Moving Home: Non-Market Insurance and Labour Market Risk

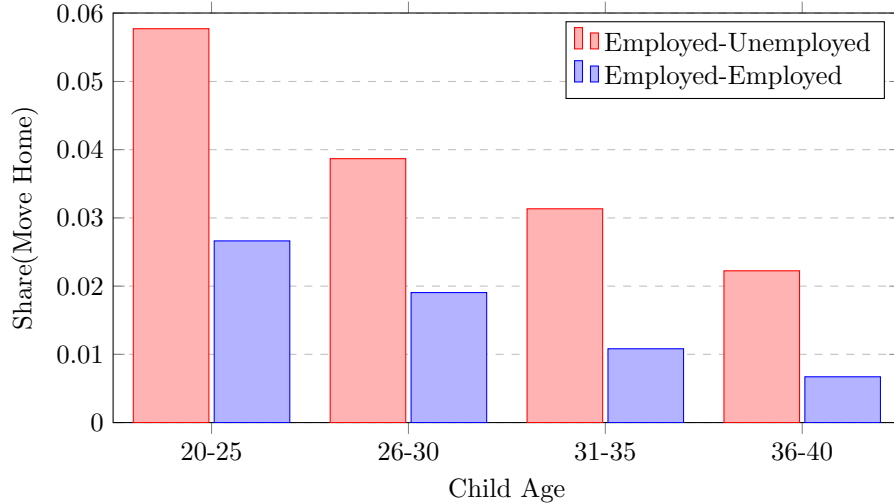Stephen Hennessy
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1   Introduction

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) 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

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 the following section, I extend this understanding to all workers up to age 40.

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

2.1 Data

This paper uses the Health and Retirement Study (HRS) to monitor the coresidence flows of adult children across two decades. For convenience, I use the RAND Corporation's transformed Family File which explicitly links parent and child records for each biannual survey period from 1998-2018. The HRS tracks approximately 20,000 parent households and 55,000 children.

Previous work on earnings 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 Insurance Motive Conditional on Parent and Child Characteristics

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.

$$
\begin{aligned}
Pr(MoveHome) = \beta_0 &+ \beta_1 Year && + \beta_2 ChildIncome \\
&+ \beta_3 ChildEducation && + \beta_4 ChildAge \\
&+ \beta_5 ChildGender && + \beta_6 ChildEmploymentTransition \\
&+ \beta_7 ChildMaritalStatus && + \beta_8 ChildParentalStatus \\
&+ \beta_9 ChildHelpADL && + \beta_{10} ChildHelpIADL \\
&+ \beta_{11} ChildIntendsHelp && + \beta_{12} ParentIncome \\
&+ \beta_{13} ParentAssets && + \beta_{14} ParentHomeValue \\
&+ \beta_{15} ParentEducation && + \beta_{16} ParentEmployment \\
&+ \beta_{17} ParentHighBloodPressure && + \beta_{18} ParentDiabetes \\
&+ \beta_{19} ParentHadCancer && + \beta_{20} ParentLungDisease \\
&+ \beta_{21} ParentHeartDisease && + \beta_{22} ParentHadStroke
\end{aligned}
$$

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 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
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

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

Independent Variable	AME	p-value
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
Parent Income	6.22	0.802
Parent Assets	−1.84	0.021
Parent Home Value	3.86	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

Continued on next page

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

Independent Variable	AME	p-value
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

Workers experiencing an E-U transition are $2.3\times$ more likely to move home with a parent relative to an identical worker with an E-E transition.

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   Comparison of Health and Retirement Study to NLSY97

The NLSY97 uses an annual sample of children and the HRS employs a biannual sample of aging adults. While these samples vary significantly, several key trends hold. First, 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. Second, the share of workers who move home is declining in age regardless of employment flows.
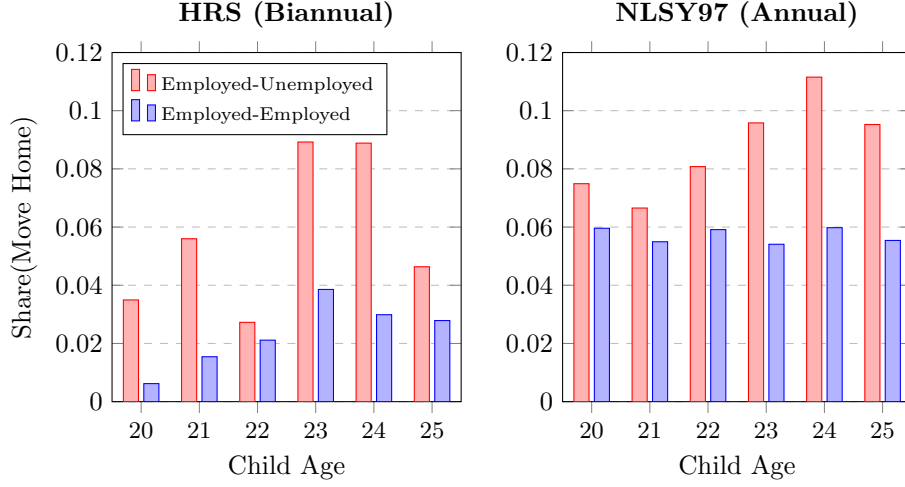
HRS (Biannual) **NLSY97 (Annual)**

Figure 2

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 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:

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

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

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:

$$\int \tau\epsilon \, d\omega_e(j, a, \epsilon, \phi) + \int f(j, \epsilon, \phi)\tau\epsilon \, d\omega_s(j, a, \epsilon) =$$
$$\int [1 - f(j, \epsilon, \phi)]b \, d\omega_s(j, a, \epsilon) + \int S \, d\omega_r(j, a)$$

where ω_e, ω_s, 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 exists 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

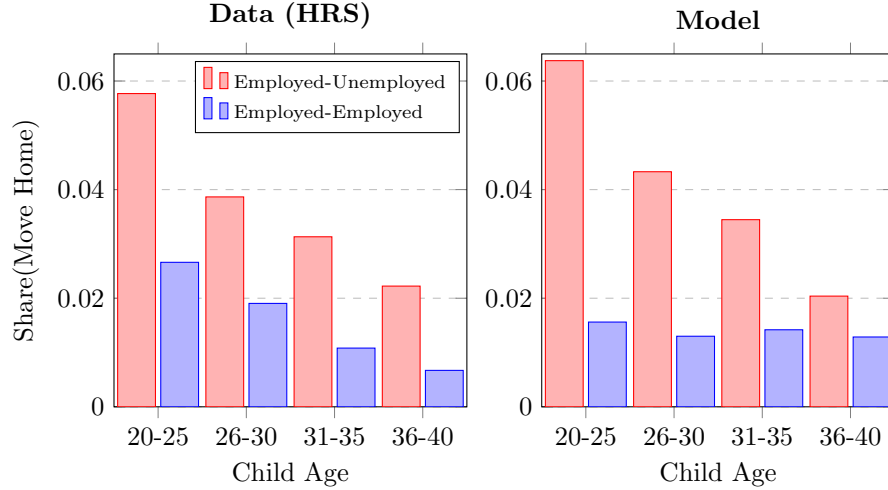# 4 Results

4.1 Calibration

4.1.1 External Parameters

	Parameter	Value	Source
α	Match Elasticity	1.27	Den Haan (2000)
δ	Job Destruction Rate	0.0192	E-U Share (HRS)
σ	Risk Aversion	2	
β	Discount Factor	0.96	
r	Interest Rate	0.04	

4.1.2 Internal Parameters

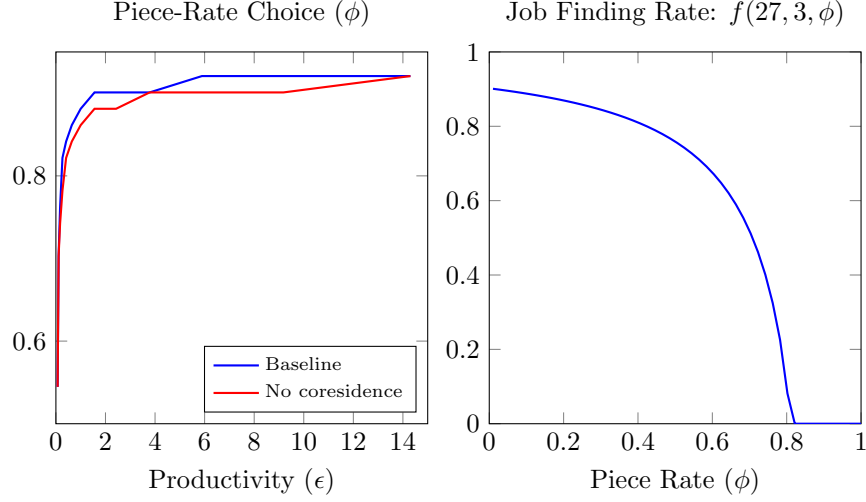|	Parameter	Value	Target	Model	Data
κ_h	Cost of Housing	.1171	Rent-to-Income Ratio	.0500	
χ	Independence Utility	4.703	E-U Move Home Share	.0413	.0413
η	EV Distribution Scale	1.000	Coresidence Share	.0273	.1460
κ_j	Cost of Posting	.0034	Unemployment Share[1]	.0478	.0420
b	UI Benefit	.2454	UI Exp. to Income Ratio[2]	.0042	.0042
S	Social Security Benefit	.7537	SS Exp. to Income Ratio[3]	.0525	.0525
σ_ϵ	St. Dev. Productivity	.8868	SD Log Earnings (Age 26-30)[4]	.9000	.9000

[1] BLS (2025) [2,3] BEA (2024) [4] Kuhn & Ríos-Rull (2013)

4.2 Model Validation
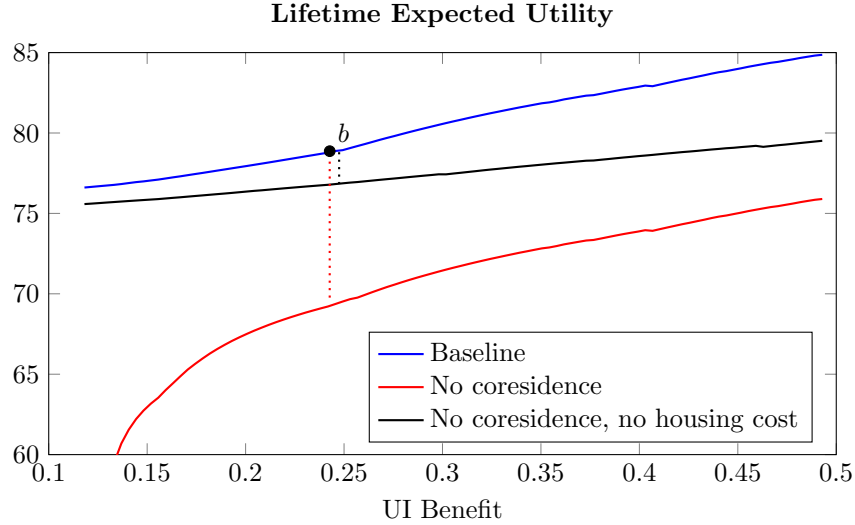
Data (HRS)

Model

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

Piece-Rate Choice (ϕ) Job Finding Rate: $f(27, 3, \phi)$

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

Lifetime Expected Utility

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.