Supplementary Text S1. Appendix

Preliminaries

At the start of any two-year period t, the daughter makes an employment decision, E_t, where $E_t \in \{0, PT, FT\}$, consisting of non-employment, part-time work, and full-time work alternatives, respectively. If the woman's parent is alive, she also makes a caregiving decision, CG_t, where $CG_t \in \{0, 1, 2\}$, consisting of no care provision, light care provision, and intensive care provision alternatives, respectively.

Preferences

The woman's period utility is given by u_t and is a function of her consumption, C_t, leisure time, L_t, and informal care provision, CG_t. The daughter receives utility from caregiving and this utility varies with the intensity of care provided as well as the health of the parent, H_t^p. There is a utility cost to initiating care provision and we allow utility from care provision to vary with whether the woman has a sister, sis_t. Different from Skira (2015), we do not allow these utility terms to vary with the parent's health. We make this simplification because we have augmented the number of parental health states and want to keep the model parsimonious.

As in Skira (2015), we allow preferences for leisure to vary linearly with age and we also allow for permanent unobserved heterogeneity in the utility from leisure. The utility function is linear in its arguments and is given in general form below:

$$u_t = u(\ln(C_t), \ln(L_t), CG_t; age_t, H_t^p, sis_t, CG_{t-1}, \ell, \nu_{t,E,CG})$$

where ℓ is the woman's unobserved type and $\nu_{t,E,CG}$ are time-varying utility shocks to each mutually exclusive choice in the model.

Time and Budget Constraints

The woman faces a period time constraint given by:

$$L_t = \overline{T} - h_t^E - h_t^{CG}$$

where $\overline{T}$ is the total amount of time available in a period, h_t^E represents the hours associated with the woman's employment choice, and h_t^{CG} represents the hours associated with her informal care choice. The time constraint states that the woman's leisure time is the time that remains given her work and caregiving choices.

As in Skira (2015), we assume the woman's consumption equals the sum of her labor income, $w_t h_t^E$, where w_t is her hourly wage, and her non-labor income, y_t:

$$C_t = w_t h_t^E + y_t$$

We allow non-labor income to vary with the woman's education, age, marital status, and whether her mother recently passed away. In a reduced-form way, the non-labor income specification captures spousal income as well as inheritance receipt.

Job Offers

Job dynamics are modeled identically to those in Skira (2015). If a woman worked part-time (full-time) in the prior period, she is assumed to receive a part-time (full-time) offer with certainty at the start of period t. If the woman did not work part-time in the prior period, she receives a part-time offer with probability, $\lambda^{PT}(Z_t)$, where Z_t is a vector of the woman's characteristics that influence the job offer probability. Similarly, if she did not work full-time in the prior period, she receives a full-time offer with probability, $\lambda^{FT}(Z_t)$. We model offer probabilities using a logit specification, and the offers depend on whether the woman worked last period, whether she has reached the age of 62, and her education, $educ_t$.[1]

Wage Offers

If a woman receives a job offer, she receives an hourly wage offer that is a function of her age, years of work experience, $exper_t$, education, whether the job is part-time, and whether she worked in the prior period or not. The hourly wage offer is given by:

$$\ln w_t = \beta_{0,\ell} + \beta_1 age_t + \beta_2 age_t^2 + \beta_3 exper_t + \beta_4 exper_t^2 + \beta_5 I(educ_t = HS)$$
$$+ \beta_6 I(educ_t = col) + \beta_7 I(E_t = PT) + \beta_8 I(E_{t-1} = 0) + \varepsilon_t$$

where ε_t is an i.i.d. wage shock that is normally distributed with mean zero and variance σ_w^2 to be estimated. We allow for permanent unobserved heterogeneity in wages by allowing the wage offer intercept to differ by unobserved type, ℓ.

The health transitions are estimated outside of the structural model using a Markov process, where the probability of being in a given health state in period *t* depends on the mother's health state in period *t-1*.

The estimated parental health transition matrix is shown in Table 3.

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[1] Education is discretized into three categories: (1) Less than high school education; (2) high school education (*HS)*; and, (3) at least some college (*col)*.

	t					
t-1	Healthy	ADLs only	Memory problem only	ADLs and memory problem	Cannot be left alone	Death
Healthy	0.78	0.06	0.02	0.01	0.04	0.08
ADLs only	0.14	0.33	0.01	0.06	0.14	0.32
Memory problem only	0.00	0.00	0.35	0.21	0.27	0.17
ADLs and memory problem	0.00	0.00	0.04	0.27	0.28	0.42
Cannot be left alone	0.14	0.05	0.01	0.04	0.35	0.41
Death	0	0	0	0	0	1

Estimation

As in Skira (2015), the idea behind estimation is to fit simulated outcomes from the structural model to a set of auxiliary statistical models using indirect inference. These auxiliary models should be easy to estimate and provide a complete enough statistical description of the data to identify the structural parameters. The structural parameter vector is obtained by minimizing the weighted squared deviations of the score functions from the auxiliary statistical models (estimated on the HRS data) evaluated at the simulated outcomes (i.e. simulated caregiving and work decisions as well as wages). More details on estimation are provided in Skira (2015) and we list the auxiliary models below.

To simulate data for estimation, we simulate one-step-ahead decisions. For a given vector of structural parameters, we solve the optimization problem conditional on those parameters. We then take the state variables a woman enters that period with from the HRS and simulate her decisions by drawing a vector of shocks and choosing the alternative with the highest value function.

List of Auxilary Models

(1) Multinomial logits of nonwork, part-time work, and full-time work on combinations of age, age squared, experience, experience squared, education indicators, indicators for last period's employment decision, an indicator for reaching age 62, a marital status indicator, and initial conditions.

(2) Logits of caregiving (any intensity) versus not caregiving on combinations of parental health status indicators, an indicator for having a sister, and lagged caregiving for those with a mother alive.

(3) Multinomial logits of no care, light care, and intensive care on combinations of age, parental health status indicators, an indicator for having a sister, lagged caregiving, and initial conditions for those with a mother alive.

(4) Multinomial logits of the combined work-caregiving decision (9 choices total) on combinations of experience, age, education indicators, lagged caregiving, indicators for last period's employment decision, an indicator for reaching age 62, a marital status indicator, an indicator for having a sister, and parental health status indicators for those with a mother alive.

(5) Logit of transitions from not caregiving to caregiving (any intensity) on parental health status indicators for those with a mother alive.

(6) Logit of transitions from caregiving (any intensity) to not caregiving on parental health status indicators for those with a mother alive.

(7) Multinomial logits of transitions from non-employment to no work, part-time work, or full-time work; from part-time work to no work, part-time work, or full-time work; from full-time work to no work, part-time work, or full-time work on experience, education indicators, and an indicator for reaching age 62.

(8) Logits of transitions from non-full-time work to full-time work and from non-part-time work to part-time work on an indicator for not working last period, education indicators, and an indicator for reaching age 62.

(9) Regressions of log accepted wages on combinations of age, age squared, experience, experience squared, education indicators, indicators for last period's employment decision, and initial conditions.