losses compared to stayers while job change in the small firm with less than ten employees induces an decrease estimated to -3.2 percent. Obviously, wage penalty occurs mostly among males workers with -4 percent of wage cut compared to -1.8 percent for female movers in low wage. Overall, an inspection of the results let us thinking that low wage mobility through job change tend to be rather downward than upward wage mobility.

#### **4. Conclusion**

In this paper we attempt to highlight a complex relationship between professional mobility and wage change especially in low wage sector. Our analysis aims first to reveal the determinants of wage instability in this low wage sector and second to show wage penalty which could be harmful for long run wage dynamics. The main assumptions have been borrowed from two theoretical arguments. One the on hand, the specific human capital, job matching and job search models suggests that the job mobility in the low wage sector is closely related to the wage growth since job mobility is considered as the optimal strategic for getting a better paid job. On the other hand, the theory of segmentation opposes to this idea by claiming that the job mobility in a secondary market or low wage one generates wage instability which tend to widen wage inequality. To overcome all shortcomings with regard to the selectivity problem, an endogenous multinomial switching approach has been applied to the socio-economic panel data in Thailand's urban labor market. The purpose of model consideration is to correct the unobservable heterogeneous effects from which the wage functions suffer while estimating under linear model. Similarly, wage losses from job mobility could be underestimated in using such approach. The results of this study enable us to confirm the relevance of endogenous model. Firstly, the main finding lies on the fact that there has been a close link between job mobility and low wage that largely contributes to modify wage penalty from linear model. To gauge the extent of wage mobility, one refers to several steps of empirical analysis. On the one hand, we seek to sort out the determinants of job mobility and low wage and on the other hand the analysis in terms of wage returns. Finally, the wage losses are divided across individual and job characteristics.

With regard to the job mobility in the low wage sector, the results seem to be completely in agreement with the prior researches. The probabilities of changing job and having low wage are in

perfect correlation with the worker characteristics such as schooling level, the experience and the tenure. Particularly, job change and low pay are mainly featured by the lowest educated, the young workers and women. In addition, the structural dimension of the labor market plays a dominating role in the access to the low wages and to professional mobility. Thus, the structural variables are significant particularly the size of firm, the multi-activities and part-time job. The wage losses have been estimated to about 4.3 percent for low wage mover compared to stayers in the same segment. The most concerned by wage penalty include the high educated, prime-age workers who have more tenure in last job. The wage losses have to do significantly with the long unemployment spells, the full-time job job and the large companies. The extent of the opportunity costs calls upon the specific programs of public policies in order to minimize these negative effects for low wage workers. The envisaged plans should include the following idea. First, the high job mobility in the low wages in urban labor market does not directly mean an obvious enhance of well being. The public programs need to be set up to ensure the labor fluidity such as job search facilities and common access to certain type of job for low wage workers since unemployment spells seem to be harmful for wage change. In addition, poverty and wage inequality could be perfectly considered in our study. The wage instability due to persistent job change could become chronic and structural problems. For this purpose, the policies for reducing poverty and inequality must consist in preventing low wage people from downward wage mobility by taking into account all possibilities of persistent job change in low pay.

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## ANNEXE

**Table A-1: variable definitions**

<i>Variable</i>	<i>Definitions</i>
<b>Dependant variable for wage functions</b>	
Log of wage	Logarithm of monthly wage in 2006
<b>Independent variable for wage functions</b>	
Schooling	Years of schooling
Experience	Based on potential experience (age-6-year of schooling)
Experience squared	Equal to experience x experience (years)
Male	Dummy variable equal to 1 if individual is male and 0 otherwise.
Size of firm	Continuous variable meaning the size of firm for which individual work.
Tenure	Continuous variable meaning years of tenure in last job
Bangkok	Dummy variable equal to 1 if the residence is in Bangkok and 0 otherwise.
<b>Independent variables for selection equations</b>	
Primary and no education	Dummy variable equal to 1 if year of schooling is lower than six year and 0 otherwise.
University	Dummy variable equal to 1 if year of schooling is higher and equal to 14 years and 0 otherwise.
Experience	Continuous variable meaning the potential experience.
Experience squared	Continuous variable equal to experience squared.
Tenure (<10)	Dummy variable equal to 1 if tenure is lower and equal to 1 and 0 otherwise.
Male	Dummy variable equal to 1 if worker is male and 0 otherwise.
Married	Dummy variable equal to 1 if worker is married and 0 otherwise.
Head of household	Dummy variable equal to 1 if individual is head of house hold and 0 otherwise.
Members in family	Continuous variable referring to number of members in family.
Public and semi-public job	Dummy variable equal to 1 if individual has a public and semi-public job.
Working-class	Dummy variable equal to 1 if it concerns working-class and 0 otherwise.
Working day per month	Continuous variable referring to working day per month.
Size of firm	Continuous variable meaning the size of firm for which individual work.
Multi-activities	Dummy variable equal to 1 if worker has more than one job in time and 0 otherwise.
Temporary job	Dummy variable equal to 1 if the type of pay is per hour or per day and 0 otherwise.
Residence in Bangkok	Dummy variable equal to 1 if worker has residence in Bangkok compared to North-est.
Centre	Dummy variable equal to 1 if worker has residence in central region compared to North-est.
North	Dummy variable equal to 1 if worker has residence in North compared to North-est.
South	Dummy variable equal to 1 if worker has residence in South compared to North-est.
Unemployment rate	Continuous variable referring to quarterly unemployment rate at the moment of job change.