# The Effects of Household Conditions on Wife's Employment Status in Hong Kong

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## Abstract

This paper addresses the effects of household conditions on married women's employment status in Hong Kong. Using population census data in Hong Kong, labor force participation and working wives' earnings are examined to evaluate married women's employment status. Findings from multivariate logit analysis reveal that wives' participations in labor market are significantly negatively associated with extreme low or high household income while the differences caused by such association is not significant for wives from the two middle quartiles. Considering the effects on wife's earnings, OLS regression analysis shows a small positive association between household income excluding wives' earnings and working wives' earnings.

**Keywords:** household conditions; employment status; multivariate logit analysis; income; immigrant.

## 1. Introduction

Women's employment status has long been an attractive but complicated issue to social study. Many research and interviews have been proceeded to reveal the differences in employment patterns between women and men and the determinants of women's employment choice. Economists view women's entry into labor market as an individual choice, involving the balance of the returns from their employment and the cost of household burden. Sociologists pay more attention on the change driven by gender issue, the marriage pattern, the demographic features, and the openness of society in general.

There is ample evidence providing the past and current trends of women's employment status in these traditionally more developed countries. However, much less comprehensive work has been done in Hong Kong, which is a region experienced drastic economic and demographic transformations over the past thirty years. In Hong Kong, there has been a significant increase in women's labor force participation rate in the past thirty years. It increased from 42.8% in 1971 to 52.0% in 2010 [1]. Accompanied with such increase is a regional demographic dynamics and industry restructure. The proportion of female attended secondary education and above has increased from 62.9% in 1996 to 74.7% in 2006 [1]. The crude birth rate, i.e. the number of live births in a calendar year to the mid-year population, declined from 16.8 live births per 1,000 population in 1981 to 7.2 in 2001[2].

The major increase of women's labor force participation is from the increase of ever married women's labor force participation. Special attention is therefore paid to married women since they are still considered mainly responsible for taking care of children and housework and is the distinct group composing the employment gender issue. Although working at home is still an activity which many women devote their married life to, more married wives are participating in labor force with higher education and higher return of it.

In this paper, we try to investigate the association between household conditions and married women's decision on participating in labor force and the association between the household conditions and working wife's earnings. In addition to the usual housework related factors such as young child and maid in the household, household income excluding wives' earnings is included and examined in detail. The fundamental question in this paper is to address the interactions between wife's employment status and wife's household conditions and to see the effects of different associations upon the household income distribution.

## 2. Women's labor force participation, women's income and income inequality

The linkage between married women's employment status and income distribution is complex. The question asked is that does labor force participation by women reinforce the inequality of household income distribution due to assortative mating or does it contribute to the reduction of income inequality with the labor force participation of wives from low-income families. Such association between married women's employment status and their household income has captured many economists' attention to see the connection between the change of female labor force participation rate and the change of household income distribution, especially in the more advanced capitalism regions in North America and Europe [3-8]. However, the result is mixed. Abundant earlier results drawn from U.S. data demonstrate equalizing effects of women's earnings on the distribution of household income [8]. The leveling effect of married women's labor force participation is mainly due to the complementary income from women's employment to the lower income household. Recent studies present a reinforcing effect of women's labor force participation on household income inequality [9]. Most researchers

attribute this reinforcing effect to middle class women who tend to participate in the labor force than working class women. Also, with the domination of assortative marriage with similar educational and occupational backgrounds, the difference in household income between working class dual-earner families and middle class dual-earner families may increase. Under the East Asia Context, results display that labor force participation by women reduces household income inequality in Korea and Japan, whereas it increases inequality in Taiwan [10].

Little work has been done to analyze the relationship between women's employment status and income inequality in Hong Kong, which is currently a typical high Gini coefficient region. The only paper I can locate is Suet-Ling Pong's paper by analyzing the 1976 and 1981 Hong Kong census data. Pong showed a leveling effect of married women's earnings during this period [11]. Hong Kong has experienced tremendous change in economics, politics and demography after that. The Gini coefficients for Hong Kong were still relatively low at 0.429 in 1976 and 0.453 in 1981. Hong Kong was a newly industrializing area after 1950s. With the economic reform in mainland China in late 1980s, most manufacturing sectors were relocated to mainland and Hong Kong had to adjust itself in its economic development process. Employment in manufacturing sector decreased and employment of (mostly low-paid and female) clerical and sales work proliferated. Increased female labor force participation increased the opportunity cost of children and reduced fertility, facilitated female economic independence and ability to maintain a female-headed household, and aided in the growth of "female" jobs [12].

In addition to the change of industry structure and demography, the issue of immigrant wives is prevailing in recent years. As late as 1996, almost 40% of Hong Kong's population was born outside the territory [13]. There are two waves of immigrants who crossed boarders from mainland to Hong Kong. The first wave of immigrants entering in the late 1970s and early 1980s were labeled "new immigrants" and treated with scorn by local residents. The 1990s brought a second wave of new immigrants, or "new arrivals" in official terminology, comprised mainly of their spouses and children [14]. Data of the 1986 census showed that Immigrant wives were disadvantaged regarding education and their wages were substantially lower than those of the native-born women [15]. Some new findings and updates in employment status of mainland immigrant wives are provided in this paper.

In respect of the working women's income and factors which may influence it, household conditions are usually assumed to have little impact on married women's wages. More focus is put on the occupational segregations on gender. But Hochschild commented on the working wives through interview with families with children and pointed out the conflict or imbalance of women's household life and work life [16]. It is usually accepted that for women with heavier domestic burden, they are more likely to work on part-time jobs or less demanding jobs with lower wages. In this paper, influence of household conditions on working wife's earnings is also examined.

## 3. Data and Method

Data used in this study are the 3% samples of the Hong Kong 2001 population census. It contains information about individual's marital status, education level, employment status, monthly earnings from main employment, place of birth and number of children under age 15 living at home. Also there are household level information such as household income and domestic helpers' information.

For the purpose of this paper, household conditions include whether her husband is in labor force, household income excluding wives' earnings, whether there is any child aged less than 15 in the household and whether any domestic helper is hired. Wife's birth place will also be looked at when discussing immigrant issues.

The controlling variables are wife's personal information such as wife's age, education condition represented by years of schooling or a 4-category education level (primary or less, lower secondary, upper secondary, university or more), and wives' duration of residence in Hong Kong.

I have made two kinds of regressions to address my interest. For the analysis of the determinants of married women's formal employment, a binomial logit model that contrasts non-work with formal employment is applied. For the analysis of factors associated with working wives' earnings, an OLS regression of working wives' earnings on other independent variables is employed.

Data used in logit regressions included couples from households where both husband and wife are present and both are at their working ages from 15 to 64. The influx of minority immigrants in Hong Kong is likely to increase income inequality and add instable effects to our analysis. I therefore further restricted the sample with Chinese wives only (birth place is either Hong Kong or mainland China). There are total 1,613 qualified households with 1,644 couples (Sample 1). To analyze working wives' earnings, I scaled this sample to those couples with wives who are currently working. There are 865 qualified couples for the multiple linear regressions (Sample 2).

For wife's labor participation model, wife's possibility in labor force can be expressed as the following form:

$$\ln\left\{\frac{\Pr_i}{1-\Pr_i}\right\} = \beta_0 + \beta_1 L_h + \beta_2 H + \beta_2 M + \beta_3 C + \sum_{k=4}^{k} \beta_k X_{ki} + \varepsilon_i \quad (1)$$

where $i$ subscripts wives, $\Pr_i$ stands for wife's possibilities in labor force. $L_h$ is whether the husband is in labor force or not with 1 stands for being in labor force. $H$ the household income excluding wives' earnings (in HK\$1,000). M denotes the presence of domestic helper in household and C is the presence of child under age 15 in household. $X_{ki}$ a vector of other independent variables (wife's personal circumstances), $\beta_k$ the estimated coefficient of the respective independent variable, and $\varepsilon_i$ the disturbance term.

In order to further indicate the association between household income excluding wife's earning and their labor force participation possibility, the income is divided into

quartiles. Wife's possibility of being in labor force can also be expressed as:

$$\ln\left\{\frac{\Pr_i}{1-\Pr_i}\right\} = \beta_0 + \beta_1 I_1 + \beta_2 I_2 + \beta_2 I_3 + \beta_2 M + \beta_3 C + \sum_{k=4}^{k}\beta_k X_{ki} + \varepsilon_i \quad (2)$$

where $I$ is the ranking of household income excluding wives' earnings ($I_1$ is the bottom quartile, $I_2$ is the 25% above the middle and $I_3$ is the top quartile with the remaining 25% below the middle as the reference group). Others are the same as in form 1.1.

For employment income, working wives' earnings can be expressed as the following form:

$$\ln Y = \beta_0 + \beta_1 H + \beta_2 E_h + \beta_2 M + \beta_3 C + \sum_{k=4}^{k}\beta_k X_{ki} + \varepsilon_i \quad (3)$$

where Y denotes wife's earning. H is household income excluding wife's earning (in HK$1,000). $E_h$ is husband's years of schooling. M denotes the presence of domestic helper in household and C is the presence of child under the age of 15 in household. $X_{ki}$ is a vector of other independent variables (wife's personal circumstances), $\beta_k$ is the estimated coefficients of the respective independent variables, and $\varepsilon_i$ is the disturbance term.

Equations (1.1) exemplified a conventional approach to access the effect of household characteristics on the outcome variables (possibilities in labor force). Equation (1.2) is set in order to further probe the household economic condition part. Equation (2) is established trying to connect wives' earnings with their household characteristics.

## 4. Results

### 4.1 Predicting Labor Force Participation

Table 1 summarizes the effect of wives' earnings made on mean household income and household income inequality of Sample 1. Wives' earnings slightly reduced the household income inequality by 3.7%. The mean household income is about 35.9% higher by wives' earnings. The Gini coefficient of household income is lower for those households with new immigrant wives in 2001. The mean household income of households with non-new immigrant wives is about 37.0% higher and Gini coefficient is about 4.2% lower than it would have been if wives had not work. For Households with Chinese new immigrant wives, household income is increased by 39.0% by wives earnings and Gini coefficient would experience a larger 7.8% decrease than it would have been if wives had not work. Wives' earnings reduce household income inequality greater for households with new immigrant wives than that for households with non-new immigrant wives. The change due to wives' earnings is slightly more significant for households with new immigrant wives. The significant low household income for new immigrant families can also be observed. The more significant reduction in Gini coefficient counting in wives' earnings is likely to be due to the larger proportion of wives' earnings on the low household income. This result is quite different from the result by comparing white and black families in early United States studies. In the analysis of wives' employment status in the United States, wives' earnings

reduce household income slightly for nonblack families and have almost no effect for black families [5, 17].

**Table 1.** Wives' Earnings and Household Income Inequality

| Sample 1 | | Mean Income[a] (HK$) | Gini Coefficient |
|---|---|---|---|
| Total (1,613 households / 1,644 wives) | A | 31,099 | 0.412 |
| | B | 22,879 | 0.428 |
| | C | 35.90% | -3.70% |
| Native and old Mainland Immigrant Wife[b] (1,289 households / 1,307 wives) | A | 34,120 | 0.4 |
| | B | 24,907 | 0.418 |
| | C | 37.00% | -4.20% |
| New Mainland Immigrant Wife[c] (324 Households / 337 Wives) | A | 19,084 | 0.378 |
| | B | 14,810 | 0.409 |
| | C | 39.00% | -7.80% |

Note 1: A=Total Household Income; B=Total Household Income less wives' earnings; C= Change due to wives' earnings.

Note 2: Source: Hong Kong 2001 Population Census 3% Sample Data Set.

Note 3: a. Hong Kong Dollars in 2001; b. Old mainland immigrant wives are Chinese immigrant wives staying in Hong Kong for equal or longer than 20 years; c. New mainland immigrant wives Chinese immigrant wives staying in Hong Kong for less than 20 years.

Descriptive statistics of key variables are shown in Table 2. Household income and household income without wife's earning are extremely skewed. Of all the wives which are either born in Hong Kong or mainland China, 38.75% were from mainland China. Over half of the wives received compulsory education level (lower secondary or less) of a nine-year free and compulsory education system both in Hong Kong and mainland China.

**Table 2.** Summary Statistics for 1,644 Wives in Sample 1

| Dependent Variable | Mean | SD |
|---|---|---|
| Proportion of Wives in Labor Force | 55.60% | |
| Household Characteristic | | |
| Household Income | 31,099 | 23,000 |
| Household Income without Wives' Earnings | 22,879 | 17,000 |
| Husband in Labor Force | 90.51% | |
| Wife's Personal Circumstances | | |
| Wife's Age | 41.270 | 8.611 |
| Proportion of Chinese Wives | 38.75% | |
| Education Level -1:Lower Secondary or Less | 53.83% | |
| Education Level -2:Upper/post-Sec., Some Col., & Diploma | 38.63% | |
| Education Level - 3: University or More | 7.54% | |

Note 1: *Source: See Table 1;*
Note 2: a. Hong Kong Dollars in 2001

The regression in Table 3 proceeds with three steps. First, only household characteristics are included (Model 1-1). Second, it introduced a set of predictors reflecting women's personal circumstances (Model 1-2). Model 1-2 can be expressed by Regression 1.1 equation. Lastly, interactive terms of wife's birth place with household income, education levels and any child in household are

taken into account. Married women who are not in the labor force are coded as 0.

In Model 1-1 of Table 3, in which only household characteristics are included such as husband's participation in labor force, household income excluding wives' earnings, any domestic helper and any child in household, the effect of all four are highly significant at 0.01- level. As expected, wives with increased household income excluding wives' earnings are less likely to be in labor force. The reduced financial pressure from the household may prevent married women from going out for work.

Table 3. Binary logit regression for the married women's labor force participation on selected variables of Sample 1

| Variables | Regression 1.1 | | |
| --- | --- | --- | --- |
| | Model 1-1 | Model 1-2 | Model 1-3 |
| **Household Characteristics** | | | |
| Husband in Labor Force | 0.747*** | 0.359* | 0.410** |
| | (0.179) | (0.199) | (0.200) |
| Household Income excluding Wives' Earnings (HK$1,000) | -0.0124*** | -0.0185*** | -0.0151*** |
| | (0.00278) | (0.00316) | (0.00351) |
| Domestic Helper in Household | 2.010*** | 1.519*** | 1.520*** |
| | (0.241) | (0.255) | (0.253) |
| Child in Household | -0.716*** | -0.923*** | -3.855*** |
| | (0.108) | (0.126) | (0.638) |
| **Wife's Personal Circumstances** | | | |
| Wife's Age | | 0.204*** | 0.103* |
| | | (0.0523) | (0.0570) |
| Wife's Age square | | -0.00279*** | -0.00186*** |
| | | (0.000636) | (0.000664) |
| Education Level-1: Lower Secondary Or Less | | -0.940*** | -1.184*** |
| | | (0.126) | (0.155) |
| Education Level-3: University or More | | 0.789*** | 0.835*** |
| | | (0.280) | (0.291) |
| Mainland Immigrant Wife | | 0.260* | 0.199 |
| | | (0.145) | (0.286) |
| Wife's Duration of Residence in HK | | 0.0405*** | 0.0397*** |
| | | (0.0124) | (0.0126) |
| **Interaction** | | | |
| Mainland Wife * Household Income without Wives' Earnings | | | -0.0192*** |
| | | | (0.00709) |
| Mainland Wife * Education Level-1: Lower Secondary or Less | | | 0.656*** |
| | | | (0.252) |
| Wife's Age * Any Child | | | 0.0715*** |
| | | | (0.0152) |
| Constant | 0.037 | -3.137*** | -0.486 |
| | (0.172) | (1.059) | (1.234) |
| Pseudo R$^2$ | 0.0533 | 0.1175 | 0.1366 |
| N | 1,644 | 1,644 | 1,644 |

Note 1: *Source: See Table 1*
Notes 2: Standard errors in parentheses: *** $p<0.01$, ** $p<0.05$, * $p<0.1$

Our result again confirms that married women make their employment choice in accordance with their domestic work. Housework obligations are measured by hiring of domestic helpers, presence of young children and elders in the household. The results reveal that the child-care responsibilities strongly influence wives' employment choice. This is further confirmed by the result from hiring domestic helpers. Wives would be more released from domestic responsibilities and are more apt to work when domestic helpers are present in a household. It is also true that when a married woman is pursuing her own career, the household is highly likely to hire a domestic helper when there is a young child in house.

In Model 1-2 of Table 3, when controlling wives' personal information, the signs of the four household conditions to wives' labor force participation remain unchanged and are still very significant. Influences of husband's labor force status and presence of domestic helpers on wives' labor force status are weakened in Model 1-2 compared with their impacts in Model 1-1. Additionally, the significance for husband's labor force status in this model decreases to a 0.1-level. In this model, there is no significant difference for the labor force participation status for wives with primary or less education level and for wives with lower secondary education level. Therefore, wives' education levels are categorized into three categories. With the expansion of higher education to female population, lower education levels are merging together as a lowest one in labor market. For immigrant wives, it seems that they do have a positive effect on labor force participation. Notably in Model 1-2, mainland wives would increase the labor force participation odds ratio by a factor of

1.297 ($e^{0.26}$) even all other factors are controlled. But this effect is only statistically significant at 0.1-level. According to the *human capital hypothesis*, immigrant workers usually suffer disadvantages in the labor market and they are more likely to accept dead-end, low-paid manual jobs [18]. Therefore higher labor participation for immigrant wives should be concentrated on these jobs at the bottom of the occupational hierarchy for wives with limited education. Evidence can be found in below discussion of the interactive terms.

**Table 4.** Binary logit regression for the married women's labor force participation on selected variables in Sample 1

| Variables | Regression 1.2 |
|---|---|
| **Household Characteristics** | |
| Husband in Labor Force | 0.433** |
| | (0.205) |
| Household Income excluding Wife's Earnings (Bottom 25%) | 0.517*** |
| | (0.156) |
| Household Income Excluding Wife's Earnings (50% to 75%) | 0.086 |
| | (0.154) |
| Household Income Excluding Wife's Earnings (Top 25%) | -0.534*** |
| | (0.163) |
| Domestic Helper in Household | 1.316*** |
| | (0.238) |
| Any Child in Household (age < 15) | -0.936*** |
| | (0.128) |
| **Wife's Personal Circumstances** | |
| Wife's Age | -0.028*** |
| | (0.00789) |
| Wife's Age Square | -0.003*** |
| | (0.000640) |
| Education Level-1: Lower Secondary or Less | -0.939*** |
| | (0.126) |
| Education Level-3: University or More | 0.596** |
| | (0.266) |
| Mainland Immigrant Wife | 0.252* |
| | (0.145) |
| Wife's Duration of Residence in HK | 0.043*** |
| | (0.0125) |
| Constant | 0.038 |
| | (0.358) |
| *N* | 1,644 |

Note 1: *Source: See Table 1*
Note 2: Standard errors in parentheses: *** p<0.01, ** p<0.05, * p<0.1

More interesting features of mainland immigrant wives' labor participation behavior are reflected in the interactive terms in Model 1-3. Holding others constant, for immigrant wives, household income without wives' earnings gives a further reduction in the odds ratio of in labor force and such effect is compensated by lower-education. It seems that immigrant wives are slightly more easily demotivated by the increase of household income and would then stay at home. One possible reason is that the household expenditures are less for families with immigrant wives. They usually live in areas with lower consumption levels. Another possible reason is that the return for them working is not as cost effective as them staying at home due to their disadvantageous position in job market. While they are holding the same lower levels of education, immigrant wives are more likely to work and such difference is substantial, ceteris paribus. It can also be observed in Hong Kong that most of the elementary jobs which require not much education are dominated by immigrants.

Financial resources in the household excluding the input of wives, as measured by the household income without wives' earnings from main employment, have a negative effect on wives' choice of employment status. However, in the sense of every one unit change (HK$1,000) in household income without wife's earnings in Table 3, such negative effect is too remote though it is significant at 0.001-level.

In order to further elaborate the relationship between wife's labor force participation and household income distribution. We rank household income excluding wives' earnings is ranked into four categories (0-25%, 25%-50%, 50%-75% and 75%-100%). From Table 4, there is no statistically significant difference for the labor force participation between the category 50%-75% and the reference category of 25%-50%. By controlling wives' personal circumstances, the remaining five coefficients of the household conditions to wives' labor force participation are all significant (Table 4).

Financial resources in the household without considering the input of wives, as measured by ranking of the household income excluding wives' income from main employment, have a significant effect on wives' choice of employment status. With the rank of household income excluding wives' earnings below middle (25%-50%) as the reference group, the odds of in labor force increase by a factor of 1.677 ($e^{0.517}$) for household income without wives' earnings ranked at the bottom quartile, holding all other variables constant. For household income without wives' earnings ranked at the top quartile, the odds of in labor force decrease by a factor of 0.586 ($1/e^{0.534}$) compared with the 25%-50% ranking reference group, holing all other variables constant. Both of the positive and negative effect is significant at 0.001-level (Table 4). When the household income excluding wives' earnings are ranked in Regression 1.2, wives from the middle class families (25%-50% and 50%-75%) do not show much differences in labor force participation with each other.

Wives' incentives to work are strongly influenced if their household income is either very low or very high in a society. They are very likely to go out for work in order to support the household if the other household members' income is not enough. Also, they tend to stay at home if other household members' income is affluent. Such associations prevent the household income being further reduced if the household income is from a sole source or getting even higher for dual-earner couples from high income families. The income distribution inequality is alleviated by the wives' labor force participation differentiation for difference income families. But as indicated in Table 1, such alleviation effect is rather small (3.70%). In our below analysis of wives' earnings (Regression 2), we will see whether there is any association between working wives' earnings and their household income excluding their employment income. If there is an association, whether such association would reinforce wives' equalization effect on household income or jeopardize such effect.

### 4.2 Predicting Earnings

In Sample 2 (Table 5), married women's earnings and household income without wife's earning are extremely skewed. Of all the wives which are either born in Hong Kong or mainland China, 33.76% of the wives were from mainland China. The means of years of schoolings for both husbands and wives are slightly higher than the 9-year compulsory education requirement. The proportions of domestic helpers in household increases and young child in household decreases in Sample 2 compared with these in Sample 1.

The regressions in Table 6 also involve three similar steps as in previous regressions by including household conditions, wives' personal circumstances and interactive terms one by one. Table 6 demonstrates the result of three models of the factors associated with working wives' earnings.

Based on Table 6, the signs for all the four household characteristics are unchanged in all three models and they are all at least statistically significant at 0.05- level. The household income excluding wives' earnings is positively associated with logged form of wives' earnings and such effect is bigger for immigrant wives in Model 2-3. The coefficients for household income excluding wives' earnings on logged earning decreases when more variables are controlled in Model 2-2. But the above two effects are really small on the predicted wife's logged earning. It is used to assume that once the wives are under employments; their earnings should have no association with their household financial status.

Previous research showed that women's earnings are equalizing when the correlation between the wife's earning and husband's earning is low [19]. Our result of the low coefficient between the household income excluding wives' earnings and wife's logged earnings confirms this observation.

Once wives are employed, their income are still subject to housework burden represented by a 0.268 increase in the predicted logged wife's earning if any domestic helper are hired in Model 2-3. Similarly, the predicted logged earning will decrease if there is any child under 15 in household in Model 2-3, ceteris paribus. But this effect is significant at 0.05-level only in Model 2-2 and 2-3. Also, with more factors and interactions included, such effect is lowered with a decreased coefficient.

**Table 5.** Summary Statistics for N = 865 in Sample 2

|  | Mean | SD |
| --- | --- | --- |
| Wife's Earnings [a] | 14,668 | 14,826 |
| **Household Characteristics** | | |
| Household Income without Wife's Earnings [a] | 22,707 | 22,233 |
| Husband's Years of Schooling | 10.419 | 4.329 |
| Proportion of Domestic Helpers in household | 14.99% | |
| Proportion of Children aged below 15 in household | 47.34% | |
| **Wife's Personal Circumstances** | | |
| Wife's Age | 40.126 | 8.050 |
| Wife's Years of Schooling | 10.127 | 4.166 |
| Proportion of Chinese Wives | 33.76% | |

Note 1: *Source: See Table 1*
Note 2: a. Hong Kong Dollars in 2001

For mainland immigrant wives, their predicted logged earnings are 0.190 less compared with Hong Kong native wives in Model 2-2. It is still significant when interactions of mainland wives and years of schooling are considered in Model 2-3. As in Model 2-2, the effects of all independent variables are additive under the assumption that the schooling effect is the same for Hong Kong native wives and mainland immigrant wives, others being equal. Model 2-3 allows for birth place-differentiated effects of schooling by including the interaction between birth place and years of schooling. As a result, controlling others, for mainland immigrant wives and Hong Kong wives with the same year of schooling, mainland immigrant wives' predicted logged earning is 0.036 less than that of Hong Kong wives. Wife's longer residency in Hong Kong is always a positive factor to influence wife's earning. But this effect is only significant at 0.05-level for both Model 2-2 and 2-3. Education for immigrant wives which is mostly received in mainland China is less creditable in the Hong Kong job market. Regression Model 2-3 has an insignificant heteroskedasticity which implies that our standard errors hypothesis test is valid. Therefore, our error term has a constant variance in Model 2-3 and it satisfied conditions for the statistically model for linear regression.

**Table 6** MLR regression for the logarithm of income on selected variables in Sample 2

| Variables | Model 2-1 | Model 2-2 | Model 2-3 |
|---|---|---|---|
| **Household Characteristics** | | | |
| Household Income Without | 0.006*** | 0.004*** | 0.004** |
| Wives' Earnings (HK$1,000) | (0.00108) | (0.00103) | (0.00176) |
| Husband's Years of Schooling | 0.083*** | 0.028*** | 0.022*** |
| | (0.00545) | (0.00647) | (0.00641) |
| Any Domestic Helper in Household | 0.448*** | 0.303*** | 0.268*** |
| | (0.0696) | (0.0634) | (0.0629) |
| Any Child under 15 in Household | -0.160*** | -0.105** | -0.089** |
| | (0.0451) | (0.0418) | (0.0413) |
| **Wife's Personal Circumstances** | | | |
| Wife's Age | | -0.002 | -0.002 |
| | | (0.00264) | (0.00259) |
| Wife's Years of Schooling | | 0.081*** | 0.101*** |
| | | (0.00700) | (0.00855) |
| Wife's Years of Schooling (squared) | | 0.003*** | 0.002** |
| | | (0.000867) | (0.000914) |
| Mainland Immigrant Wife | | -0.190*** | -0.163*** |
| | | (0.0513) | (0.0518) |
| Wife's Duration of Residence in Hong Kong | | 0.010** | 0.012** |
| | | (0.00483) | (0.00539) |
| **Interactions** | | | |
| Household Income excluding Wives' Earnings | | | -0.0009*** |
| (HK$1,000) * Husband's Years of Schooling | | | (0.000235) |
| Household Income excluding Wives' Earnings | | | 0.004** |
| (HK$1,000) * Child under 15 in Household | | | (0.00171) |
| Household Income excluding Wives' Earnings | | | 0.005** |
| (HK$1,000) * Mainland Immigrant Wife | | | (0.00254) |
| Mainland Immigrant Wife * Wife's | | | -0.036*** |
| Years of Schooling | | | (0.0123) |
| Wife's Years of Schooling | | | 0.003** |
| *Duration of Residence in HK | | | (0.00108) |
| Constant | 8.261*** | 8.340*** | 9.372*** |
| | (0.0591) | (0.169) | (0.107) |
| *N* | 865 | 865 | 865 |
| R-squared | 0.423 | 0.539 | 0.564 |

Note 1:*Source: See Table 1*
Note 2: Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

## 5. Summary and Conclusions

This study demonstrates that Hong Kong wives' employment status (participation in labor force and wives' earnings) has a small equalizing effect on household income inequality. Wives from low income households are highly motivated to participate in labor force and they are mostly composed by wives from mainland China. It is found that immigrant wives receiving lower level of education (less than 9 years) should be the major source of their higher labor force participation. Interestingly, mainland immigrant wives are slightly more significantly demotivated by the increase of household income excluding wives' earnings. Some researchers suspect that since women in Socialist China have a high rate of economic activity and it follows naturally that mainland women join the labor force once they arrive at Hong Kong [15]. Based on our analysis that mainland immigrant wives actually are less likely in the labor force compared with Hong Kong native wives from the same income households, the above suspicion may not

hold. For immigrant women, their dominant incentive to find a job should be the household's economic need. Overall, it seems that mainland immigrant wives are still in a more disadvantageous status though being pushed into labor market by poor family conditions. The unstinted supply of "female jobs" in Hong Kong further provides the market for low skilled immigrant wives to enter.

We understand that working at home is an exclusive occupation of many women and of a vast majority when young children are present. Hiring domestic helpers can largely relieve the wives in housework and let them be more active in employment. It is also indicated that even for wives who are in labor force; their earnings are still associated with some of the household characteristics such as presence of child and hiring of domestic helpers in household.

Compared with other countries, this study illustrates noteworthy variability in the association between married women's' household conditions and their employment status. The major differences lie in the immigration, hiring of domestic helpers and change of industry structures in Hong Kong. This study only include households with both wife and husband are present, there are other conditions such as female headed households with a single women or a divorced women, which is getting more common in Hong Kong. To discuss women's employment status in a broader sense, more types of households should be included. Also, a deeper understanding of the dynamics of women's employment and household income distribution by analyzing census data from multiple years are necessary for this inquiry.

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