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Overemployment of Workers in Penang, Malaysia: An Empirical Analysis*

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Abstract

Many workers today encounter the problem of overemployment which occurs when actual working hours exceed preferred or desired working hours. Overemployed workers desire to work fewer hours although this may entail a concomitant decline in earnings. This research is conducted to examine the likelihood of overemployment among employees in a particular state in Malaysia, that is, Penang. This study uses primary data that was collected in a survey encompassing a total of 525 employees in the state. A logit model is used to analyse the relationship between the likelihood of overemployment and various socio-demographic, household and work-related variables. The factors that are significantly related to overemployment are ethnicity, age, education, number of children in the household, occupation, hours of work and control over work schedule. Based on the findings of this paper, it is suggested that policies such as offering part-time jobs or job-sharing options to older workers, implementing family-friendly policies, adopting decent working time measures and strategies that give workers more control over their work schedule are some possible ways to deal with the issue of overemployment.

Keywords: Overemployment, Hours mismatch, Actual hours of work, Preferred hours of work, Malaysia.

JEL Classification Code: J00, J21, J22.

1. Introduction

Most countries have statutory regulations on working time. Nevertheless, workers often work more or fewer hours than they would prefer. There are two forms of hour mismatches. The first type of hour mismatch is overemployment which occurs when actual hours of work exceed desired hours of work; in addition, overemployed workers state a preference to reduce hours of paid work even if to do this lessens their income. Theoretically, overemployment implies that the marginal rate of substitution of leisure for income (MRS_{LY}) exceeds the wage rate and the worker's utility is not maximised, and so the overemployed worker would be better off with less hours of work, albeit with lower earnings. The second type of hour mismatch is underemployment which occurs when actual hours of work is less than the desired hours of work. Labour market rigidities contribute to the problem of hour mismatches in so far that employees have to accept jobs where the number of working hours (which are determined by technical and organisational characteristics) do not match employees' preferences. Therefore, many full-time workers have a stronger preference for working fewer hours than part-time workers; conversely, part-time workers have a stronger preference

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for working more hours than full-time workers (Wielers, Munderlein, & Koster, 2014).

The issue of hour mismatches needs to be addressed in view of its likely consequences. Both types of hour mismatches, i.e. underemployment and overemployment, have negative consequences on the welfare of workers. However, this study focuses on overemployment because aside from its effect on workers, overemployment has spillover effects on the organisation. For workers, the effects of overemployment (resulting from long working hours) include the higher risk of occupational injury (Dembe, Erickson, Delbos, & Banks, 2005) and mental health problems (Dooley, 2003). The spillover effects of overemployment on the organisation are its adverse effects on productivity and firm performance due to increased absenteeism and turnover rates (Golden, 2012).

Globally, 22 percent of the workforce (or about one in five workers) work more than 48 hours per week, which is deemed as excessive by the International Labour Organisation (Lee, McCann, & Messenger, 2007). In Malaysia, the Malaysian Employment Act defines the work week as 48 hours per week, with a maximum of 8 working hours per day and 6 working days per week. But there is evidence to show that many Malaysian employees tend to work more than the standard hours of work. For instance, a survey carried out by an online recruitment firm showed that 70 percent of 954 employees who were employed in different industries in Malaysia worked 2-5 extra hours daily beyond their normal hours of work and the majority were not paid for the extra hours of work. In addition, 63 percent of the workers in the survey felt that they did not have adequate time with their families as a result of long working hours (Jobstreet, 2013). The Malaysian Trade Union Congress (MTUC) has urged employers to reduce the hours of work to 6 hours per day akin to the practice in developed countries like Sweden. MTUC also highlighted the fact that some neighbouring countries in Southeast Asia have already reduced the maximum working hours to 40 hours per week compared to the 48 hours per week which is permitted by the Malaysian law (Khor, 2016). MTUC's suggestion to reduce hours of work has been supported by the Ministry of Women, Family and Community Development. The results of Jobstreet's survey on the prevalence of long working hours of Malaysian employees and MTUC's proposal to reduce hours of work justify the need for this research on the issue of overemployment among Malaysian workers.

The objective of this study is to identify the various socio-demographic, household and work-related factors associated with the likelihood of being overemployed (which refers to the desire for fewer hours of work even if it entails less income) among Malaysian workers, with a focus on Penang, which is one of the most developed states in Malaysia with a vibrant labour market. An understanding of the factors that contribute to this problem will enable policy makers to implement targeted and effective policies to curb it.

2. Literature Review

Overemployment is often related to socio-demographic, household and work-related factors. Socio-demographic variables include age, gender, ethnicity and education; the household factors include the worker's status in the household and childcare responsibilities; and lastly the work-related factors encompasses occupation, hours of work as well as the perception of workers regarding their job with respect to control over work schedule, work-life balance and job satisfaction.

Most studies take into account the relationship between overemployment and three key socio-demographic variables, namely age, gender and education. Age may influence desired work hours as younger workers who are just entering the workforce tend to have very different work preferences than those who are older and nearing retirement. Previous studies (e.g. Golden & Gebreselassie, 2007; Angrave & Charlwood, 2015) show a clear pattern by age, with overemployment low among young workers but rising with age. According to Reynolds (2003), young workers are less likely to be overemployed because they are eager to work and also lack bargaining power in the job market. Another demographic variable that is of interest is gender. Women tend to do a greater share of household work than men; in addition, gender inequalities in the work place tend to reduce women's job commitment as well as the tendency to make labour market work their central priority (Reynolds, 2005). As a result, women tend to desire fewer hours of work. Empirical evidence (e.g. Sousa-Poza & Henneberger's (2002) study which covers twenty one countries; Golden & Gebreselassie's (2007) research in the United States) indicates that women are more likely to be overemployed than men.

Another important socio-demographic factor is education. Reynolds (2003) explains that workers with higher education level are more likely to have an unmet desire for fewer hours. Their desire for fewer hours of work is because they hold jobs which pay well and demand many hours, and both these factors increase the likelihood that a worker's actual hours will exceed preferred hours of work. It is also argued that in the case of male workers, those with higher education may be more likely to hold a modern view of fatherhood and have a greater inclination to spend more quality time with the family.

The second group of variables is household or family characteristics such as the presence of a full-time homemaker and childcare duties. All workers have to allocate time for labour market work and their personal life. The time squeeze may be more pronounced in the absence of a full-time homemaker (e.g. in the case of single working parents and dual-earner couples with children) and this can give rise to an unmet desire for fewer working hours (Jacobs & Gerson, 2001). In contrast, breadwinners (particularly men) can work many hours because they have spouses who perform unpaid domestic work (Reynolds, 2014). Furthermore, men who are breadwinners feel responsible for the economic well-being of their families (Kaufman & Uhlenberg, 2000); this increases their desire for additional work hours and reduces the likelihood of overemployment. Another important household characteristic is childcare duties, which is proxied by number of children and age of the youngest child. The difficulty of integrating paid work and childcare increases the probability of individuals wanting less working hours. This occurs among female workers (Van der Lippe, 2001) as well as male workers (Abendroth, Pausch, & Bohm, 2014).

The last category of factors is work-related factors, such as occupation, hours of work, control over work schedule, work-life balance and job satisfaction. Overemployment is related to type of occupation/job since some jobs require more working hours. Golden and Gebreselassie (2007) opine that overemployment is more likely to occur in occupations for which there are no legally required overtime pay premium as well as occupations that tend to be paid by salary rather than hourly wages. These job characteristics are more common among white-collar workers. According to Reynolds (2003), professionals are more likely to desire fewer hours of work compared to blue-collar workers. Golden's (2004) study also found that white-collar workers in managerial and professional groups have significantly higher levels of overemployment while blue-collar workers are less likely to experience overemployment.

The link between hours of work and overemployment can be understood in the context of the work-leisure model of time allocation (McConnell, Brue & Macpherson, 2013). The hour mismatch problem arises when an individual has not attained his/her optimum position. Workers with long hours of work often want to reduce their working hours. According to Sousa-Poza and Henneberger (2002), the percentage of workers who desire fewer hours of work rises as working hours increase. Empirical studies show that overemployment is significantly related to hours of work (Reynolds, 2003; 2004; 2005). Golden and Gebreselassie's (2007) study shows that full-time workers have a progressively higher probability of being overemployed corresponding to the length of their usual weekly hours.

In addition to hours of work, other time-related factors include control over work schedule as well as work-life balance. In one of his earlier studies, Reynolds (2003) showed that workers who have adjustable work schedules (implying greater control over the work schedule) are able to coordinate work and non-work activities, thereby reducing the likelihood of overemployment. This is corroborated in his later study (Reynolds & Aletraris, 2007) which shows that men who have control over their work schedule desire smaller reductions in their work hours because the ability to control their schedule is associated with an increase in their appetite for work. Hours of work also impinges on work-life balance. Work-life conflict occurs when an individual's capability to satisfy the needs of family is affected by labour market work. As work-life conflict increases, workers prefer to reduce their work load by a larger extent (Reynolds & Aletraris, 2007). Lastly, studies on overemployment also include another work-related variable, i.e. job satisfaction. Satisfaction with paid labour is expected to decrease the likelihood that individuals encounter hour mismatches. The negative impact of job satisfaction on hour mismatches is documented in the literature (e.g. Bloch & Taylor, 2012; Reynolds & Aletraris, 2007).

3. Data and Methodology

Primary data is used in this study. The data was collected using a structured questionnaire that was distributed to workers in Penang. A total of 525 respondents were surveyed comprising 207 (39.4 percent) Malays, 239 (45.5 percent) Chinese and 79 (15 percent) Indians and others. This distribution is similar to the ethnic composition of Penang's population, that is, 40.9 percent Malays, 41.5 percent Chinese and 17.6 percent Indian and others. The sample consists of 253 (48.2 percent) males and 272 (51.8 percent) females which also reflects the state's gender composition i.e. 50.01 percent males and 49.99 percent females.

This study aims to examine factors that influence workers' employment status (overemployed versus not overemployed). A worker is overemployed if he/she desires to work fewer hours for less pay, while a worker is not overemployed if he/she prefers to maintain current hours of work for the same pay or prefers to work more hours for more pay. The dependent variable will take a value of 1 if the respondent desires to work fewer hours for less pay, 0 otherwise. Given that the dependent variable is a binary choice variable, a logistic regression model is used to formulate the worker's employment status.

The logit model can be specified as follows:

$$L_i = \text{In}\ \frac{P_i}{(1-P_i)} = \alpha + \beta_i X_i + \varepsilon \quad (1)$$

where Pi is the probability of being overemployed, $(1 - P_i)$ is the probability of not being overemployed, $\text{In}\frac{P_i}{(1-P_i)}$ represents the log of odds of being overemployed, X_i are the independent variables, α is the constant, β_i are the parameters to be estimated and ε is the error term. The model is estimated using the maximum-likelihood estimation method. The odds ratios are calculated by exponentially converting the estimated coefficients, where the dividing line between a positive and negative relationship is 1 and not 0. The list of independent variables and their measurements are presented in Table 1.

Table 1: List of Independent Variables and Measurements

Variables	Measurement
Socio-demographic factors	
Gender	
FEMALE	1= female; 0=otherwise
	Reference group is male respondents
Ethnicity	
NON_MALAY	1=non-Malay; 0=otherwise
	Reference group is Malay respondents
Age	
AGE26-45	1= age is 26-45 years; 0=otherwise
AGE>45	1= age is above 45 years; 0=otherwise
	Reference group is respondents below the age of 26 years
Education	
SPM	1=highest education level attained is SPM (O-level education) or equivalent; 0=otherwise
STPM	1=highest education level attained is STPM (A-level education) or equivalent; 0=otherwise
DEGREE&ABOVE	1=highest education level attained is bachelor's degree or higher; 0=otherwise
	Reference group is respondents whose highest education level is below SPM level (i.e. PMR and below)
Household factors	
Status in household	
SOLE EARNER& DEPENDENTS	1= respondent is sole earner (unmarried/divorced/widowed) with dependent(s); 0=otherwise
DUAL EARNER	1= respondent and spouse are working; 0=otherwise
BREADWINNER	1=respondent is the breadwinner with a non-working spouse/partner; 0=otherwise
	Reference group is sole earner (unmarried/divorced/widowed) without dependent(s)
Children	
CHILD 123	1= respondent has 1- 3 children; 0=otherwise
CHILD 4	1= respondent has 4 or more children; 0=otherwise
	Reference group is respondents without children
Work-related factors	
MANAGERIAL	1=if respondent's occupation is in the managerial category; 0=otherwise
PROFESSIONAL	1=if respondent's occupation is in the professional category; 0= otherwise
OTHER WHITE COLLAR	1=if respondent's occupation is in the category of other white collar jobs; 0=otherwise
	Reference group is respondents who are non-white collar workers
HOURS>48	1 =if respondent works more than 48 hours per week; 0=otherwise
WORK LIFE BALANCE	1 =if respondent is very satisfied or satisfied with current overall work-life balance based on a 5-point Likert scale where responses range from very dissatisfied to very satisfied; 0 =otherwise
JOB SATISFACTION	1 = if respondent gives a rating of very satisfied or satisfied with regard to current job satisfaction based on a 5-point Likert scale where responses range from very dissatisfied to very satisfied; 0=otherwise
CONTROL WORKHOURS	1 = if respondent gives a rating of strongly agree or agree with regard to their ability to schedule working hours based on a 5-point Likert scale where responses range from strongly disagree to strongly agree; 0=otherwise

4. Sample Characteristics

Table 2 presents the descriptive statistics of the sample of 525 respondents which comprises 114 workers (21.7 percent) who are overemployed and 411 workers (78.3 percent) who are not overemployed (i.e. underemployed workers as well as workers who do not have a mismatch between their actual and preferred hours of work). The mean age of workers in the sample is 32 years. The mean age of overemployed workers is 36.3 years while the mean age of non-overemployed workers is 30.8 years. Hence, on average, overemployed workers are older than non-overemployed workers. Women constitute slightly more than half the number of workers in the entire sample as well as in the sub-samples of overemployed and non-overemployed workers. However, there is a slightly higher percentage of women in the overemployed group as compared to the non-overemployed group (i.e. 54.8 percent versus 51 percent). In terms of ethnicity, about 61 percent of the respondents are non-Malays but the proportion of non-Malays in the overemployed group (67 percent) is higher than the corresponding figure (59 percent) in the non-overemployed group. The education profile of workers in the sample is as follows: about 45 percent of the respondents have attained a high level of education (bachelor's degree or above), while 43 percent of the respondents have medium level education (STPM/A-level or SPM/O-level) and nearly 12 percent have low education (PMR or below). The percentage of workers with high education is greater in the overemployed group than in the non-overemployed group (i.e. 50 percent versus 44 percent).

Two household factors are included in this study. The first factor is the status of the worker in the household. Workers are divided into two main groups, i.e. workers who have a spouse/partner versus workers who do not have a spouse/partner. The first group which comprises workers with a spouse/partner is sub-divided into two categories, i.e. (i) dual earners (which refer to respondents with a working spouse) and (ii) breadwinners (which refer to respondents with a non-working spouse). The second group which comprises workers without a spouse/partner (i.e. workers who have never been married, widowed or divorced) is sub-divided into two categories: (i) sole earners with dependents and (ii) sole earners without dependents. Among the overemployed workers, 47 percent are in the dual earner category while 28 percent are sole earners without dependents. The reverse pattern is noted in the non-overemployed group; i.e. 42 percent are sole earners without dependents while 29 percent are in the dual earner category. The high percentage of dual earners in the overemployed group is not surprising given that the desire for less working hours arises from the time squeeze that these workers encounter since both partners are working; furthermore, there tends to be a willingness among respondents in this category to trade-off part of their earnings for shorter hours of work since the dual-earner household is supported by the income of two persons. The second household variable is the number of children. In the overemployed group, 55 percent of the workers have children and 45 percent do not have children, while in the non-overemployed group, 64 percent do not have children and 36 percent have children. In other words, the majority of non-overemployed workers do not have childcare duties while the majority of overemployed workers have childcare duties.

The work-related variables include occupation, hours of work as well as workers' perceptions regarding job satisfaction, work-life balance and control over work schedule. Occupational groups are divided into non-white collar jobs (i.e. blue collar and pink collar jobs) and white collar jobs (i.e. managerial, professional and other white collar jobs). The occupational distribution of workers in the sample indicates that about 39.5 percent of the respondents are non-white collar workers and 60.5 percent are white-collar workers (i.e. approximately 7 percent are managerial workers, 34 percent are professionals and 20 percent are in other white collar jobs). There are some differences in the occupational distribution of overemployed and non-overemployed workers; firstly, 35 percent of overemployed workers are non-white collar workers while 41 percent of non-overemployed workers do not hold white collar jobs; secondly, 12 percent of overemployed workers are managerial workers while only 5 percent of non-overemployed workers are in this occupational group. The next variable is weekly hours of work. The mean hours of work in the sample is 41.5 hours. The mean hours of work is 44.2 hours in the case of overemployed workers and 40.8 hours among non-overemployed workers. This indicates that overemployed workers work longer hours than non-overemployed workers, on average.

Finally, work-related factors include workers perceptions with respect to control of work schedule, work-life balance and job satisfaction. In the sub-sample of non-overemployed workers, 65 percent are highly satisfied/satisfied with their job, 58 percent are highly satisfied/satisfied with their work-life balance while 46 percent strongly agree/agree that they have control over their work schedule. The corresponding figures for these variables are much lower for overemployed workers.

Table 2: Descriptive Statistics of the Variables

Variables	Total (n=525)		Overemployed (n=114)		Non-overemployed (n=411)	
	Mean	SD	Mean	SD	Mean	SD
FEMALE	0.518	0.500	0.548	0.500	0.510	0.501
NON MALAY	0.607	0.489	0.670	0.472	0.590	0.492
AGE	32.04	10.58	36.30	11.55	30.84	9.98
AGE<26*	0.315	0.465	0.183	0.388	0.352	0.478
AGE26-45	0.550	0.497	0.583	0.495	0.541	0.499
AGE>45	0.135	0.342	0.235	0.426	0.107	0.309
PMR & BELOW*	0.118	0.322	0.096	0.295	0.124	0.330
SPM	0.252	0.435	0.183	0.388	0.272	0.445
STPM	0.178	0.383	0.226	0.420	0.165	0.372
DEGREE&ABOVE	0.452	0.498	0.496	0.502	0.439	0.497
SOLE EARNER&NO DEPENDENTS*	0.391	0.488	0.278	0.450	0.422	0.495
SOLE EARNER&DEPENDENTS	0.171	0.377	0.122	0.328	0.184	0.388
BREADWINNER	0.106	0.308	0.130	0.338	0.100	0.300
DUAL EARNER	0.332	0.471	0.470	0.501	0.294	0.456
NO CHILD*	0.602	0.492	0.452	0.500	0.643	0.480
CHILD 123	0.351	0.478	0.452	0.500	0.323	0.468
CHILD 4	0.047	0.213	0.096	0.295	0.034	0.181
MANAGERIAL	0.066	0.249	0.122	0.328	0.051	0.220
PROFESSIONAL	0.342	0.475	0.322	0.469	0.347	0.477
OTHER WHITE COLLAR	0.197	0.398	0.209	0.408	0.194	0.396
NON WHITE COLLAR*	0.395	0.489	0.348	0.478	0.408	0.492
WEEKLY HOURS OF WORK	41.53	12.77	44.16	11.50	40.79	13.02
HOURS>48	0.235	0.425	0.339	0.475	0.206	0.495
WORK LIFE BALANCE	0.548	0.498	0.452	0.500	0.575	0.495
JOB SATISFACTION	0.634	0.482	0.574	0.497	0.650	0.477
CONTROL WORKHOURS	0.435	0.496	0.330	0.472	0.464	0.499

* Note: * denotes the reference group for the various categorical variables

5. Empirical Results

Table 3 shows the results of the logit model. The coefficients of the logit model represent the log of odds of overemployment. The goodness-of-fit of the model is evaluated using the likelihood ratio (LR) statistic. The value of the LR statistic (69.55) is higher than the critical value of the chi-squared statistic (χ^2=36.191) and the probability value of the LR statistic is almost zero. This implies that one or more of the total effects in the model is important for predicting the probability of overemployment. Therefore, this suggests that the model is a good fit for the data.

The results show that the dummy variable for gender has a positive relationship with the dependent variable where the odds of overemployment of female workers are 1.44 times higher than for male workers. The positive (albeit insignificant) relationship is consistent with other empirical evidence, e.g. Sousa-Poza and Henneberger (2005) and Golden and Gebreselassie (2007), which also find that women are more likely to be overemployed than men. The higher likelihood of overemployment of the fairer sex may be attributed to the larger share of domestic work that is generally shouldered by women which creates a desire for fewer hours of work. In addition, overemployment among women may be due to gender discrimination in the workplace which tends to reduce women's job commitment as well as the tendency to make labour market their main priority (Reynolds, 2005).

This regression model includes a dummy variable for ethnicity. In Malaysia, the three main ethnic groups are Malay, Chinese, Indian and others. The dummy variable, NON MALAY, refers collectively to Chinese, Indian and other minority groups while the base group comprises Malays.

Table 3: Results of Logit Model

Independent Variables	Variable Name	Estimated coefficient (β)	Odds ratio (e^{β})	z-score	Std. Error
Gender	FEMALE	0.367	1.444	1.47	0.250
Ethnicity	NON MALAY	0.505**	1.657	1.96	0.258
Age	AGE26-45	0.442	1.556	1.25	0.354
	AGE>45	1.436***	4.204	2.85	0.503
Education	SPM	0.205	1.228	0.44	0.468
	STPM	1.340***	3.820	2.64	0.507
	DEGREE&ABOVE	1.269***	3.556	2.63	0.483
Status in household	SOLE EARNER&DEPENDENTS	-0.261	0.771	-0.69	0.376
	DUAL EARNER	0.533	1.705	1.07	0.500
	BREADWINNER	0.177	1.193	0.29	0.619
No. children in household	CHILD 123	0.081	1.084	0.17	0.472
	CHILD 4	1.181*	3.258	1.74	0.677
Occupation	MANAGERIAL	0.179	1.196	0.38	0.467
	PROFESSIONAL	-0.547*	0.579	-1.70	0.321
	OTHER WHITE COLLAR	-0.316	0.729	-0.92	0.342
Hours of work	HOURS>48	0.575**	1.778	2.21	0.261
Work-life balance	WORK LIFE BALANCE	-0.424	0.655	-1.61	0.264
Job Satisfaction	JOB SATISFACTION	-0.162	0.851	-0.62	0.262
Control work schedule	CONTROL WORKHOURS	-0.506**	0.603	-2.05	0.247
Constant	CONSTANT (α)	-2.870	0.057	-5.07	0.566
LR statistic		69.55			

Note: ***, **, * indicate 1%, 5% and 10% level of significance, respectively.

The results indicate that the odds of overemployment are 1.66 times higher for non-Malays than for Malays. National-level statistics indicate that non-Malays generally work longer hours than Malays and therefore this contributes to the greater likelihood of overemployment among non-Malays (Saari, Dietzenbacher, & Los, 2014).

One possible reason for the difference in hours of work by ethnicity is that non-Malays (particularly Chinese, the dominant non-Malay group in the Penang labour market) experienced hardships as immigrants in yesteryears which shaped their value orientation towards becoming more money-oriented (Idris, 2008). Therefore, non-Malays tend to work long hours to meet their income targets and ultimately they are more likely to be overemployed.

The regression analysis shows the coefficients for age dummies are positive and it is statistically significant for the oldest age group (above 45 years). The odds of overemployment among workers above the age of 45 years are 4.2 times higher than the youngest age group (below 26 years). This implies older workers are more likely to be overemployed than younger workers. This result is similar to the findings of previous studies, e.g. Golden and Gebreselassie (2007) and Angrave and Charlwood (2015), which find that overemployment is positively related with age. Among the factors that may explain the desire for fewer hours of work among older workers are health issues, greater financial stability associated with a long working life and a preference for flexible working options prior to retirement. In short, the result shows that the likelihood of overemployment appears to increase with age.

Education level plays an important role in the determination of overemployment among workers. Education level is categorised into four different groups, that is, PMR or below (the base group), SPM, STPM and bachelor's degree or above. The coefficients of the education variable are positive and significant for workers with STPM-level education and tertiary education (bachelor's degree and above). The odds of overemployment are more than 3 times higher for workers with STPM and high education (bachelor's degree or above) as compared to workers with low education (the base group). This result is similar to Jacobs and Gerson's (2001) finding which shows that high education level is positively associated with the desire to reduce hours of work. People with high education (degrees) are more likely to hold high positions and work long hours, and this increases the

likelihood that a worker's actual working hours exceeds the preferred working hours (Reynolds, 2003).

The model includes two sets of dummy variables with regard to household characteristics, namely, the status of the individual in the household and number of children in the household. The results indicate that sole earners with dependents are less likely to be overemployed than sole earners without dependents; on the other hand, workers who have a spouse (i.e. breadwinners as well as dual earners) are more likely to be overemployed than sole earners without dependents. However, none of the dummy variables are significantly related to the likelihood of overemployment, which implies the status of an individual in the household does not play an important role in the determination of overemployment. The second set of dummy variables represents number of children. Number of children is a proxy of child care responsibilities. The results show that the relationship between overemployment and number of children is significant and positive for the dummy variable CHILD 4 (i.e. 4 or more children in the household). This result is corroborated by the findings of Jacobs and Gerson's (2001) study which show that workers with more children tend to have less working hours.

The last group of factors in the model is work-related factors which include occupation, hours of work, work-life balance, job satisfaction and control over work schedule. The first work-related factor is type of occupation. Occupational groups are broadly divided into white collar occupations (managerial, professional and other white collar occupations) and non-white collar occupations (the base group). The results indicate that managerial workers are more likely to be overemployed than workers in the base group but the coefficient for this variable is not statistically significant. On the other hand, professionals and other white collar workers are less likely to be overemployed than non-white collar workers; however, only the coefficient for the dummy variable PROFESSIONAL is statistically significant. This result differs from the findings of some previous studies (e.g. Reynolds, 2003; Golden, 2004) which show that professionals are more likely to be overemployed. The lower likelihood of overemployment among professionals (as compared to non-white collar workers) in this study may be because of the willingness of professionals to work long hours in order to avoid 'career suicide' as fewer hours of work tends to spell a less prestigious and less upwardly-mobile career path (Bradford, 2011). In addition, the opportunity cost of reducing the hours of work for professionals is higher than for non-white collar workers (the base group). This is because the wage rates of professionals are higher compared to blue-collar workers (Department of Statistics, 2015).

The second work-related factor is hours of work. The dummy variable for HOURS>48 has a significant and positive relationship with overemployment. In other words, workers who work more than 48 hours per week are more likely to be overemployed than those who work less than 48 hours per week. Specifically, the results show that the odds of overemployment are 1.8 times higher for workers who work more than 48 hours per week compared to those who work less than 48 hours of work per week. This finding parallels the results of Sousa-Pouza and Henneberger (2002) and Reynolds (2005) studies which show that the percentage of workers who want to work less hours increases as working hours increase. It is expected that individuals with long working hours experience problems of exhaustion, work stress and insufficient time for family activities, and this results in the desire for fewer hours of work.

Other work-related variables are workers' perceptions regarding work-life balance, job satisfaction and control of work schedule. All three variables are negatively related with overemployment. However, only control of work schedule is significantly related with overemployment. Reynolds (2003) obtained a similar result and explained that workers who have adjustable work schedules are able to coordinate work and non-work activities, thereby reducing the likelihood of overemployment. A later study by Reynolds and Aletraris (2007) showed that men who have control over their work schedule desire smaller reductions in their work hours because the ability to control their schedules is associated with an increase in their appetite for work.

6. Conclusion

This study examines the socio-demographic, household and work-related factors that affect overemployment in the Penang labour market. The results indicate that overemployment is significantly determined by ethnicity, age, education, number of children, occupation, hours of work and control of work schedule. Specifically, it is shown that the odds of overemployment are higher for non-Malays, older workers (above 45 years), more educated workers (STPM level, bachelor's degree or above), workers with many children (4 or more) and workers with long hours of work (above 48 hours per week). The odds of overemployment are lower for professionals and workers who have control over their work schedule.

The above findings can be used to discuss some policy implications. The higher likelihood of overemployment among older workers suggests a need to offer them part-time jobs or job-sharing options in line with their preference for fewer hours of work. This will enable firms to retain

senior and experienced employees, who may otherwise consider leaving their job if the problem of overemployment is not resolved. Another key finding is the positive relationship between overemployment and number of children. This implies the need for family-friendly policies (e.g. parental leave, maternity leave etc.) to reduce overemployment. Providing childcare facilities in/near the workplace is another possible solution since overemployment is partly attributed to childcare demands.

The results also show that overemployment is more likely to occur among workers who work more than 48 hours per week. The move to reconfigure working time policies and limit overtime work is a step in the right direction to reduce overemployment. The five dimensions of decent working time propagated by ILO - healthy working time, 'family-friendly' working time, gender equality through working time, productive working time, and choice/influence regarding working time – provide a framework for policies which can advance the goal of decent working time (Messenger, 2006). The adoption of decent working time measures would reduce work-life conflict, which in turn will reduce the likelihood of overemployment. In order to encourage the implementation of decent working time measures in the workplace, employers should be given incentives (for instance, tax incentives). Finally, overemployment is inversely related to control over work schedule. In line with this finding, it is proposed that employers provide workers with more control over their work schedule. This includes strategies that give workers more control in determining the length of the working day, starting and finishing times, break times and the schedule of paid/unpaid leave.

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