**Appendix**

***Table & Figures***



Figure 1. Trend of Total Fertility Rate in Hong Kong

Edited by the author. Source: World Development Indicators



Figure 2. The number of FDWs and the trend of Labor Force Participation Rare among females

Edited by the author. Source: Social Data Collected by the General Household Survey for FDWs from 1987 to 1991. Hong Kong Annual Digest Statistics for FDWs at 1992 hereafter. World Development Indicators for LFPR.



Figure 3. Income distribution of the random 5% sample

(The households with one married woman aged 20-45 years old)

Table 1. Descriptive statistics

|  |  |  |  |
| --- | --- | --- | --- |
| 　 | No FDW households(17,871 Households) | FDW households(2,520 Households) | P-value |
| Variable | Mean | Std. Dev. | Mean | Std. Dev. |
| Number of infants (Below 5 years) | 0.282 | 0.529 | 0.634 | 0.677 | 0.00\*\*\* |
| Household monthly income | 31308.230 | 11878.450 | 39668.450 | 11586.410 | 0.00\*\*\* |
| Logged Household income | 10.279 | 0.385 | 10.538 | 0.334 | 0.00\*\*\* |
| # of family member | 3.472 | 1.155 | 4.797 | 0.989 | 0.00\*\*\* |
| # of elderly people (65 yrs old more) | 0.204 | 0.502 | 0.181 | 0.470 | 0.032\*  |
| # of children more than 5 yrs old | 0.528 | 0.722 | 0.792 | 0.768 | 0.00\*\*\* |
| Island living dummy | 0.020 | 0.140 | 0.032 | 0.176 | 0.0001\*\*\* |
| Age of wife/targeted lady | 36.991 | 5.605 | 37.220 | 4.743 | 0.051 |
| Education of wife/targeted lady | 11.647 | 3.252 | 13.296 | 2.829 | 0.00\*\*\* |
| Working hours of wife/targeted lady | 25.569 | 22.663 | 29.742 | 21.151 | 0.00\*\*\* |
| Log income of wife/targeted lady | 6.304 | 4.540 | 7.274 | 4.275 | 0.00\*\*\* |
| Divorce/Separate/ Widow dummy | 0.039 | 0.195 | 0.057 | 0.231 | 0.00\*\*\* |
| First child is daughter | 0.279 | 0.449 | 0.441 | 0.497 | 0.00\*\*\* |
| # of room in the house | 3.181 | 1.015 | 3.983 | 1.040 | 0.00\*\*\* |
| Income ratio between the couple(Female’s income/Couple’s income) | 0.399 | 0.366 | 0.447 | 0.347 | 0.00\*\*\* |
| Log income of husband | 7.927 | 3.906 | 8.062 | 3.893 | 0.105 |
| Husband working hour | 37.235 | 21.419 | 36.931 | 20.721 | 0.502 |
| Marriage status of FDW | 　 | 0.706 | 0.456 | 　 |
| Education of FDW | 　 | 11.548 | 3.100 | 　 |
| Working hours of FDW | 　 | 59.489 | 13.831 | 　 |
| Logged FDW's income | 　 | 8.370 | 0.089 | 　 |
| Age of FDW | 　 | 34.962 | 6.752 | 　 |

Note) +p<0.10, \* p<0.05, \*\* p<0.01, \*\*\* p<0.001

Table 2. Descriptive analysis for educational attainment sub-group (Unit: Year)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Education level | Obs | Mean | Std. Dev. | Min | Max |
| Primary | 1,191 | 5.095 | 1.482 | 0 | 6 |
| Lower Second | 4,094 | 8.684 | 0.631 | 7 | 9 |
| Higher Second | 7,839 | 11.175 | 0.699 | 10 | 13 |
| Associate | 3,268 | 14.301 | 0.459 | 14 | 15 |
| Bachelor | 3,999 | 16.429 | 1.000 | 16 | 21 |

Table 3. Descriptive analysis for household income level sub-group (Unit: HK$)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| HH Income | Obs | Mean | Std. Dev. | Min | Max |
| Lower | 10,214 | 22034.19 | 4672.569 | 15000 | 30500 |
| Higher | 10,177 | 42686.12 | 7785.243 | 30510 | 58000 |
| 0-20% | 4,307 | 17488.49 | 1674.578 | 15000 | 20000 |
| 21-40% | 3,956 | 23549.98 | 2031.797 | 20020 | 27000 |
| 41-60% | 4,217 | 31081.84 | 2283.771 | 27050 | 35000 |
| 61-80% | 3,833 | 39784.32 | 2660.142 | 35040 | 44670 |
| 81-100% | 4,078 | 50863.61 | 3913.506 | 44690 | 58000 |

Table 4. Descriptive analysis for ladies’ income level sub-group (Unit: HK$)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Wife income | Obs | Mean | Std. Dev. | Min | Max |
| Lower | 10,196 | 2618.291 | 3926.468 | 0 | 10410 |
| Higher | 10,195 | 19596.13 | 7976.353 | 10500 | 58000 |
| 0-20% | 6,699 | 0 | 0 | 0 | 0 |
| 21-40% | 1,667 | 5478.794 | 2153.854 | 300 | 8000 |
| 41-60% | 3,920 | 10833.47 | 1358.184 | 8060 | 13000 |
| 61-80% | 4,860 | 16837.44 | 2124.014 | 13050 | 20000 |
| 81-100% | 3,245 | 28674.37 | 7806.84 | 20050 | 58000 |

Table 5. Descriptive analysis for income-ratio between a couple level sub-group (Unit: HK$)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Income ratio | Obs | Mean | Std. Dev. | Min | Max |
| lower | 10,223 | 0.103 | 0.151 | 0 | 0.4 |
| Higher | 10,168 | 0.709 | 0.243 | 0.4003 | 1 |
| 0-20% | 6,699 | 0.000 | 0.000 | 0 | 0 |
| 21-40% | 1,458 | 0.212 | 0.075 | 0.005964 | 0.302198 |
| 41-60% | 4,081 | 0.399 | 0.047 | 0.302326 | 0.472727 |
| 61-80% | 4,075 | 0.556 | 0.070 | 0.472789 | 0.772727 |
| 81-100% | 4,078 | 0.995 | 0.030 | 0.774194 | 1 |

Table 6. Results (Full sample (N=20,391))

|  |  |  |
| --- | --- | --- |
|  | Y=Number of infants | Y=Have more than two infants |
|  | OLS | IPWRA | 2SLS | IV-Tobit | Probit | IV-Probit |
| 　 | (1) | (2) | (3) | (4) | (5) | (6) |
| FDW in the household | 0.360\*\*\* | 0.341\*\*\* | 0.601\*\*\* | 0.601\*\*\* | 0.677\*\*\* | 0.714 |
| (0.013) | (0.013) | (0.091) | (0.091) | (0.047) | (0.480) |
|  | [0.336,0.385] | [0.316,0.366] | [0.423,0.778] | [0.423,0.778] | [0.585,0.768] | [-0.228,1.656] |
| Log-Monthly household income | -0.048\*\*\* |  | -0.089\*\*\* | -0.089\*\*\* | -0.251\*\*\* | -0.257\*\* |
| (0.010) |  | (0.019) | (0.019) | (0.050) | (0.093) |
|  | [-0.067,-0.029] |  | [-0.125,-0.052] | [-0.125,-0.052] | [-0.348,-0.153] | [-0.440,-0.074] |
| #r of elderly persons  | -0.005 |  | -0.003 | -0.003 | -0.067+ | -0.066 |
|  | (0.007) |  | (0.007) | (0.007) | (0.040) | (0.041) |
|  | [-0.018,0.007] |  | [-0.016,0.010] | [-0.016,0.010] | [-0.146,0.013] | [-0.146,0.013] |
| # of pupils | -0.198\*\*\* |  | -0.213\*\*\* | -0.213\*\*\* | -0.714\*\*\* | -0.716\*\*\* |
|  | (0.005) |  | (0.007) | (0.007) | (0.047) | (0.054) |
|  | [-0.208,-0.189] |  | [-0.228,-0.198] | [-0.228,-0.198] | [-0.805,-0.622] | [-0.821,-0.611] |
| Live in islands | 0.034 |  | 0.02 | 0.02 | 0.041 | 0.038 |
|  | (0.026) |  | (0.027) | (0.027) | (0.110) | (0.114) |
|  | [-0.017,0.085] |  | [-0.032,0.072] | [-0.032,0.072] | [-0.175,0.257] | [-0.185,0.262] |
| Age of wife | -0.026\*\*\* |  | -0.026\*\*\* | -0.026\*\*\* | -0.044\*\*\* | -0.044\*\*\* |
|  | (0.001) |  | (0.001) | (0.001) | (0.003) | (0.003) |
|  | [-0.027,-0.025] |  | [-0.027,-0.025] | [-0.027,-0.025] | [-0.050,-0.039] | [-0.050,-0.038] |
| Education years of wife | 0.008\*\*\* |  | 0.005\*\*\* | 0.005\*\*\* | 0.014\* | 0.014 |
| (0.001) |  | (0.002) | (0.002) | (0.006) | (0.008) |
|  | [0.006,0.010] |  | [0.002,0.008] | [0.002,0.008] | [0.002,0.026] | [-0.003,0.030] |
| Single female | 0.141\*\*\* |  | 0.127\*\*\* | 0.127\*\*\* | 0.159 | 0.157 |
|  | (0.016) |  | (0.018) | (0.018) | (0.113) | (0.118) |
|  | [0.108,0.173] |  | [0.092,0.162] | [0.092,0.162] | [-0.063,0.382] | [-0.074,0.388] |
| First child is a daughter | 0.359\*\*\* |  | 0.344\*\*\* | 0.344\*\*\* | 0.632\*\*\* | 0.630\*\*\* |
| (0.009) |  | (0.010) | (0.010) | (0.041) | (0.051) |
|  | [0.342,0.376] |  | [0.324,0.364] | [0.324,0.364] | [0.553,0.712] | [0.529,0.730] |
| Income ratio | -0.276\*\*\* |  | -0.286\*\*\* | -0.286\*\*\* | -0.508\*\*\* | -0.509\*\*\* |
|  | (0.011) |  | (0.012) | (0.012) | (0.060) | (0.061) |
|  | [-0.298,-0.255] |  | [-0.308,-0.263] | [-0.308,-0.263] | [-0.625,-0.391] | [-0.629,-0.390] |
| Constant | 1.739\*\*\* |  | -0.089\*\*\* | -0.089\*\*\* | 2.359\*\*\* | 2.428\* |
|  | (0.102) |  | (0.019) | (0.019) | (0.514) | (1.021) |
| 　 | [1.539,1.939] |  | [-0.125,-0.052] | [-0.125,-0.052] | [1.351,3.367] | [0.428,4.429] |
| + p<0.10, \* p<0.05, \*\* p<0.01, \*\*\* p<0.001. Robust-standard error in parenthesis. 95% CI in bracket.About (1), the OLS estimation is represented. About (2), we show the average treatment effect on the treated using the IPWRA estimator. This estimator compares the outcome between treatment group (FDW employing households) and control group (Not- employment group) based on each treatment and control regression estimation. The control variables of outcome model in (2) is the same as (1); on the contrary, the treatment model includes the dummy variables of HOS and housing subsidy with the control variables of the outcome model. For brevity, we only represent the ATT results here. For (3), we employ the 2SLS model. For (4), we employ the IV-Tobit model. About (5) and (6), we replace the outcome with the dummy variable whether they have more than two infants in the family. The coefficients represents the marginal effects. |

Table 7. Results (Samples not moving for five years (N=12,404))

|  |  |  |
| --- | --- | --- |
|  | Y=Number of infants | Y=Have more than two infants |
|  | OLS | IPWRA | 2SLS | IV-Tobit | Probit | IV-Probit |
|  | (1) | (2) | (3) | (4) | (5) | (6) |
| FDW works more than five years | 0.061\* | 0.047+ | 2.050\*\*\* | 2.183\*\*\* | 0.359\* | 4.054\*\*\* |
| (0.026) | (0.025) | (0.363) | (0.397) | (0.147) | (0.897) |
| [0.009,0.112] | [-0.002,0.097] | [1.338,2.762] | [1.404,2.961] | [0.070,0.647] | [2.295,5.813] |
| Log-Monthly Household income | 0.034\*\* |  | -0.036+ | -0.041+ | 0.053 | -0.086 |
| (0.012) |  | (0.020) | (0.021) | (0.071) | (0.069) |
| [0.011,0.057] |  | [-0.075,0.003] | [-0.082,0.000] | [-0.086,0.191] | [-0.222,0.049] |
| # of | -0.006 |  | 0.006 | 0.007 | -0.051 | -0.013 |
| elderly persons | (0.007) |  | (0.009) | (0.009) | (0.053) | (0.043) |
|  | [-0.021,0.008] |  | [-0.012,0.024] | [-0.011,0.025] | [-0.155,0.054] | [-0.097,0.072] |
| # of pupils | -0.153\*\*\* |  | -0.214\*\*\* | -0.218\*\*\* | -0.695\*\*\* | -0.651\*\*\* |
|  | (0.006) |  | (0.014) | (0.015) | (0.064) | (0.076) |
|  | [-0.165,-0.141] |  | [-0.241,-0.187] | [-0.247,-0.190] | [-0.820,-0.570] | [-0.801,-0.501] |
| Live in islands | 0.009 |  | 0.014 | 0.014 | 0.093 | 0.081 |
|  | (0.031) |  | (0.035) | (0.035) | (0.172) | (0.139) |
|  | [-0.052,0.069] |  | [-0.055,0.082] | [-0.055,0.083] | [-0.245,0.431] | [-0.191,0.352] |
| Age of wife | -0.030\*\*\* |  | -0.033\*\*\* | -0.033\*\*\* | -0.072\*\*\* | -0.062\*\*\* |
|  | (0.001) |  | (0.001) | (0.001) | (0.004) | (0.008) |
|  | [-0.031,-0.028] |  | [-0.035,-0.031] | [-0.036,-0.031] | [-0.080,-0.064] | [-0.079,-0.046] |
| Educationyears of wife | 0.016\*\*\* |  | 0.008\*\*\* | 0.008\*\* | 0.037\*\*\* | 0.012 |
| (0.001) |  | (0.002) | (0.002) | (0.009) | (0.011) |
|  | [0.014,0.019] |  | [0.004,0.012] | [0.003,0.012] | [0.020,0.054] | [-0.009,0.034] |
| Single female | 0.145\*\*\* |  | 0.150\*\*\* | 0.150\*\*\* | 0.610\*\*\* | 0.484\*\* |
|  | (0.019) |  | (0.027) | (0.028) | (0.160) | (0.152) |
|  | [0.107,0.182] |  | [0.097,0.203] | [0.096,0.205] | [0.296,0.924] | [0.186,0.782] |
| First child is a daughter | 0.295\*\*\* |  | 0.296\*\*\* | 0.297\*\*\* | 0.664\*\*\* | 0.515\*\*\* |
| (0.011) |  | (0.014) | (0.014) | (0.061) | (0.098) |
|  | [0.274,0.317] |  | [0.269,0.324] | [0.268,0.325] | [0.544,0.784] | [0.324,0.706] |
| Income ratio | -0.282\*\*\* |  | -0.311\*\*\* | -0.313\*\*\* | -0.783\*\*\* | -0.655\*\*\* |
|  | (0.013) |  | (0.017) | (0.018) | (0.085) | (0.113) |
|  | [-0.308,-0.256] |  | [-0.344,-0.277] | [-0.347,-0.278] | [-0.951,-0.616] | [-0.876,-0.434] |
| Constant | 0.034\*\* |  | -0.036+ | -0.041+ | 0.13 | 1.827\* |
|  | (0.012) |  | (0.020) | (0.021) | (0.719) | (0.711) |
|  | [0.011,0.057] |  | [-0.075,0.003] | [-0.082,0.000] | [-1.280,1.540] | [0.435,3.220] |
| + p<0.10, \* p<0.05, \*\* p<0.01, \*\*\* p<0.001. Robust-standard error in parenthesis. 95% CI in bracket.About (1), the OLS estimation is represented. About (2), we show the average treatment effect on the treated using the IPWRA estimator. This estimator compares the outcome between treatment group (FDW employing households) and control group (Not- employment group) based on each treatment and control regression estimation. The control variables of outcome model in (2) is the same as (1); on the contrary, the treatment model includes the dummy variables of HOS and housing subsidy with the control variables of the outcome model. For brevity, we only represent the ATT results here. For (3), we employ the 2SLS model. For (4), we employ the IV-Tobit model. About (5) and (6), we replace the outcome with the dummy variable whether they have more than two infants in the family. The coefficients represents the marginal effects. |

Table 8. Results for sub-group analysis (Only interest variables shown)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Wife Education | Primary | Lower Second | Higher Second | Associate | Bachelor |  |  |
| (1) | (2) | (3) | (4) | (5) |  |  |
| FDW in the household | 0.392 | 0.808\* | 0.408\*\* | 0.583\* | 0.664\*\*\* |  |  |
| (0.679) | (0.375) | (0.125) | (0.239) | (0.186) |  |  |
| [-0.938,1.723] | [0.073,1.543] | [0.163,0.652] | [0.115,1.051] | [0.299,1.030] |  |  |
| N | 1,191 | 4,094 | 7,839 | 3,268 | 3,999 |  |  |
| FDWs work more than five years | -1.107 | 0.438 | 1.574\*\* | 2.273\*\* | 3.877\* |  |  |
| (1.529) | (1.003) | (0.481) | (0.818) | (1.546) |  |  |
| [-4.104,1.890] | [-1.529,2.404] | [0.631,2.517] | [0.669,3.877] | [0.846,6.907] |  |  |
| N | 823 | 2,741 | 5,153 | 1,795 | 1,892 |  |  |
|  |  |  |  |  |  |  |  |
| Wife Income | Lower | Higher | 0-20% | 21-40% | 41-60% | 61-80% | 81-100% |
| (6) | (7) | (8) | (9) | (10) | (11) | (12) |
| FDW in the household | 0.209 | 0.831\*\*\* | 0.094 | 0.39 | 0.426\*\* | 0.917\*\*\* | 0.811\*\*\* |
| (0.161) | (0.111) | (0.216) | (0.313) | (0.147) | (0.172) | (0.200) |
| [-0.106,0.524] | [0.613,1.049] | [-0.330,0.518] | [-0.224,1.004] | [0.138,0.714] | [0.580,1.254] | [0.420,1.203] |
| N | 10196 | 10195 | 6,699 | 1,667 | 3,920 | 4,860 | 3,245 |
| FDWs work more than five years | 0.887\* | 2.869\*\*\* | 0.764 | 1.949\* | 0.644 | 2.990\*\* | 3.575\* |
| (0.413) | (0.690) | (0.582) | (0.819) | (0.541) | (1.043) | (1.674) |
| [0.078,1.697] | [1.517,4.220] | [-0.376,1.905] | [0.344,3.553] | [-0.416,1.703] | [0.946,5.034] | [0.293,6.857] |
| N | 6,158 | 6,246 | 3,860 | 1,067 | 2,599 | 3,000 | 1,878 |
|  |  |  |  |  |  |  |  |
| Income ratio (Wife/Couple) | Lower | Higher | 0-20% | 21-40% | 41-60% | 61-80% | 81-100% |
| (13) | (14) | (15) | (16) | (17) | (18) | (19) |
| FDW in the household | 0.054 | 0.851\*\*\* | 0.094 | 0.279 | 0.039 | 0.507\*\* | 0.941\*\*\* |
| (0.173) | (0.107) | (0.216) | (0.648) | (0.248) | (0.174) | (0.129) |
| [-0.284,0.392] | [0.642,1.060] | [-0.330,0.518] | [-0.992,1.550] | [-0.447,0.526] | [0.167,0.848] | [0.688,1.194] |
| N | 10223 | 10168 | 6,699 | 1,458 | 4,081 | 4,075 | 4,078 |
| FDWs work more than five years | 0.53 | 2.801\*\*\* | 0.764 | 1.428 | -0.218 | 1.892\* | 1.929\*\* |
| (0.488) | (0.578) | (0.582) | (2.594) | (0.752) | (0.928) | (0.597) |
| [-0.426,1.486] | [1.668,3.935] | [-0.376,1.905] | [-3.655,6.511] | [-1.692,1.256] | [0.073,3.711] | [0.760,3.099] |
| N | 6,053 | 6,351 | 3,860 | 935 | 2,417 | 2,414 | 2,778 |
|  |  |  |  |  |  |  |  |
| Household Income | Lower | Higher | 0-20% | 21-40% | 41-60% | 61-80% | 81-100% |
| (20) | (21) | (22) | (23) | (24) | (25) | (26) |
| FDW in the household | 0.793\*\*\* | 0.403\*\*\* | 0.775\*\* | 0.687\*\*\* | 0.732\*\*\* | 0.376\* | 0.403\* |
| (0.151) | (0.117) | (0.292) | (0.191) | (0.212) | (0.172) | (0.173) |
| [0.497,1.088] | [0.174,0.632] | [0.202,1.348] | [0.312,1.061] | [0.316,1.148] | [0.039,0.713] | [0.064,0.742] |
| N | 10214 | 10177 | 4,307 | 3,956 | 4,217 | 3,833 | 4,078 |
| FDWs work more than five years | 2.220\*\*\* | 1.808\*\* | 2.414\*\* | 1.516\*\* | 2.444\* | 3.092\* | 1.105 |
| (0.475) | (0.616) | (0.844) | (0.570) | (0.962) | (1.510) | (0.702) |
| [1.289,3.152] | [0.601,3.016] | [0.761,4.068] | [0.400,2.632] | [0.560,4.329] | [0.132,6.051] | [-0.271,2.481] |
| N | 6,302 | 6,102 | 2,495 | 2,553 | 2,734 | 2,358 | 2,264 |
|  |  |  |  |  |  |  |  |
| HH Income\* Income Ratio | Low & Lower | Low & Higher | High & Lower | High & Higher | 　 | 　 | 　 |
| (27) | (28) | (29) | (30) | 　 | 　 | 　 |
| FDW in the household | 0.344 | 0.878\*\*\* | -0.238 | 0.734\*\*\* |  |  |  |
| (0.302) | (0.154) | (0.220) | (0.156) |  |  |  |
| [-0.248,0.936] | [0.577,1.180] | [-0.670,0.194] | [0.427,1.040] |  |  |  |
| N | 5,519 | 4,695 | 4,704 | 5,473 | 　 | 　 | 　 |
| FDWs work more than five years | 1.793\* | 1.749\*\*\* | -0.671 | 3.974\*\* |  |  |  |
| (0.843) | (0.495) | (0.687) | (1.539) |  |  |  |
| [0.140,3.445] | [0.778,2.720] | [-2.017,0.676] | [0.958,6.990] |  |  |  |
| N | 3,293 | 3,009 | 2,760 | 3,342 | 　 | 　 | 　 |
| Note) + p<0.10, \* p<0.05, \*\* p<0.01, \*\*\* p<0.001. Robust-standard error in parenthesis. 95% CI in bracket.The outcome is the number of infants (Less than five years old). We employ 2SLS model in the estimation controlling Log-Monthly Household income, Number of elderly persons, Number of pupils in the household, HHs that live in islands, Age of Females , Education years of females, Divorce/ Widow/ Separate dummy, First order's gender dummy and Ratio of couple’s income. About the treatment effects of FDWs working for more than five years, we limit the sample who has not moved for five years. |

Table 9. Bounds for the effect of FDW employment on the number of infants

|  |  |  |
| --- | --- | --- |
|  | FDW in the household | FDW works more than 5ys |
|  | (1) | (2) |
| Support for possible values of $θ=θ\_{1}=θ\_{2}$ | Lower | Upper | Lower | Upper |
| θ$\in $[-0.0001; +0.0001] | 0.422 | 0.779 | 1.335 | 2.767 |
| θ$\in $[-0.0005; +0.0005] | 0.417 | 0.784 | 1.319 | 2.786 |
| θ$\in $[-0.001; +0.001] | 0.411 | 0.791 | 1.300 | 2.811 |
| θ$\in $[-0.005; +0.005] | 0.362 | 0.841 | 1.145 | 3.008 |
| θ$\in $[-0.01; +0.01] | 0.301 | 0.903 | 0.949 | 3.257 |
| N | 20,391 | 12,404 |
| Notes) The outcome is the number of infants (Less than five years old). We employ 2SLS model in the estimation controlling Log-Monthly Household income, Number of elderly persons, Number of pupils in the household, HHs that live in islands, Age of Females , Education years of Females, Divorce/ Widow/Separate dummy, First order's gender dummy and Ratio of couple’s income. We employ robust standard error. About the treatment effects of FDWs working for more than five years, we limit the sample who has not moved for five years. Bounds are estimated using the STATA package “plausexog”. |

Appendix A. Eligibility of main housing schemes provided by the housing authority

(Information from Hong Kong Housing Authority)

■ Public Rental Housing (PRH)

(a) Applicants must be at least 18 years old.
(b) Applicants and their family member(s) must be residing in Hong Kong and have the right to land in Hong Kong without subject to any conditions of stay (except for conditions concerning limit of stay).
(c) Household monthly income and total net asset must not exceed the prevailing limits. (E.g. Income level for two-members family: Max $18,690)
(d) Applicants and their family member(s) must possess no domestic property in Hong Kong.
(e) At the time of allocation, at least half of applicants’ family member(s) included in the application must have lived in Hong Kong for seven years and are still living in Hong Kong.

■ Housing Ownership Scheme (HOS)

For the application of HOS, there are two types of application form: Green form or White form. Number of ballot winner is fifty-fifty between two forms. However, the number of White Form applicants far exceeds that of the Green Form, making it significantly harder to win the White Form lottery.

\* Green Form Applicants of house ownership scheme

Subject to detailed eligibility criteria on age, family composition, residence rule, etc. to be announced by the Housing Authority (HA) prior to the launch of each sale exercise, the following categories of persons are eligible for Green Form status in buying Green Form Subsidized Home Ownership Scheme (GSH) flats –

(a) Households of Public Rental Housing (PRH) units under the Hong Kong Housing Authority (HA) (not applicable to tenants under conditional tenancies of HA, tenants allocated PRH units through the HA’s Express Flat Allocation Scheme within three years from the date of commencement of their tenancies or monthly licenses of HA Transitional Rental Housing units);
(b) Households of Group A Rental Estates (rental estates) under the Hong Kong Housing Society (HS) (households of HS’s Group B Rental Estates, tenants allocated rental units through the HS’s Express Flat Allocation Scheme For Group A Rental Estates (2019) within three years from the date of commencement of their tenancies or monthly licensees of HS Transitional Rental Housing units);
(c) Persons falling into one of the categories who are holders of valid Green Form Certificates issued by the Housing Department (HD)/ Urban Renewal Authority–
(d) Staff of the Estate Assistant (EA)grade of the HD who is holding a valid Letter of Assurance (LA) issued by the HD; and
(e) Recipients of Rent Allowance for the Elderly Scheme (RAES) administered by the HA.

\* White Form Applicants of house ownership scheme

The following categories of persons can apply to purchase a HOS flat under White Form status:

(a) Households living in private housing.

(b) Family member(s) of households living in PRH or rental estates or any subsidized housing scheme units under the HA or the HS; and

(c) Flat owners and their authorized family members under HA’s Tenants Purchase Scheme (TPS) for less than 10 years (from the date of Assignment of his/her TPS flats with the HA) can apply for the purchase of an HOS flat by using WF, with no restriction on income and net asset limits and domestic property ownership, on condition that they can complete the sale of the TPS flats currently owned and occupied within three months from the date of signing of the agreement for sale and purchase of the HOS flats, or within the one-off extension of three months as may be granted by the HA.

Appendix B. Results of the first stage in IV estimation

|  |  |  |
| --- | --- | --- |
|  | First-stage regression: FDW | First-stage regression: 5ysFDW |
| Log-Monthly household income | 0.152\*\*\* | 0.028\*\*\* |
|  | (0.006) | (0.005) |
|  | [0.139,0.164] | [0.019,0.038] |
| # of elderly persons aged 65+  | 0.001 | -0.003 |
|  | (0.004) | (0.003) |
|  | [-0.007,0.010] | [-0.008,0.002] |
| # of pupils in the household | 0.061\*\*\* | 0.030\*\*\* |
|  | (0.004) | (0.003) |
|  | [0.054,0.068] | [0.025,0.036] |
| HHs that live in islands | 0.059\*\*\* | -0.001 |
|  | (0.018) | (0.010) |
|  | [0.025,0.094] | [-0.021,0.018] |
| Age of women | 0.002\*\*\* | 0.002\*\*\* |
|  | (0.000) | (0.000) |
|  | [0.001,0.002] | [0.001,0.002] |
| Education years of women | 0.009\*\*\* | 0.003\*\*\* |
|  | (0.001) | (0.001) |
|  | [0.008,0.011] | [0.002,0.004] |
| Divorce/Separate/ Widow dummy | 0.050\*\*\* | -0.004 |
|  | (0.013) | (0.009) |
|  | [0.025,0.076] | [-0.021,0.013] |
| First child is daughter | 0.062\*\*\* | -0.001 |
|  | (0.006) | (0.004) |
|  | [0.050,0.074] | [-0.010,0.007] |
| Income ratio between the couple | 0.052\*\*\* | 0.019\*\*\* |
|  | (0.007) | (0.005) |
|  | [0.039,0.065] | [0.009,0.028] |
| Winner of the ballot of HOS | 0.049\*\*\* | 0.002 |
|  | (0.008) | (0.004) |
|  | [0.034,0.064] | [-0.005,0.010] |
| Housing supported by the gov't | -0.086\*\*\* | -0.029\*\*\* |
|  | (0.004) | (0.003) |
|  | [-0.095,-0.078] | [-0.036,-0.023] |
| Constant | -1.655\*\*\* | -0.371\*\*\* |
|  | (0.065) | (0.051) |
|  | [-1.782,-1.529] | [-0.470,-0.272] |
| R-squared | 0.107 | 0.039 |
| N | 20391 | 12404 |
| + p<0.10, \* p<0.05, \*\* p<0.01, \*\*\* p<0.001 Robust-standard error in parenthesis. 95% CI in bracket. |

Appendix C. Results (Outcome: Number of children less than three years old (N=20,391))

|  |  |
| --- | --- |
|  | Y=Number of children less than three years old |
|  | OLS | IPWRA | 2SLS | IV-Tobit |
|  | (1) | (2) | (3) | (4) |
| FDW in the household | 0.196\*\*\* | 0.183\*\*\* | 0.347\*\*\* | 0.348\*\*\* |
| (0.010) | (0.010) | (0.070) | (0.070) |
|  | [0.175,0.216] | [0.163,0.203] | [0.211,0.484] | [0.211,0.485] |
| Log-Monthly Household Income | -0.027\*\*\* |  | -0.053\*\*\* | -0.053\*\*\* |
| (0.007) |  | (0.014) | (0.014) |
|  | [-0.042,-0.013] |  | [-0.082,-0.025] | [-0.082,-0.025] |
| #r of elderly persons | -0.005 |  | -0.004 | -0.004 |
|  | (0.005) |  | (0.005) | (0.005) |
|  | [-0.015,0.005] |  | [-0.014,0.006] | [-0.014,0.006] |
| # of pupils | -0.132\*\*\* |  | -0.141\*\*\* | -0.141\*\*\* |
|  | (0.004) |  | (0.006) | (0.006) |
|  | [-0.139,-0.124] |  | [-0.153,-0.130] | [-0.153,-0.130] |
| Live in islands | 0.024 |  | 0.015 | 0.015 |
|  | (0.022) |  | (0.022) | (0.022) |
|  | [-0.019,0.067] |  | [-0.029,0.058] | [-0.029,0.059] |
| Age of wife | -0.019\*\*\* |  | -0.019\*\*\* | -0.019\*\*\* |
|  | (0.001) |  | (0.001) | (0.001) |
|  | [-0.020,-0.018] |  | [-0.020,-0.018] | [-0.020,-0.018] |
| Educationyrs of wife | 0.008\*\*\* |  | 0.006\*\*\* | 0.006\*\*\* |
| (0.001) |  | (0.001) | (0.001) |
|  | [0.006,0.010] |  | [0.004,0.008] | [0.004,0.008] |
| Single female | 0.096\*\*\* |  | 0.087\*\*\* | 0.087\*\*\* |
|  | (0.013) |  | (0.014) | (0.014) |
|  | [0.071,0.120] |  | [0.060,0.113] | [0.060,0.113] |
| First child is a daughter | 0.223\*\*\* |  | 0.214\*\*\* | 0.214\*\*\* |
| (0.007) |  | (0.008) | (0.008) |
|  | [0.209,0.237] |  | [0.197,0.230] | [0.197,0.230] |
| Income ratio | -0.163\*\*\* |  | -0.169\*\*\* | -0.169\*\*\* |
|  | (0.008) |  | (0.009) | (0.009) |
|  | [-0.180,-0.147] |  | [-0.187,-0.152] | [-0.187,-0.152] |
| Constant | 1.125\*\*\* |  | -0.053\*\*\* | -0.053\*\*\* |
|  | (0.078) |  | (0.014) | (0.014) |
|  | [0.971,1.278] |  | [-0.082,-0.025] | [-0.082,-0.025] |
| + p<0.10, \* p<0.05, \*\* p<0.01, \*\*\* p<0.001. Robust-standard error in parenthesis. 95% CI in bracket.About (1), the OLS estimation is represented. About (2), we show the average treatment effect on the treated using the IPWRA estimator. This estimator compares the outcome between treatment group (FDW employing households) and control group (Not- employment group) based on each treatment and control regression estimation. The control variables of outcome model in (2) is the same as (1); on the contrary, the treatment model includes the dummy variables of HOS and housing subsidy with the control variables of the outcome model. For brevity, we only represent the ATT results here. For (3), we employ the 2SLS model. For (4), we employ the IV-Tobit model. |

Appendix D. Results (Outcome: Number of children less than one years old (N=20,391))

|  |  |
| --- | --- |
|  | Y=Number of children less than one years old |
|  | OLS | IPWRA | 2SLS | IV-Tobit |
|  | (1) | (2) | (3) | (4) |
| FDW in the household | 0.048\*\*\* | 0.044\*\*\* | 0.058 | 0.058 |
| (0.007) | (0.007) | (0.045) | (0.045) |
|  | [0.035,0.061] | [0.031,0.057] | [-0.029,0.145] | [-0.029,0.146] |
| Log-Monthly Household Income | -0.003 |  | -0.005 | -0.005 |
| (0.005) |  | (0.009) | (0.009) |
|  | [-0.012,0.006] |  | [-0.023,0.013] | [-0.023,0.013] |
| #r of elderly persons | -0.004 |  | -0.004 | -0.004 |
|  | (0.003) |  | (0.003) | (0.003) |
|  | [-0.010,0.002] |  | [-0.010,0.002] | [-0.010,0.002] |
| # of pupils | -0.052\*\*\* |  | -0.052\*\*\* | -0.052\*\*\* |
|  | (0.002) |  | (0.004) | (0.004) |
|  | [-0.056,-0.047] |  | [-0.059,-0.045] | [-0.059,-0.045] |
| Live in islands | 0.017 |  | 0.016 | 0.016 |
|  | (0.014) |  | (0.014) | (0.014) |
|  | [-0.011,0.044] |  | [-0.011,0.043] | [-0.011,0.044] |
| Age of wife | -0.008\*\*\* |  | -0.008\*\*\* | -0.008\*\*\* |
|  | (0.000) |  | (0.000) | (0.000) |
|  | [-0.008,-0.007] |  | [-0.009,-0.007] | [-0.009,-0.007] |
| Educationyrs of wife | 0.003\*\*\* |  | 0.003\*\*\* | 0.003\*\*\* |
| (0.001) |  | (0.001) | (0.001) |
|  | [0.002,0.004] |  | [0.001,0.005] | [0.001,0.005] |
| Single female | 0.036\*\*\* |  | 0.035\*\*\* | 0.036\*\*\* |
|  | (0.008) |  | (0.008) | (0.008) |
|  | [0.021,0.051] |  | [0.019,0.052] | [0.019,0.052] |
| First child is a daughter | 0.080\*\*\* |  | 0.079\*\*\* | 0.079\*\*\* |
| (0.005) |  | (0.006) | (0.006) |
|  | [0.070,0.090] |  | [0.068,0.090] | [0.068,0.090] |
| Income ratio | -0.059\*\*\* |  | -0.060\*\*\* | -0.060\*\*\* |
|  | (0.005) |  | (0.005) | (0.005) |
|  | [-0.070,-0.049] |  | [-0.070,-0.049] | [-0.070,-0.049] |
| Constant | 0.370\*\*\* |  | 0.390\*\*\* | 0.390\*\*\* |
|  | (0.049) |  | (0.102) | (0.102) |
|  | [0.274,0.466] |  | [0.191,0.589] | [0.191,0.590] |
| + p<0.10, \* p<0.05, \*\* p<0.01, \*\*\* p<0.001. Robust-standard error in parenthesis. 95% CI in bracket.About (1), the OLS estimation is represented. About (2), we show the average treatment effect on the treated using the IPWRA estimator. This estimator compares the outcome between treatment group (FDW employing households) and control group (Not- employment group) based on each treatment and control regression estimation. The control variables of outcome model in (2) is the same as (1); on the contrary, the treatment model includes the dummy variables of HOS and housing subsidy with the control variables of the outcome model. For brevity, we only represent the ATT results here. For (3), we employ the 2SLS model. For (4), we employ the IV-Tobit model. |

Appendix E. Results (Exclude income-related control variables)

|  |  |
| --- | --- |
|  | Y=Number of infants |
|  | OLS | IPWRA | 2SLS | IV-Tobit |
| 　 | (1) | (2) | (3) | (4) |
| FDW in the household | 0.336\*\*\* | 0.323\*\*\* | 0.682\*\*\* | 0.683\*\*\* |
| (0.012) | (0.013) | (0.075) | (0.075) |
|  | [0.312,0.361] | [0.298,0.348] | [0.536,0.828] | [0.536,0.829] |
| N | 20391 |
|  | Y=Number of infants |
|  | OLS | IPWRA | 2SLS | IV-Tobit |
| 　 | (5) | (6) | (7) | (4) |
| FDWs work more than five years | 0.049+ | 0.04 | 2.701\*\*\* | 2.929\*\*\* |
| (0.026) | (0.025) | (0.371) | (0.413) |
| [-0.002,0.100] | [-0.009,0.089] | [1.973,3.429] | [2.120,3.738] |
| N | 12404 |
| + p<0.10, \* p<0.05, \*\* p<0.01, \*\*\* p<0.001. Robust-standard error in parenthesis. 95% CI in bracket. The outcome is the number of infants (Less than five years old). We estimate the models controlling Number of elderly persons, Number of pupils in the household, HHs that live in islands, Age of Females , Education years of females, Divorce/ Widow/ Separate dummy and First order's gender dummy (Exclude income-related variables). About (1), the OLS estimation is represented. About (2), we show the average treatment effect on the treated using the IPWRA estimator. This estimator compares the outcome between treatment group (FDW employing households) and control group (Not- employment group) based on each treatment and control regression estimation. The control variables of outcome model in (2) is the same as (1); on the contrary, the treatment model includes the dummy variables of HOS and housing subsidy with the control variables of the outcome model. For (3), we employ the 2SLS model. For (4), we employ the IV-Tobit model.  |

Appendix F. Summary statistics (Households employing the same FDWs more than 5 years)

|  |  |  |  |
| --- | --- | --- | --- |
| 　 | No 5 years FDW households(12,037 Households) | Households with the FDWs more than 5 years(367 Households) | P-value |
| Variable | Mean | Std. Dev. | Mean | Std. Dev. |
| Number of infants (Below 5 years) | 0.253 | 0.512 | 0.253 | 0.516 | 0.980 |
| Household monthly income | 31859.310 | 11747.640 | 38628.420 | 12301.050 | 0.00\*\*\* |
| Logged Household income | 10.299 | 0.377 | 10.502 | 0.364 | 0.00\*\*\* |
| # of family member | 3.740 | 1.199 | 4.970 | 1.057 | 0.00\*\*\* |
| # of elderly people (65 yrs old more) | 0.240 | 0.537 | 0.188 | 0.456 | 0.066 |
| # of children more than 5 yrs old | 0.622 | 0.751 | 1.163 | 0.686 | 0.00\*\*\* |
| Island living dummy | 0.020 | 0.139 | 0.016 | 0.127 | 0.657 |
| Age of wife/targeted lady | 38.272 | 5.169 | 39.594 | 3.918 | 0.00\*\*\* |
| Education of wife/targeted lady | 11.404 | 3.131 | 12.978 | 2.954 | 0.00\*\*\* |
| Working hours of wife/targeted lady | 26.707 | 22.656 | 27.670 | 22.009 | 0.422 |
| Log income of wife/targeted lady | 6.563 | 4.445 | 6.934 | 4.454 | 0.115 |
| Divorce/Separate/ Widow dummy | 0.037 | 0.189 | 0.035 | 0.185 | 0.864 |
| First child is daughter | 0.295 | 0.456 | 0.409 | 0.492 | 0.00\*\*\* |
| Income ratio between the couple(Female’s income/Couple’s income) | 0.424 | 0.372 | 0.439 | 0.360 | 0.456 |
| Log income of husband | 7.688 | 4.072 | 7.956 | 3.906 | 0.213 |
| Husband working hour | 36.273 | 22.147 | 35.891 | 21.151 | 0.744 |
| Marriage status of FDW | 　 | 0.722 | 0.449 | 　 |
| Education of FDW | 　 | 11.401 | 3.334 | 　 |
| Working hours of FDW | 　 | 58.662 | 14.023 | 　 |
| Logged FDW's income | 　 | 8.381 | 0.102 | 　 |
| Age of FDW | 　 | 37.902 | 6.539 | 　 |