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Article 1

PARENTAL CO-RESIDENCE: A CATALYST FOR WOMEN'S EMPLOYMENT OUTCOMES IN CAMBODIA?

Houy Sivly and Yuki Kanayama

Centre for Development Economics and Trade, CDRI

ABSTRACT

Co-residence with parents may decrease domestic or childcare responsibilities for women when their parents share household duties; however, the reverse may happen as parents age, leading to increased domestic responsibilities when older parents require more care. In our study, using the General Population Census of Cambodia 2019, we investigate how co-residence with parents is associated with women's occupational choices and how this relationship changes with parents' age. We present two findings. First, women living with their parents are more likely to start businesses or work in paid employment, and less likely to be homemakers or economically inactive. Second, women who live with older parents are more likely to become self-employed or economically inactive, and less likely to work in paid employment. Albeit much smaller, we find a similar change in employment outcomes among men. We present several policy implications. First, policymakers should examine whether domestic work prevents women from joining the labour force and consider time-saving interventions that are proven to boost female-led business performance. Next, employers should offer flexible work arrangements to help women balance caregiving responsibilities. Lastly, the government should invest in expanding caregiving initiatives.

KEYWORDS

Parental co-residence, women's employment outcome, labour force participation, childcare

Introduction

Although not a simple solution to poverty alleviation, female economic empowerment is closely linked to economic development (Duflo 2012). In particular, female labour force participation leads to positive socio-economic changes, including delayed marriage and lower fertility rates (Heath and Mobarak 2015), greater decision-making power for women within households (Molina and Tanaka 2023), and improvements in children's health and nutrition (Debela, Gehrke, and Qaim 2021)¹.

Thus, female labour force participation is often considered to contribute to long-term economic growth, promote gender equality, and achieve the Sustainable Development Goals.

According to the International Labour Organization, female labour force participation rates globally rose by 1.1 percentage points between 2004 and 2023, reaching 64.5 percent. In contrast, the participation rate for men decreased by 1.1 percentage points during the same period, standing at 92 percent (Carrillo 2024). This indicates that in 2023, there was a 27.5 percentage point difference in labour force participation between men and women. The Cambodia Socio-Economic Survey 2021 found that the labour force participation rate (aged between 15 and 64) was approximately 84 percent of the national working-age population (89 percent for men and 79 percent for women) (National Institute of Statistics 2022). The report

¹ Some papers have reported negative effects of female labour force participation on women (e.g., intimate partner violence) and their children (Charris, Branco, and Carrillo 2024), highlighting unintended consequences of female labour force participation. Although these findings should not be reasons to discourage women from working, policymakers may have to carefully design policies and combine female empowerment with complementary interventions to prevent these effects, especially where gender norms are persistent.

also found that women are less likely to participate in the labour force in all age groups.

Although female labour force participation rates have risen over time and become closer to men's participation rates, unpaid domestic or care work remains one of the main barriers for women's employment as it limits women's time to enter the labour force. According to Addati et al. (2018), 606 million women are unable to seek employment due to unpaid household responsibilities, compared to only 41 million men. This imbalance highlights that domestic work is a gender-specific issue. Furthermore, studies from Baker (2010) have consistently shown that despite being employed full-time, mothers predominantly shoulder the responsibilities of childcare and domestic chores. Recently, more attention has been paid to the "motherhood penalty", which means women have to juggle employment with caregiving roles and are more likely to leave the labour market upon childbirth (Kahn, Mangano, and Bianchi 2014).

Given the domestic responsibilities, co-residence with parents may help women remain economically active. Marcos (2022) found that within a shared household, grandmothers significantly contribute to helping mothers with domestic work and childcare. In the same study, data from Mexico showed that the absence or the death of grandmothers negatively affected women's employment. This is in contrast with other research where the responsibility of care work was found to increase when women live with their parents (Meurs and Giddings 2021).

To add a new perspective on the economic responsibility of care work, in the current study we examine whether the consequence of living with parents in terms of employment outcomes may change with parents' age. Using the General Population Census of Cambodia (GPCC) 2019, we investigate whether co-residence with parents is associated with women's occupational choices and whether the relationship between the two changes with parents' age.

Methodology

Our main data source is the GPCC, conducted by the National Institute of Statistics under the Ministry of Planning in Cambodia. To date, there have been

three full population censuses (1998, 2008, 2019) and two inter-censal surveys (2004, 2013). While the full censuses cover the entire population, the inter-censal surveys are nationally representative household surveys. The data capture key socio-economic changes in education, labour force, and demographic patterns.

In this study, we analyse the GPCC 2019 to examine the relationship between employment outcomes of household heads and their spouses and co-residence with their parents. The GPCC 2019 collects data from 15,552,211 individuals. For our analysis, we excluded observations based on three criteria: (1) provincial ID inconsistencies; (2) male single respondents due to unavailable data on the number of children; and (3) missing or inconsistent values for years of schooling. As the study mainly focuses on household heads and spouses, we also excluded children and other family members from our sample, resulting in a sample size of 6,171,326, with 58 percent being female.

Our main outcome variables show employment. By categorising the employment status of respondents, we construct three binary variables indicating whether respondents are 'self-employed', 'employees', and 'non-working'. 'Non-working' includes those who are an unpaid family worker, unemployed, inactive, or other. The 'employer' variable is not included because its share accounts for a very small proportion within the dataset. Next, we create a binary variable for 'co-residence with parents', which is equal to 1 if respondents live with their parents and 0 otherwise. To conduct subgroup analysis by parents' age, we obtain either the exact age of a co-residing parent (if there is only one co-living parent) or the average age of both the co-living mother and father. In regard to respondents' characteristics, we obtained years of schooling, marital status, number of children, and housing conditions (proxied by roof materials, wall materials, number of rooms, etc.). Table 1 presents the descriptive statistics of our sample.

To answer our research question, we estimate the following linear probability models for individual i who lives in province j and was born in year k . We use linear probability models because the outcome variables are binary. In this model, the dependent variable takes a value of 1 or 0, representing the

Table 1: Descriptive statistics

Variable	Observation	Mean	Standard deviation
Employment			
Employee (Binary)	6,171,326	0.203	
Self-employed (Binary)	6,171,326	0.478	
Non-working (Binary)	6,171,326	0.313	
Co-residence (Binary)	6,171,326	0.069	
Age	6,171,326	44.747	14.176
Parents' age	418,987	71.909	10.726
Female (Binary)	6,171,326	0.538	
Marital status			
Never married (Binary)	6,171,326	0.025	
Married (Binary)	6,171,326	0.916	
Widowed (Binary)	6,171,326	0.040	
Divorced (Binary)	6,171,326	0.017	
Separated (Binary)	6,171,326	0.001	
Number of children	6,171,326	2.764	1.909
Years of schooling	6,171,326	5.312	3.881
Parents' education	418,987	2.831	3.260

Note: For people who have more than 10 children, they are treated as 10 due to the questionnaire design.

occurrence of an event (e.g., working as self-employed or not). The first linear probability model is:

$$Y_{ijk} = \beta_0 + \beta_1 f_{ijk} + \beta_2 p_{ijk} + \beta_3 (f_{ijk} \times p_{ijk}) + \beta_4 Z_{ijk} + \alpha_j + \theta_k + \epsilon_{ijk}$$

In the regression, Y_{ijk} represents the employment outcomes of individual i , born in province j , in year k . As explained above, there are three binary variables showing respondents' employment outcomes: self-employed, employees, and non-working. f_{ijk} is a binary variable for female respondents, p_{ijk} is a binary variable for respondents' co-residence with their parents, $f_{ijk} \times p_{ijk}$ is the interaction term between the two, showing the gender difference in the relationship between co-residence with parents and employment outcomes. Thus, β_3 is the main coefficient of interest. Z is a vector of control variables such as respondents' marital status, years of schooling, housing condition and the number of children. α_j and θ_k are province and cohort fixed effect, respectively, and ϵ_{ijk} is the error term. We use robust standard errors.

The second linear probability model is:

$$Y_{ijk} = \beta_0 + \beta_1 f_{ijk} + \beta_2 t_{ijk} + \beta_3 (f_{ijk} \times t_{ijk}) + \beta_4 Z_{ijk} + \alpha_j + \theta_k + \epsilon_{ijk}$$

In the regression, Y_{ijk} represents the employment outcomes of individual i , born in province j , in year k . The three binary variables showing respondents' employment outcomes are the same as the first model. f_{ijk} is a binary variable for female respondents, t_{ijk} is a continuous variable for parents' age, $f_{ijk} \times t_{ijk}$ is the interaction term between the two, showing the gender difference in the relationship between parents' age and employment outcomes of respondent who are living with parents². Thus, β_3 is the main coefficient of interest. Z is a vector of control variables, which are parents' education level, respondents' marital status, years of schooling and the number of children. α_j and θ_k are province and cohort fixed effect, respectively, and ϵ_{ijk} is the error term. We also use robust standard errors.

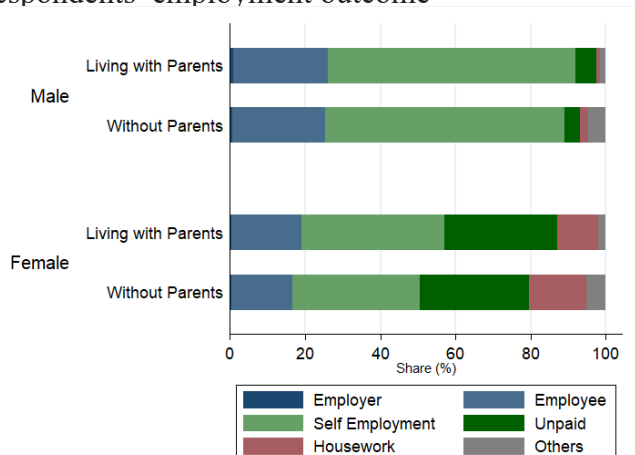
Results

Figure 1 shows the difference in the employment outcomes by gender and co-residence status. It illustrates that co-residence with parents³ slightly

2 As we do not have data on parents' age if respondents do not live with their parents, this regression only includes people who live with their parents.

3 Almost 50 percent of parents are inactive and 34 percent of them are in unpaid employment.

Figure 1: Co-residence with parents and respondents' employment outcome



Note: The “Other” category includes those who are unemployed, inactive, or uncategorised employment outcomes. The share of employers is very small in our data and may be unclear in Figure 1.

changes male employment outcomes. Men who are living with parents are more likely to work as self-employed by 2.12 percentage points or unpaid family workers by 1.39 percentage points whereas their likelihood of being economically inactive decreases by 2.81 percentage points. In contrast, when living with parents, women are less likely to work as unpaid family workers by 0.99 percentage points, homemakers by 4.43 percentage points, or become economically inactive by 2.79 percentage points, and more likely to work as employees by 2.27 percentage points or self-employed workers by 4.18 percentage points.

To test this pattern in Figure 1, the regression results are presented in Table 2. In the first two columns (1 and 2), the outcome is a binary variable for self-employment. The coefficient on co-residence shows that men who live with parents are 2.12 percentage points (or 0.65 percentage points in Column 2) more likely to be self-employed, which is statistically significant at the 1 percent level. Moreover, we find that women who do not live with parents (compared to men who do not live with parents) are 29.9 percentage points less likely to be self-employed, which is statistically significant at the 1 percent level. Finally, the relationship between the likelihood of working as self-employed and co-residence with parents is larger for women; as shown by the coefficient on the interaction term. The coefficients are estimated at 2.06 percentage points in Column 1 and 2.6 percentage points in Column 2, which are statistically significant at the 1 percent level.

In Columns 3 and 4, the outcome variable shows whether respondents are working as employees or not. First, we find that men who live with their parents are 0.61 percentage points more likely to work as employees, which is statistically significant at the 1 percent level. However, when we include control variables in Column 4, this reverses and we find that they are 0.54 percentage points less likely to work as employees. In addition, we find that the relationship between the likelihood of working as employees and co-residence with parents is larger

Table 2: Employment outcomes and co-residence with parents

	Self-employed		Employee		Non-working	
	(1)	(2)	(3)	(4)	(5)	(6)
Co-residence	0.0212*** (0.00111)	0.00658*** (0.00106)	0.00616*** (0.00102)	-0.00549*** (0.000947)	-0.0282*** (0.000643)	-0.00152** (0.000645)
Female	-0.299*** (0.000399)	-0.319*** (0.000393)	-0.0844*** (0.000338)	-0.0676*** (0.000316)	0.387*** (0.000343)	0.389*** (0.000343)
Female x co-residence	0.0206*** (0.00152)	0.0260*** (0.00147)	0.0165*** (0.00131)	0.0101*** (0.00122)	-0.0370*** (0.00125)	-0.0359*** (0.00122)
Province FE	No	Yes	No	Yes	No	Yes
Cohort FE	No	Yes	No	Yes	No	Yes
Other controls	No	Yes	No	Yes	No	Yes
Observations	6,171,326	6,171,326	6,171,326	6,171,326	6,171,326	6,171,326

Note: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Control variables are respondents' marital status, years of schooling, housing condition and number of children.

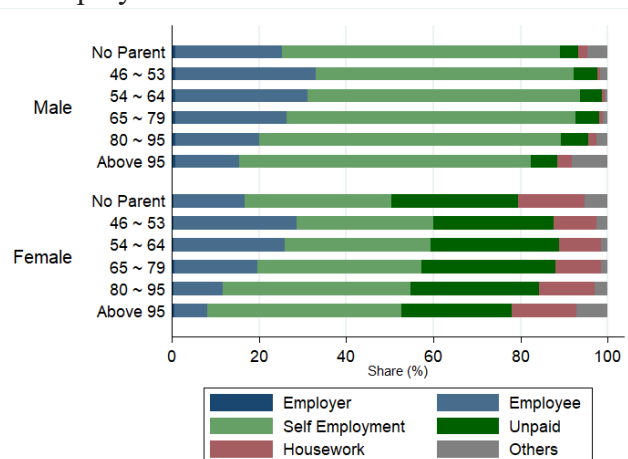
among women, suggesting that the economic benefits of co-residence are larger for women in terms of paid employment.

In the last two columns of Table 2 (5 and 6), we find that co-residence with parents is negatively associated with the likelihood of non-working among men. This was statistically significant at the 1 percent and 5 percent levels in Columns 5 and 6, respectively. As in other outcomes, after we include control variables, the coefficient becomes smaller in absolute terms. Looking at the coefficient on the interaction term in Columns 5 and 6, we find that the benefits of co-residence with parents are bigger for women, meaning a bigger decrease in the likelihood of non-working among female respondents.

Based on our analysis, we find that co-residence with parents is positively associated with the probability that women engage in paid employment or start their businesses and negatively associated with their likelihood of being homemakers or economically inactive. A similar change in employment outcomes is evident but considerably smaller among male respondents.

The relationship between employment outcomes and co-residence with parents may differ by parents' age. Figure 2 shows that the younger the parents are, the higher the percentage of women participating in employment is. Younger parents are often more active and mobile; therefore, they are able to support with domestic work, which allows women the flexibility to start a business or engage in paid employment. However, it also suggests that

Figure 2: Co-residence with parents, parents' age, and employment outcome



Note: The “Other” category includes those who are unemployed, inactive, or uncategorised employment outcomes.

when parents get older, the benefits of living with their mother or father are reduced for women. This is likely when women take on more housework responsibilities and care for their elderly parents.

Using regression analysis, we examine the pattern in Figure 2. Table 3 shows the regression results. The sample in this regression only includes people who are living with parents. In the first two columns, the outcome is a binary variable for self-employment. First, the coefficient on parents' age indicates that a one-year increase in parents' age is associated with an increase in the probability of being self-employed by 0.27 percentage points and 0.06 percentage points in Column 1 and 2 among men, respectively, which is statistically significant

Table 3: Employment outcome and parents' age

	Self-employed		Employee		Non-working	
	(1)	(2)	(3)	(4)	(5)	(6)
Parents' age	0.00276*** (0.000102)	0.000602*** (0.000112)	-0.00406*** (9.20e-05)	-0.00106*** (9.74e-05)	0.00128*** (6.46e-05)	0.000425*** (7.72e-05)
Female	-0.339*** (0.0101)	-0.286*** (0.00982)	0.0143 (0.00879)	0.00882 (0.00822)	0.326*** (0.00840)	0.277*** (0.00822)
Female x Parents' age	0.000791*** (0.000139)	-0.000179 (0.000135)	-0.00109*** (0.000118)	-0.000786*** (0.000111)	0.000319*** (0.000116)	0.000981*** (0.000114)
Province FE	No	Yes	No	Yes	No	Yes
Cohort FE	No	Yes	No	Yes	No	Yes
Other control variables	No	Yes	No	Yes	No	Yes
Observations	418,987	418,987	418,987	418,987	418,987	418,987

Note: *** p<0.01, ** p<0.05, * p<0.1

Control variables are parents' education level, respondents' marital status, years of schooling and number of children.

at the 1 percent level. In addition, we find that the coefficient on the interaction terms in Column 2 is in the opposite direction to the coefficient in Column 1, and the coefficient is not statistically significant at the 10 percent level in Column 2. Thus, the coefficients in Columns 1 and 2 suggest that although parents' age is associated with higher likelihood of self-employment, the relationship is very weak, and the gender difference is not statistically different from zero.

In Columns 3 and 4, the outcome variable shows whether respondents are working as employees or not. First, we find that with a one-year increase in parents' age, men are 0.4 percentage points (or 0.1 percentage points in Column 4) less likely to work as employees, which is statistically significant at the 1 percent level. Additionally, the coefficients on the interaction term in Columns 3 and 4 indicate that women are even less likely to work as employees than men as their parents get older.

In the last two columns, we find that an increase in parents' age is also associated with the likelihood of non-working. For men, we find that a one-year increase in parents' age is positively associated with the likelihood of non-working, which is statistically significant at the 1 percent level in Columns 5 and 6. For the interaction term of both columns, we find that, with a one-year increase in parents' age, women's likelihood of non-working increases by 0.03 and 0.09 percentage points in Columns 5 and 6, respectively, meaning that there is a bigger increase in the likelihood of non-working among female respondents.

Discussion

Despite increasing awareness of the disproportionate impact that domestic care work has on women's employment, only a few studies examine how co-residence with parents is associated with women's occupational choices and whether the relationship between the two changes with parents' age. To add to the growing literature, we used the latest population census in Cambodia to understand the relationship between employment outcomes of household heads and spouses and co-residence with their parents.

In this research, we find that co-residence with parents is positively associated with the probability

of women starting their own businesses and engaging in formal employment, and negatively with their likelihood of being homemakers or economically inactive. This could be because parents support women with the domestic labour. The study also finds that this relationship changes with parents' age. Men and women who live with older parents are less likely to work as employed workers and more likely to engage in self-employment or stay inactive.

Posadas and Vidal-Fernandez (2013) found that women in the United States could overcome child penalty and enter the labour market by living with parents, which corroborates the results of the present study. We further contribute to the literature by uncovering more nuanced relationships between elderly and childcare and employment outcomes. Although we do find negative effects of living with older parents on women's employment outcomes, we also show that younger parents help women work by supporting with the domestic labour. Furthermore, men's employment outcomes are also associated with co-residing parents, which is largely overlooked in previous studies.

The findings of this research provide policy implications. First, policymakers should further examine whether domestic work prevents women from labour force participation and how policies can alleviate gendered responsibility of household chores. Recent research has shown that time-saving interventions (e.g., free meals or laundry services) improved business performance in female-led firms (Delecourt 2025). More studies are needed to understand how policymakers can help women fully participate in the labour force. Second, employers should provide employees (especially female employees) with the option of working from home or having flexible hours for those who have to look after senior family members and children. Such policies could help companies attract and retain talented female employees as women tend to switch to flexible jobs upon childbirth (Bittman et al. 2007). Third, the government should consider investing more in childcare programmes and elderly care services by enhancing the quality and quantity, reducing costs through subsidies, and increasing the availability/accessibility to all people.

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