Moving Home: Non-Market Insurance and Labour Market Risk

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1 Introduction

In 2023, more than half of renter households spent above 30% of their gross income on housing costs. Non-discretionary spending such as housing exacerbates consumption losses while unemployed and induces self-insurance via moving home with a close family member. This labour market insurance motive is evidenced in Kaplan (2012)[1] which shows non-college young men aged 17-22 use the option to move home with a parent as a form of labour market insurance. I use data from the Health and Retirement Study to show this channel of labour market insurance is operative for all children into middle age. Further, I estimate a structural lifecycle model of individuals who can insure against unemployment risk via saving or moving home. Consumers choose a submarket within a directed search framework which further influences their unemployment risk. I find that for the average worker the option to move home is equivalent in welfare terms to a tripling of the unemployment insurance benefit.

2 Empirical Motivation

A primary challenge to identifying this housing-based insurance mechanism is isolating motives for migration into coresidence. One can imagine many reasons for adult children and parents to coreside, and they are not limited to unemployment risk. From the perspective of the adcult child, moving home can be the response to a divorce or separation, particularly when the outside option for housing is expensive. Considering aging parents, coresidence may arise as a response to growing complex health needs. To disentangle these factors from

[1]Kaplan, G. (2012). Moving Back Home: Insurance Against Labor Market Risk. *Journal of Political Economy, 120*(3), 446-512.

the labour market insurance motive I require data that reports these additional factors as well as links parents and children across a variety of ages.

2.1 Data

The Health and Retirement Study (HRS) is a panel of longitudinal survey data centered around aging adults and their families. It is maintained by the University of Michigan and the National Institute on Aging. The study surveys approximately 20,000 households every two years beginning in 1998. One relative strength of the HRS is repeated linkages between parents and children, particularly as the children age alongside their parents. Additionally, the survey reports a variety of non-standard parent characteristics such as health conditions, eldercare needs, and financial support to adult children. Using the health and eldercare information, I can isolate the motive among children to move home to be conditional on labour market outcomes exclusively. Identifying this insurance mechanism is the primary empirical contribution of this paper.

For convenience, I use the HRS Family File cleaned by the RAND Corporation which links the 20,000 parent households to 55,000 children up to 2018. This setting allows me to avoid the coresidence and employment impacts of the COVID-19 global pandemic. Additionally, I restrict the HRS sample to exclude post-secondary students as I assume they interact with the labour market and its risk distinctly from those seeking full-time employment. To further control health and eldercare motives for coresidence I restrict child ages from 20 to 40 years of age.

Because this analysis is based on flows around coresidence and employment, my key observable characteristics are constructed from two subsequent survey waves. For a worker to have moved home, it is not sufficient for them to live with a parent in any given wave. Workers must first live independently, then in a subsequent wave be living with one or both parents. Similarly, to observe job separations I use a cross-wave variable for workers moving from employment to unemployment as well as employment to employment. The data on employment states is noisy and infrequent, so I cannot say who among the Employed-Unemployed group were separated voluntarily (i.e. quits) versus involuntary (layoffs) or who among the Employed-Employed have stayed with a consistent employer and who have experienced a job separation between survey waves but were able to find employment again. Since these key observables depend on two waves for identification, I drop the first wave (1998) from the analysis.

Previous work on unemployment risk often leverages higher-frequency datasets such as the National Longitudinal Survey of Youth (1997 Cohort). HRS interviews are two years apart - however, adult children are questioned on their coresidence status well into middle-age. This contrasts with existing work from the NLSY97, where parental coresidence is reported until 2009 – when the oldest members of the cohort were 29. This longer series of coresidence information allows me identify that an insurance channel previously only examined for young men is present for all workers well into middle age.

2.2 Labour Market Coresidence Motive

The analysis in this paper is centered around the observation that a larger share of adult children move home when experiencing a transition from employment to unemployment relative to peers who are persistently employed. This observation, shown in Figure 1, is representative of non-market insurance against labour market risk via in-kind housing services. Existing work from Kaplan (2012) identifies this mechanism for non-college men aged 17 to 22. In this section, I expand this understanding to all workers up to age 40 while controlling for parent and child characteristics.

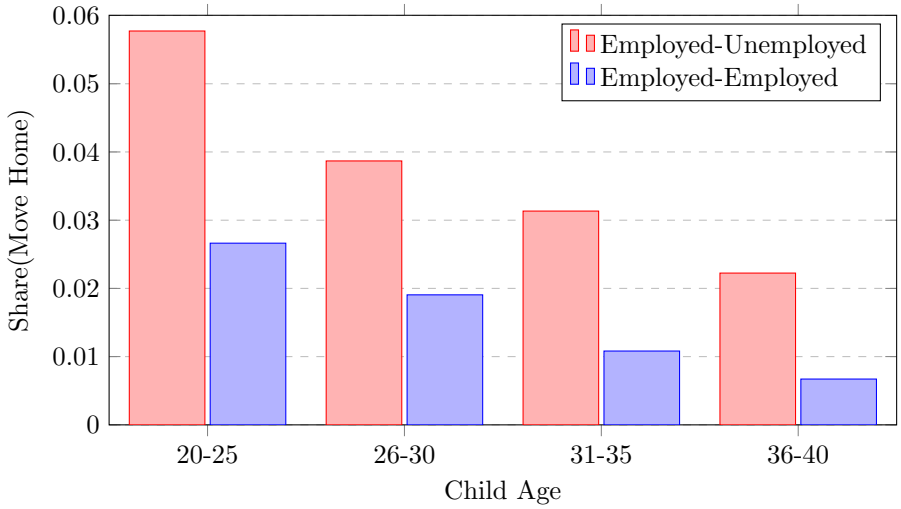


Figure 1: From ages 20 to 40, workers transitioning into unemployment move home relatively more than workers who remain employed

To identify the existence of this labour market insurance channel via non-market housing arrangements, I employ a probit regression of cross-wave employment flows on workers' move home choice. A worker is considered to have "moved home" if in one survey period they are living independently and in a subsequent period are living with a parent.

$$Pr(MoveHome) = \alpha_0 + \boldsymbol{\alpha}\ Year + \boldsymbol{\beta}\ \boldsymbol{X^c} + \boldsymbol{\gamma}\ \boldsymbol{X^p} + \boldsymbol{\delta}\ \boldsymbol{X^h} + \boldsymbol{\eta}\ \boldsymbol{X^e} + \epsilon$$

Where $\boldsymbol{\alpha}$ is a vector of year fixed-effects. X^c, X^p, X^h, X^e are vectors of characteristics for children, parents, parent health, and parent eldercare needs with associated vectors of coefficients $\boldsymbol{\beta}$, $\boldsymbol{\gamma}$, $\boldsymbol{\delta}$, $\boldsymbol{\eta}$.[2] The primary covariates are employment flows: specifically for workers who are employed through two subsequent periods ("employed-employed") and those who separate from employment for

[2]See appendix for a complete list of covariates and the full regression specificiation

any reason ("employed-unemployed"). Additional controls include child characteristics such as income, education. marital status, and financial transfers from parents as well parent characteristics including assets, home values, education, and health conditions.

Table 1: Average Marginal Effects on Pr(Move Home)

Independent Variable	**AME**	**p-value**
Child Income		
<10K	*Base*	
10–35K	−0.01155	0.000
35–70K	−0.02003	0.000
70–100K	−0.02035	0.000
100K+	−0.02411	0.000
Child Age		
20–25	*Base*	
26–30	−0.00629	0.001
31–35	−0.00837	0.000
36–40	−0.01244	0.000
Child Employment Transition		
E–E	*Base*	
E–U	0.01588	0.000
U–E	0.00353	0.040
U–U	0.00331	0.079
Parent Assets	-1.84×10^{-9}	0.021
Parent Home Value	3.86×10^{-9}	0.002
Parent Employment		
Not Working	*Base*	
Part-time Work	0.00160	0.457
Full-time Work	0.00318	0.008

Workers experiencing an E-U transition are 2.3× more likely to move home with a parent relative to an identical worker with an E-E transition. The likelihood of an adult child moving home is decreasing in their income and age, suggesting that workers in an E-U transition will self-insure via residual earnings from employment before they elect to move in with a parent.

2.3 Non-Labour Market Coresidence Motives

Extensive sub-sampling is done on the raw HRS Family File to identify (1) the direction of those who move home, and (2) rule out non-labour market

motives for moving home. I will begin with the former: ensuring that when adult children enter into coresidence they are in fact moving back in with their parents instead of hosting them in their own homes. This is related to the latter issue, the confounding nature of eldercare responsibilities on move home flows.

The first adjustment I make is to create a categorical variable for the inferred direction of coresidence based on home ownership. I assume that if, in the survey period when coresidence begins, the child is a homeowner and the parent is not, then the child is hosting the parent. In other words, coresidence happens because the parent has some need, financial, medical, or otherwise instead of the child relying on parents as labour market insurance. In contrast, if the parent is a homeowner and the child is not, I assume the child is moving home in the sense they are returning to living with their parents after some period of independence. This scheme results in approximately two thirds of observations where a child enters coresidence having an identifiable direction; those left unidentified are excluded from the sample.

2.4 Robustness: HRS versus NLSY97

As an exercise to ensure the HRS conforms with previously reported results by Kaplan (2012) I will plot the share of E-U and E-E children who move home for a set of ages where the two datasets align. The NLSY97 uses an annual sample of children and the HRS employs a biannual sample of aging adults. While these samples vary significantly, the key empirical trend of this paper holds. The share of workers who move home is much larger among those who experience a job separation relative to those who remain employed in two survey waves. This is true for a variety of ages and holds when the NLSY97 is transformed into biannual frequency to ensure greater comparability with the HRS.

3 Model

This paper leverages an overlapping generations lifecycle model of consumption, savings, and coresidence. The main non-standard feature is the option workers have to move home, dependent on age.

3.1 Consumers

Consumers are the primary decision-makers in this model. As is typical in lifecycle models, they choose allocations for consumption (c) and savings (a') at every age. During their working life and while not employed, they choose a submarket in which to search indexed by piece-rate (ϕ) and their individual-specific productivity (ϵ). If matched, they earn an after-tax piece-rate of output as their wage; if unmatched, they receive a government-financed unemployment benefit b

All consumers in this environment are considered to be adult children in the context of multigenerational coresidence. This means that for each consumer

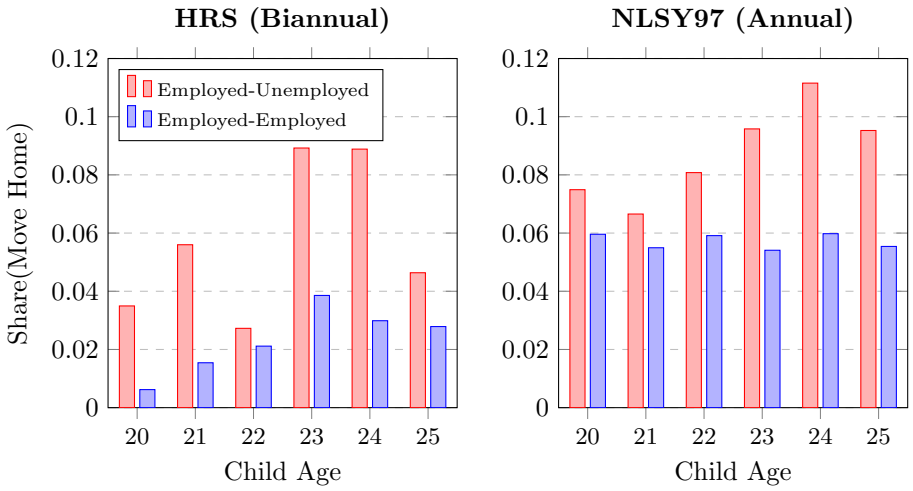


Figure 2: From ages 20-25, workers experiencing an E-U transition are more likely to move home than those in an E-E transition

there is some unmodelled agent, a parent, who is older than the child and provides non-market housing while they are able. When choosing where to live, consumers face a trade-off between independence utility (χ) and the cost of rental housing (κ_h). If they live at home, they can avoid the cost of housing but forgo the utility benefits of living independently. This decision is subject to a Type-I extreme value taste shock (ξ^c, ξ^i).

$$U(a, \epsilon, \phi, a', d_h) = \frac{c^{1-\sigma}}{1-\sigma} + d_h\chi$$

subject to

$$c + a' = (1-\tau)\phi\epsilon + (1+r)a' - d_h\kappa_h$$

when employed, and

$$c + a' = b + (1+r)a' - d_h\kappa_h$$

when unemployed

3.2 Firms and Search

A representative firm chooses whether or not to post in each submarket at common cost κ_p, indexed by a required productivity for workers and a piece-rate of output that constitutes the wage. This decision is governed by the free-entry condition and zero-expected profits.

$$q(\theta(j,\epsilon,a))\Pi(j,\epsilon,\phi) - \kappa_p = 0$$

where the firm's output is:

$$\Pi(j,\epsilon,\phi) = (1-\tau)(1-\phi)\epsilon$$

and the job-filling rate is:

$$q(\theta(j,\epsilon,\phi)) = \frac{M(u,v)}{v} = \frac{u}{(u^\alpha + v^\alpha)^{1/\alpha}}$$

During working ages, consumers enter into each period either matched from a previous search process or unmatched and searching. At age 18, all consumers begin unmatched and find a job with probability $f(j,\epsilon,\phi)$. When a match is formed, it remains until at least the next period. Employed consumers face a job destruction shock (δ) at the same time as unmatched consumers search. This results in an environment where a worker who loses their match must wait until the following period to search again.

The value of search for a consumer is:

$$V_s(j,a,\epsilon) = \max_{\phi} \left\{ f(\theta(j,a,\epsilon))V_u(j,a,\epsilon) + [1 - f(\theta(j,\epsilon,\phi))]V_e(j,a,\epsilon,\phi) \right\}$$

where the submarket-specific job-finding rate for consumers is:

$$f(j,\epsilon,\phi) = \frac{M(u,v)}{u} = \frac{v}{(u^\alpha + v^\alpha)^{1/\alpha}}$$

The value of unemployment is:

$$V_u(j,a,\epsilon) = \max \mathbf{E}_{\xi^c,\xi^i} \left\{ V_u^{cores}(j,a,\epsilon) + \xi^c, V_u^{indep}(j,a,\epsilon) + \xi^i \right\}$$

and the value of unemployment conditional on coresidence and living independently are:

$$V_u^{cores}(j,a,\epsilon) = \max_{a' \geq 0} \left\{ \frac{[b + (1+r)a - a']1 - \sigma}{1-\sigma} + \beta V_s(j+1,a',\epsilon) \right\}$$
$$V_u^{indep}(j,a,\epsilon) = \max_{a' \geq 0} \left\{ \frac{[b + (1+r)a - a' - \kappa_h]^{1-\sigma}}{1-\sigma} + \chi + \beta V_s(j+1,a',\epsilon) \right\}$$

The value of employment is defined similarly:

$$V_e(j,a,\epsilon,\phi) = \max \mathbf{E}_{\xi^c,\xi^i} \left\{ V_e^{cores}(j,a,\epsilon,\phi) + \xi^c, V_e^{indep}(j,a,\epsilon,\phi) \right\}$$

where:

$$V_e^{cores}(j,a,\epsilon,\phi) = \max_{a' \geq 0} \Bigg\{ \frac{[(1-\tau)\epsilon\phi + (1+r)a - a']^{1-\sigma}}{1-\sigma} + \beta[(1-\delta)V_e(j+1,a',\epsilon,\phi) + \delta V_u(j+1,a',\epsilon)] \Bigg\}$$

$$V_e^{indep}(j,a,\epsilon,\phi) = \max_{a' \geq 0} \Bigg\{ \frac{[(1-\tau)\epsilon\phi + (1+r)a - a' - \kappa_h]^{1-\sigma}}{1-\sigma} + \chi + \beta[(1-\delta)V_e(j+1,a',\epsilon,\phi) + \delta V_u(j+1,a',\epsilon)] \Bigg\}$$

3.3 Government Budget Constraint, Unemployment Insurance, and Pensions

The government levies a proportional tax (τ) on wages to finance unemployment (b) and retirement benefits (S). The government budget constraint is:

$$\int \tau\epsilon\phi \; d\omega_e(j,a,\epsilon,\phi) = \int b \; d\omega_u(j,a,\epsilon) + \int S \; d\omega_r(j,a)$$

where ω_e, ω_u, and ω_r are the stationary distributions of

3.4 Model Assumptions

In this model, the availability of non-market housing is conditional only on the age of the child and parent. Consumers always have the option to move home up to age 40; this corresponds to a parent's age of 70. Beyond this point in the lifecycle, parents face mortality risk and children can no longer move home. This restriction on coresidence by age is designed to limit motives for moving home to assisting the child with employment risk rather than to assist the parent with eldercare needs.

3.5 Equilibrium

There is an equilibrium in this model such that:

1. Consumers choose their optimal consumption, savings, housing, and piece-rates
2. Firms post in submarkets where there are expected profits
3. Government's choose a proportional income tax rate to balance its budget constraint

4 Results

4.1 Calibration

4.1.1 External Parameters

	Parameter	Value	Source
α	Match Elasticity	1.27	Den Haan et al (2000)
δ	Job Destruction Rate	0.02	E-U Share (HRS)
σ	Risk Aversion	2.00	
β	Discount Factor	0.96	
r	Interest Rate	0.04	

Table 2: Parameters Calibrated Externally to the Model

The two main externally estimated parameters for this model are the match elasticity (α), taken from the seminal paper by Den Haan, Ramey, and Watson (2000)[3] and the job destruction rate (δ) taken from the HRS as an annualized estimate for Employment-Unemployment flows. Consumer risk aversion (σ), discount factor (β), and interest rate (r) are taken at values standard from the literature.

4.1.2 Internal Parameters

	Parameter	Value	Target	Model	Data
κ_h	Cost of Housing	.1171	Rent-to-Income Ratio	*.0500*	
χ	Independence Utility	4.703	E-U Move Home Share	*.0413*	*.0413*
η	EV Distribution Scale	1.000	Coresidence Share	*.0273*	*.1460*
κ_j	Cost of Posting	.0034	Unemployment Share[a]	*.0478*	*.0420*
b	UI Benefit	.2454	UI Exp. to Income Ratio[b]	*.0042*	*.0042*
S	Social Security Benefit	.7537	SS Exp. to Income Ratio[c]	*.0525*	*.0525*
σ_ϵ	St. Dev. Productivity	.8868	SD Log Earnings (Age 26-30)[d]	*.9000*	*.9000*

Table 3: Parameters Calibrated Internally to the Model

[a] Bureau of Labor Statistics (2025)

[b,c] Bureau of Economic Analysis (2024)

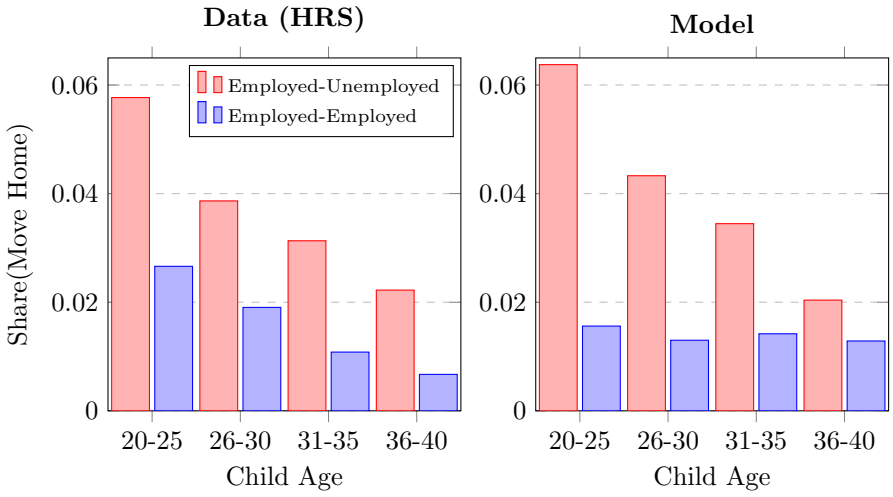
[d] Kuhn & Ríos-Rull (2013)[4]

A summary of the internal parameter estimates can be found in Table 3

[3] Den Haan, W. J., Ramey, G., Watson, J. (2000). Job Destruction and Propogation of Shocks. *The American Economic Review, 90*(3), 482-498.

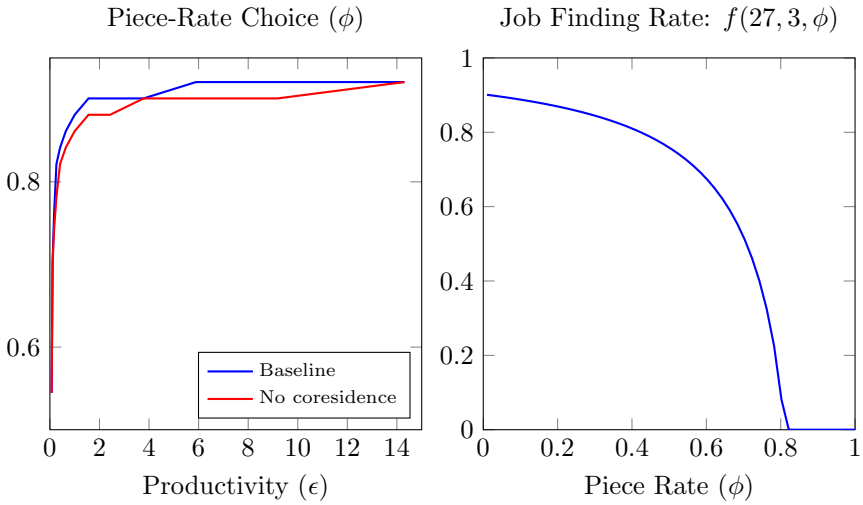
[4] Kuhn, M., Ríos-Rull, J. V. (2013). 2013 Update on the U.S. Earnings, Income, and Wealth Distributional Facts: A View from Macroeconomics. *Federal Reserve Bank of Minneapolis: Quarterly Review, 37*(1).

4.2 Model Validation



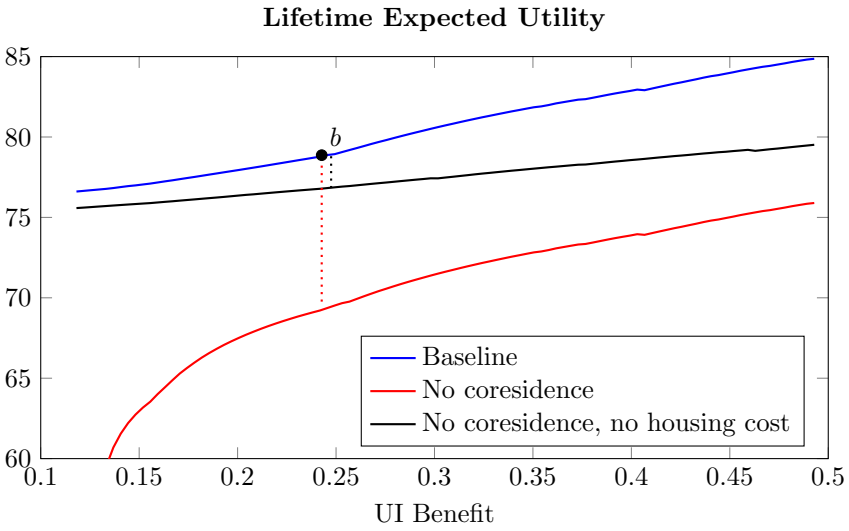
The model matches two key features of the Health and Retirement Study. First, workers experiencing an Employed-to-Unemployed transition are significantly more likely to move home than peers in an Employed-to-Employed transition. Second, the magnitude of this effect is decreasing in the worker's age. The first feature is evidence of the insurance mechanism against labour market risk. The second has several implications. First, as workers age they are more able to self-insure in their household rather than move home. For example, they may have a spouse who also works, or established savings or home equity that enables them to weather an unemployment spell. Second, as parents age they are less able to provide housing-based insurance to their children as their own eldercare needs rise.

4.3 Job Search Behaviour



Consumers who have access to the option to live at home search in submarkets with higher piece-rates and lower job finding probabilities. This is because unemployment is much less costly when the cost of housing is avoidable by moving home with a parent.

4.4 Welfare from Coresidence



The vertical distance is an estimate of the welfare from the coresidence option in terms of the optimal UI benefit. For a new consumer under the veil of

ignorance, the option to move home until age 40 is worth approximately three times the unemployment benefit.

5 Appendix

The vectors of characteristics are as follows.

- Child characteristics: $\boldsymbol{X^c}$ = {Income, Education, Age, Gender, Employment Transition, Marital Status, Parental Status}
- Parent characteristics: $\boldsymbol{X^p}$ = {Income, Assets, Primary Residence Value, Education, Employment}
- Parent health characteristics: $\boldsymbol{X^h}$ = {High Blood Pressure, Diabetes, Lung Disease, Heart Disease, Ever Had Stroke, Ever Had Cancer}
- Eldercare characteristics: $\boldsymbol{X^e}$ = {Child Helps with ADLs, Child Helps with IADLs, Child Intends to Help in Future}

Activities of daily living (ADLs) consist of the most basic tasks one must perform to take care of themselves. This includes hygiene, dressing, meal preparation, and others. In contrast, instrumental activities of daily living (IADLs) refer to more complex but necessary tasks for self-reliance such as meal planning, transportation, and keeping appointments. In general, aging adults will require assistance with IADLs before they require assistance with ADLs.

Probit regression specification:

$$
\begin{aligned}
Pr(MoveHome) = \alpha_0 &+ \boldsymbol{\alpha} Year && + \beta_1 ChildIncome \\
&+ \beta_2 ChildEducation && + \beta_3 ChildAge \\
&+ \beta_4 ChildGender && + \beta_5 ChildEmploymentTransition \\
&+ \beta_6 ChildMaritalStatus && + \beta_7 ChildParentalStatus \\
&+ \eta_1 ChildHelpADL && + \eta_2 ChildHelpIADL \\
&+ \eta_3 ChildIntendsHelp && + \gamma_1 ParentIncome \\
&+ \gamma_2 ParentAssets && + \gamma_3 ParentHomeValue \\
&+ \gamma_4 ParentEducation && + \gamma_5 ParentEmployment \\
&+ \delta_1 ParentHighBP && + \delta_2 ParentDiabetes \\
&+ \delta_3 ParentHadCancer && + \delta_4 ParentLungDisease \\
&+ \delta_5 ParentHeartDisease && + \delta_6 ParentHadStroke
\end{aligned}
$$

Table 4: Average Marginal Effects on Pr(Move Home)

Independent Variable	AME	p-value
Year		
2000	*Base*	
2002	0.00246	0.182
2004	0.00483	0.023
2006	0.00024	0.898
2008	0.00738	0.001
2010	0.00369	0.076
2012	0.00466	0.016
2014	0.00504	0.020
2016	0.00782	0.000
2018	0.01095	0.000
Child Income		
<10K	*Base*	
10–35K	−0.01155	0.000
35–70K	−0.02003	0.000
70–100K	−0.02035	0.000
100K+	−0.02411	0.000
Child Education		
Less Than High School	*Base*	
High School Graduate	−0.00433	0.193
Partial College Completion	0.00203	0.563
College and Above	−0.00141	0.669
Child Age		
20–25	*Base*	
26–30	−0.00629	0.001
31–35	−0.00837	0.000
36–40	−0.01244	0.000
Child Employment Transition		
E–E	*Base*	
E–U	0.01588	0.000
U–E	0.00353	0.040
U–U	0.00331	0.079
Child Gender (Female)	−0.00338	0.000
Child Marital Status	−0.02618	0.000
Child Parental Status	0.00034	0.790
Child Helps w/ ADLs	0.01627	0.007
Child Helps w/ IADLs	0.01269	0.007
Child Intends to Help in Future	0.01125	0.000

Continued on next page

Table 4: Average Marginal Effects on Pr(Move Home) (continued)

Independent Variable	**AME**	**p-value**
Parent Income	6.22×10^{-10}	0.802
Parent Assets	-1.84×10^{-9}	0.021
Parent Home Value	3.86×10^{-9}	0.002
Parent Education		
Less Than High School	*Base*	
GED	−0.00300	0.263
High School Graduate	0.00412	0.028
Partial College Completion	0.00276	0.135
College and Above	0.00397	0.037
Parent Employment		
Not Working	*Base*	
Part-time Work	0.00160	0.457
Full-time Work	0.00318	0.008
Parent has High Blood Pressure	−0.00091	0.435
Parent has Diabetes	−0.00007	0.960
Parent has ever had Cancer	−0.00107	0.464
Parent has Lung Disease	0.00067	0.689
Parent has Heart Disease	0.00069	0.583
Parent has ever had a Stroke	0.00518	0.005