Career Costs of Children

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Plan for today

- Dynamic Labor supply w. HC and **children**
  Adda, Dustmann and Stevens (2017): "The Career Costs of Children"

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- **Reading guide:**
  1. What are the main *research questions*?
  2. What is the *(empirical) motivation*?
  3. What are the central *mechanisms in the model*?
  4. What is the *simplest model* in which we could capture these?

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- Dynamic Labor supply w. HC and **children**
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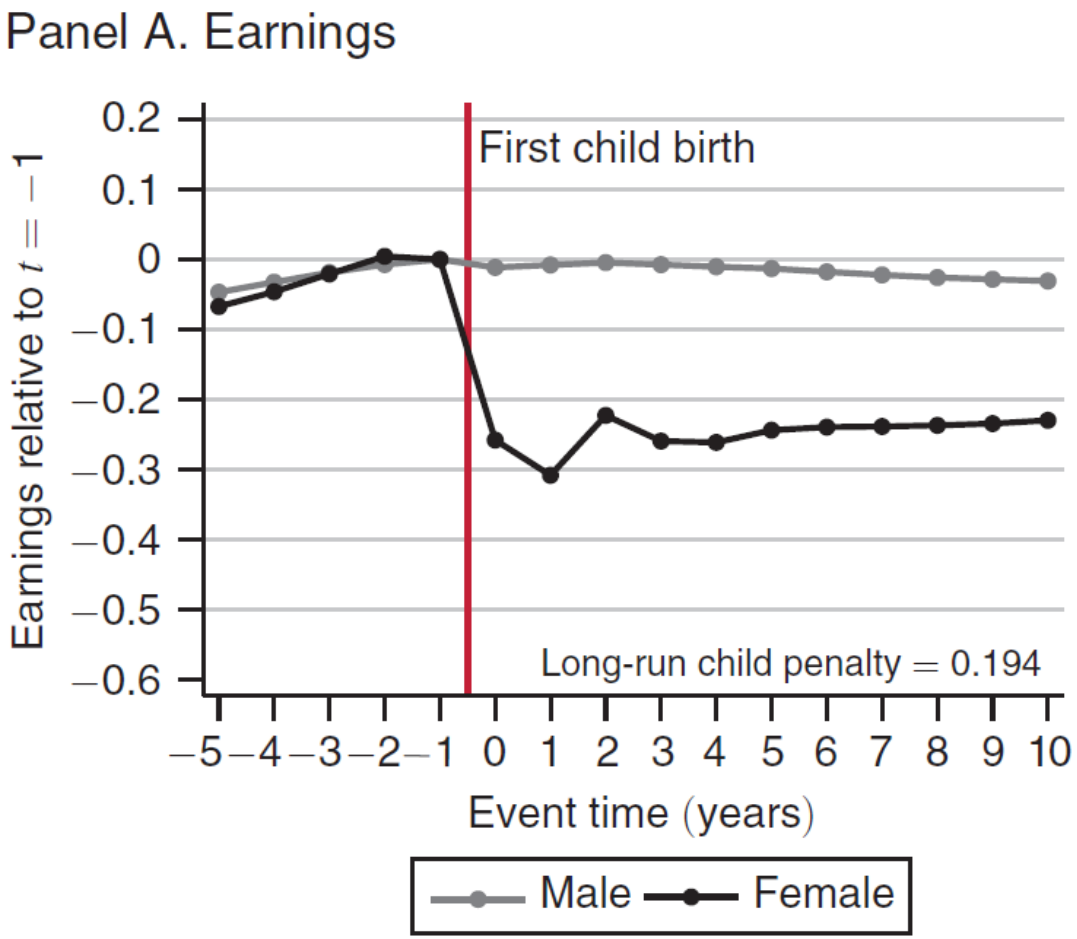
- **Reading guide:**
  1. What are the main *research questions*?
     - How **costly** are children for careers over the life cycle?
     - How does pro-fertility **reforms** affect labor supply?
  2. What is the *(empirical) motivation*?
  3. What are the central *mechanisms in the model*?
  4. What is the *simplest model* in which we could capture these?

Empirical Motivation: I

- "Child penalty" (Kleven, Landais and Søgaard, 2019)



Empirical Motivation: II

TABLE 1
DESCRIPTIVE STATISTICS, BY OCCUPATION

	Routine	Abstract	Manual	Whole Sample
Initial occupation	25.0%	44.8%	30.3%	100%
Occupation of work	25.4%	52.7%	21.9%	
A				
Annual occupational transition rates:				
If in routine last year	97.9%	1.5%	.5%	
If in abstract last year	.7%	99.0%	.2%	
If in manual last year	.9%	.8%	98.3%	
B				
Log wage at age 20	3.598	3.742	3.470	3.634
	(.297)	(.301)	(.386)	(.337)
Log wage growth, at potential experience = 5 years	.0485	.0551	.0450	.0510
	(.187)	(.156)	(.196)	(.175)
Log wage growth, at potential experience = 10 years	.0181	.0240	.0152	.0208
	(.187)	(.206)	(.223)	(.206)
Log wage growth, at potential experience = 15 years	.00995	.0147	.0127	.0133
	(.206)	(.195)	(.211)	(.200)
C				
Total work experience after 15 years	11.55	12.81	12.14	12.34
	(3.273)	(2.624)	(2.880)	(2.909)
Full-time work experience after 15 years	10.32	11.92	10.86	11.29
	(3.907)	(3.348)	(3.570)	(3.617)
Part-time work experience after 15 years	1.229	.889	1.274	1.056
	(2.187)	(1.828)	(2.125)	(1.997)
D				
Total log wage loss, after interruption = 1 year	−.0968	−.147	−.105	−.121
	(.560)	(.636)	(.633)	(.613)
Total log wage loss, after interruption = 3 years	−.152	−.253	−.223	−.216
	(.604)	(.639)	(.619)	(.625)
E				
Age at first birth	27.27	28.39	25.94	27.56
	(4.138)	(3.783)	(3.517)	(3.943)

Empirical Motivation: III

- **Selection** into family friendly occupations
  $\rightarrow$ correlation $\neq$ causation!
  $\rightarrow$ we need a model!

- **Short run** effects of pro-fertility reforms on labor supply are substantial
  Reduced form evidence
  Long run effects: "need" a model!

Outline

Model Overview

- sdfsdf

Recursive Formulation

- dsf

something

- **sdfsdf**

Solution

- **sdfsdf**

Outline

Simulation Resuts

- ..

Outline

Extending our simple model

- **We can extend** the simple dynamic model of Keane (2016)
  Random arrival of a child, $n_t \in \{0, 1\}$
  Dis-utility from work depend on children

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  Random arrival of a child, $n_t \in \{0, 1\}$
  Dis-utility from work depend on children
- **Bellman equation**

$$V_t(n_t, a_t, k_t) = \max_{c_t, h_t} \frac{c_t^{1+\eta}}{1+\eta} - \beta(n_t)\frac{h_t^{1+\gamma}}{1+\gamma} + \rho \mathbb{E}_t\left[V_{t+1}(n_{t+1}, a_{t+1}, k_{t+1})\right]$$

s.t.

$$n_{t+1} = \begin{cases} n_t + 1 & \text{with prob. } p(n_t) \\ n_t & \text{with prob. } 1 - p(n_t) \end{cases}$$

$$a_{t+1} = (1+r)(a_t + (1-\tau_t)w_t h_t - c_t)$$

$$k_{t+1} = k_t + h_t$$

Extending our simple model

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such that *original model is nested* if $\beta_1 = 0$.

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- **Expected value** is

$$\begin{aligned}\mathbb{E}_t[V_{t+1}(n_{t+1}, a_{t+1}, k_{t+1})] = p(n_t)V_{t+1}(n_t + 1, a_{t+1}, k_{t+1}) \\ + (1 - p(n_t))V_{t+1}(n_t, a_{t+1}, k_{t+1})\end{aligned}$$

- See notebook...

Next Time

- **Next time:**
  Labor supply of couples.

- **Literature:**
  Borella, De Nardi and Yang (forthcoming): "Are Marriage-Related Taxes and Social Security Benefits Holding Back Female Labor Supply?"
  - **Read** before lecture.
    Focus on "working-stage of couples" and removal of joint taxation
  - **Reading guide:**
    Section 1: Introduction. Read
    Section 2+3: Taxation of Couples in the US (short). *Motivation, key*.
    Section 4: Model. *Key*, but complex. Get the idea. Focus on "working-stage of couples". Think about how children enter.
    Section 5: Estimation. Skim.
    Section 6: "Validation", short. Labor supply elasticities, read.
    Section 7: Counterfactual simulations. Key - Read with focus on 7.1.
    Section 8: Sensitivity/robustness. Can drop.

References I

Adda, J., C. Dustmann and K. Stevens (2017): "The Career Costs of Children," *Journal of Political Economy*, 125(2), 293–337.

Borella, M., M. De Nardi and F. Yang (forthcoming): "Are Marriage-Related Taxes and Social Security Benefits Holding Back Female Labor Supply?," *Review of Economic Studies*.

Keane, M. P. (2016): "Life-cycle Labour Supply with Human Capital: Econometric and Behavioural Implications," *The Economic Journal*, 126(592), 546–577.

Kleven, H. J., C. Landais and J. E. Søgaard (2019): "Children and gender inequality: Evidence from Denmark," *American Economic Journal: Applied Economics*, 11, 181–209.