The effect of child support on fathers' labor supply

Pinchuan Ong

NUS Business School

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    - Support-paying noncustodial parents pay 13% of family income in child support (on average)
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- This paper: how does the requirement to make child support payments affect the payers' incentives to work?
  - Focus on fathers for data reasons
  - Child support usually increases with the fathers' incomes $\implies$ decrease work incentives

Example: Illinois schedule before 2017

Number of children	% of income
1	20
2	28
3	32
4	40
5	45
6+	50

Empirical strategy

- Hard to find (i) quasi-experimental setting and (ii) data to investigate the impact of child support on labor supply
  - Only one quasi-experimental estimate exists for paternal labor supply, based on a simulated instrument in Denmark (Rossin-Slater and Wüst, 2018)

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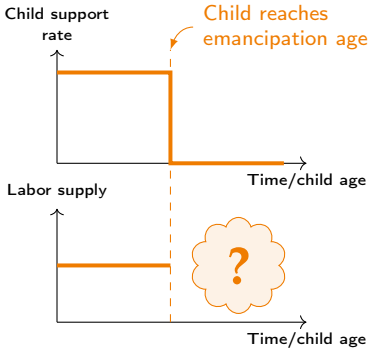
  - Some (not a lot) of variation in emancipation age across jurisdiction



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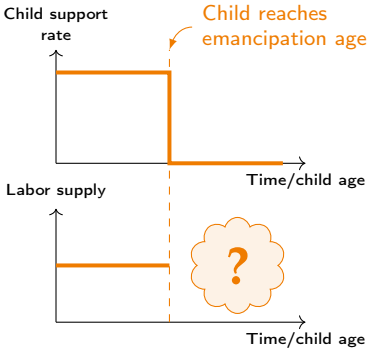
- Identification strategy: exploit the end of child support when the child reaches the emancipation age
  - Some (not a lot) of variation in emancipation age across jurisdiction
- Identification requires that child emancipation does not affect labor supply directly
  - Falsification check using a sample of never-divorced fathers
  - Time-use analysis of non-divorced fathers in the ATUS



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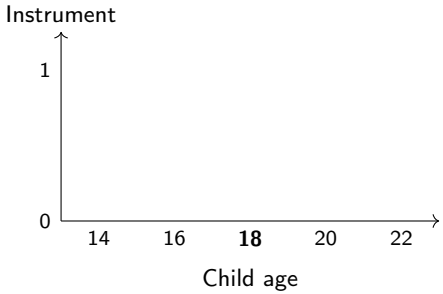

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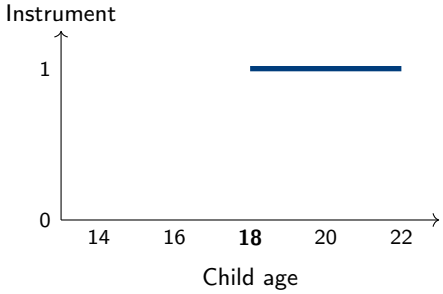

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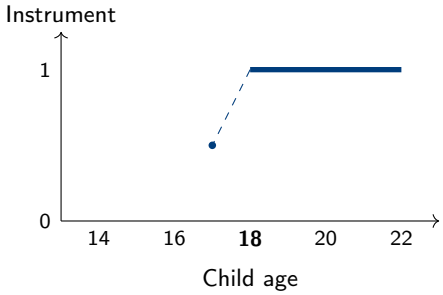

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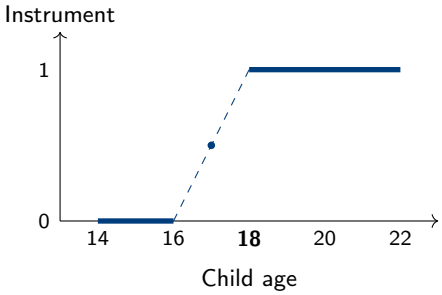

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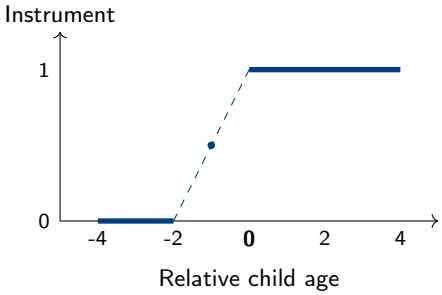
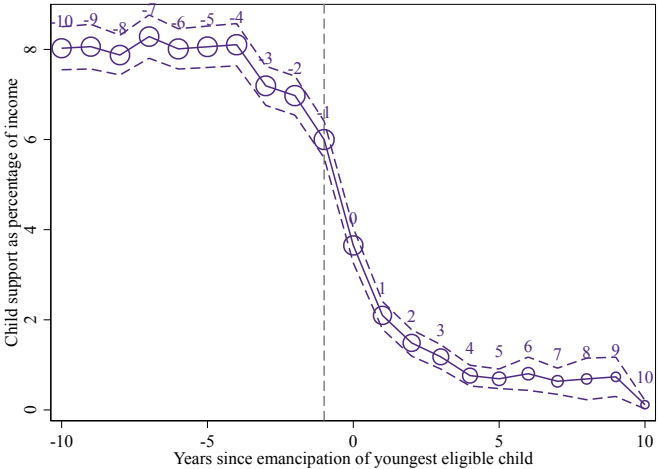
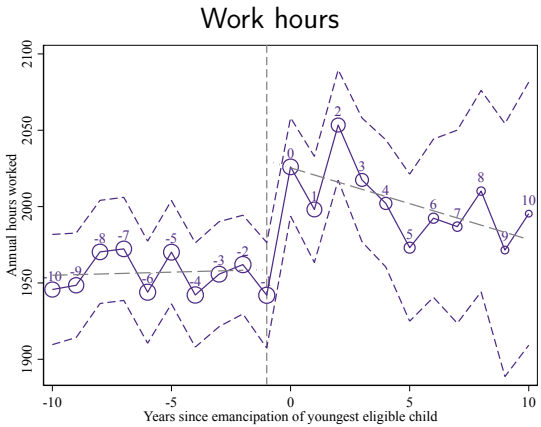
  - Graphs show child age relative to emancipation

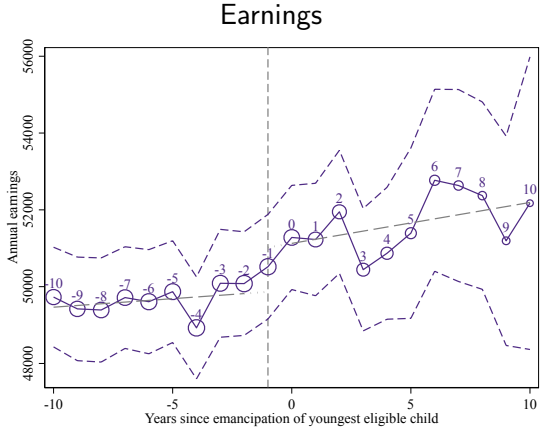


Child support rate drops on emancipation



Fathers work more after emancipation of last eligible child...





Notes: Individual and age fixed effects residualized from outcomes. Annual hours and earnings include zeros.

... Implying that they cut back labor supply due to child support

	Dependent variable:			
	Log of work hours		Log of earnings	
	(1)	(2)	(3)	(4)
Child support rate	-0.68***	-0.80***	-0.90**	-1.05***
	(0.23)	(0.24)	(0.38)	(0.34)
Observations	23,159	23,151	23,819	23,812
No. of fathers	3,506	3,506	3,564	3,564
Mean hours/earnings	2261.8	2262.0	56473.2	56476.1
First stage F-statistic	110	100	111	100
Individual & year FEs	x	x	x	x
Other controls		x		x

Notes: Other controls: Log wage, age-education-fixed effects.

Intensive-margin estimates are similar whether we use hours or earnings

... Implying that they cut back labor supply due to child support

	Dependent variable:							
	Log of work hours		Log of earnings		Work hours > 0		Earnings > 0	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Child support rate	-0.68***	-0.80***	-0.90**	-1.05***	-0.38**	-0.34***	-0.14	-0.075
	(0.23)	(0.24)	(0.38)	(0.34)	(0.16)	(0.12)	(0.15)	(0.13)
Observations	23,159	23,151	23,819	23,812	26,036	26,029	26,186	26,179
No. of fathers	3,506	3,506	3,564	3,564	3,748	3,748	3,756	3,756
Mean hours/earnings/frac.	2261.8	2262.0	56473.2	56476.1	0.89	0.89	0.91	0.91
First stage F-statistic	110	100	111	100	111	101	111	102
Individual & year FEs	x	x	x	x	x	x	x	x
Other controls		x		x		x		x

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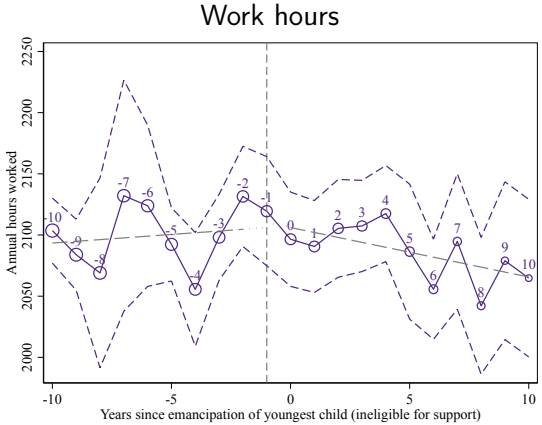
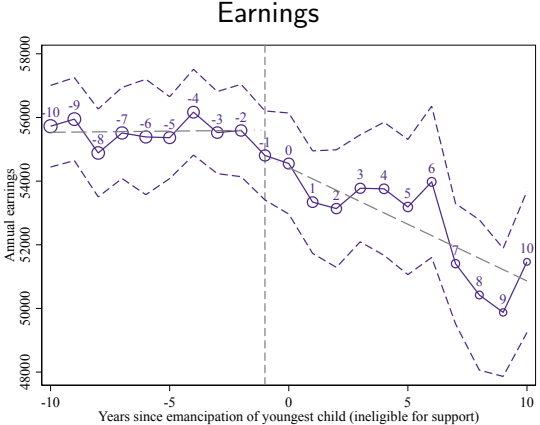
Extensive-margin response is weaker

Falsification: Fathers without child support obligations do not work more after emancipation of the youngest child





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Falsification: Married fathers in the ATUS spend more time alone or with spouse, and on care and leisure activities

Dependent variable: Minutes per day spent on specified activity.
Regressor: Post-emancipation. Observations: 2380.

Panel A: Children and work			
A1 Activities with own children	-135.8***	A2 Working and work-related act.	7.00
	(18.6)		(20.7)
Panel B: Activities with the specified parties, excluding those that involve own children			
B1 Alone or with spouse	121.8***	B3 Friends and acquaintances	-0.36
	(22.2)		(8.08)
B2 Other family members	2.05	B4 Co-workers and customers	17.5
	(3.08)		(19.9)
Panel C: Activities alone or with spouse (and not involving own children), by category			
C1 Personal care	29.3***	C8 Leisure and sports	59.5***
	(10.8)		(13.3)
C2 Eating and drinking	27.5***	*All other categories not significant*	
	(4.94)		

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- Estimates imply that the direct effect of emancipation on work hours for *divorced* fathers is 11% of my main estimate

Robustness and other matters

- Results are robust to:
  - Excluding or using only years around emancipation
  - RD specification*
  - Imputation method when the child support rate is missing
  - Excluding late divorces, or often-delinquent fathers
  - Controlling for child age shocks that are common in all countries*
  - Different instrument that uses all the variation available
  - Difference-in-differences specification using falsification sample as control

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- Paper also examines:
  - Some other outcomes (generally not statistically significant)
  - Response of mothers using a modified method (not statistically significant)

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- End of child support is highly predictable
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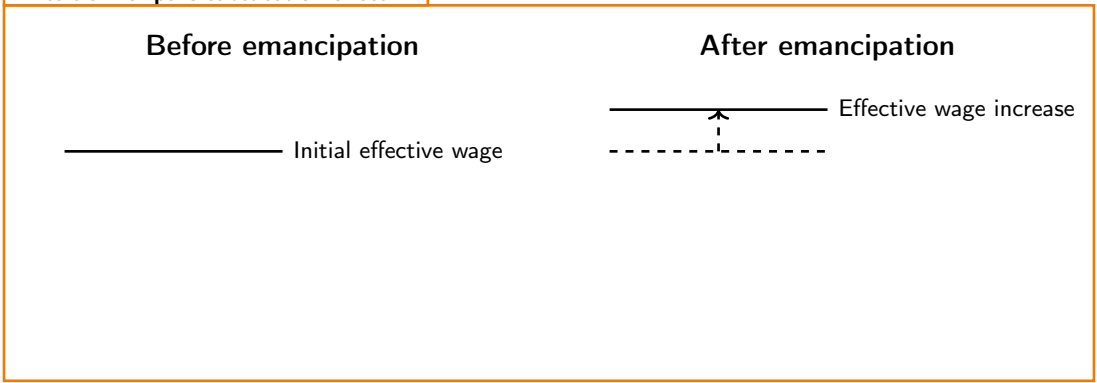
Intuition for pure substitution effect



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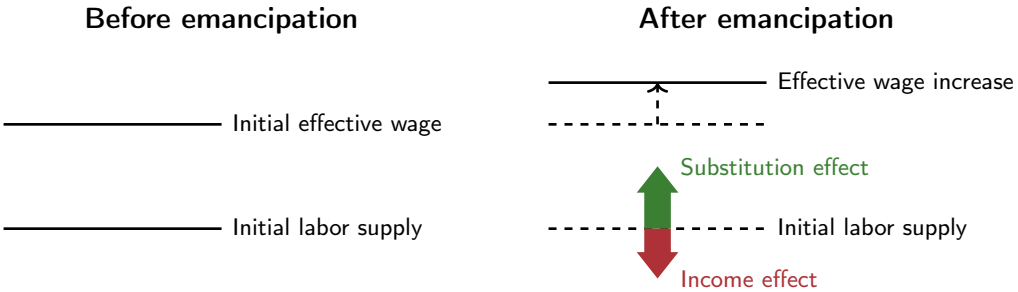

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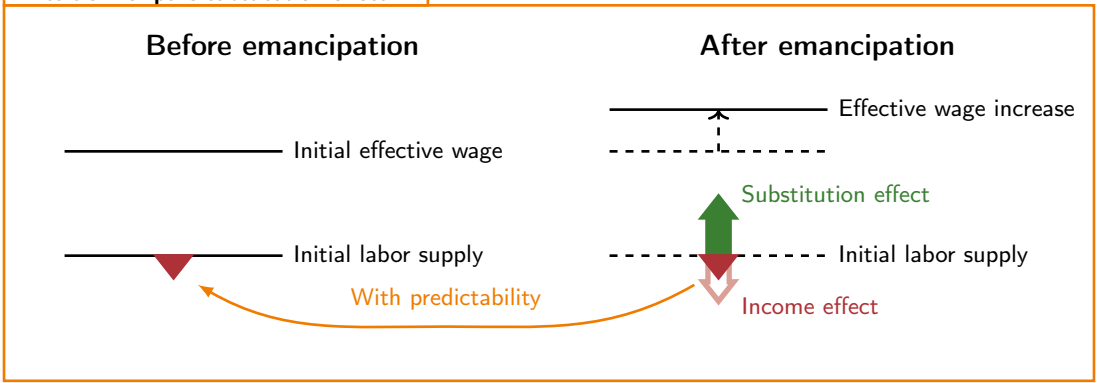

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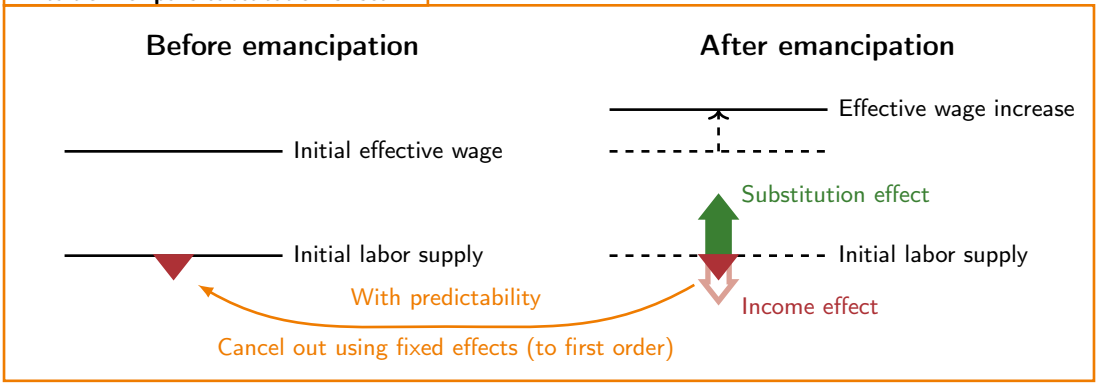

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- In a structural model, I map the results to an intertemporal elasticity of labor supply (Frisch elasticity)
  - Frisch elasticity is an important parameter in macro-models, but hard to find quasi-experimental settings with this "predictability" feature
- Estimates of Frisch elasticity based on child support
  - 0.7–0.9 on intensive margin
  - 0.1–0.3 (sometimes insigificant) on extensive margin

Conclusion

- Fathers cut back their labor supply in response to having to pay child support
  - Each 10 pp increase in child support rate leads to:
    - 8–11 percent decrease in labor supply on intensive margin
    - 1 (statistically insignificant) to 3 percent decrease on extensive margin
  - Better interpreted as a pure substitution effect

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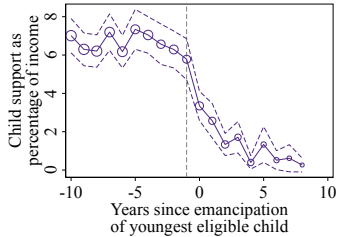
  - Better interpreted as a pure substitution effect
- Maps to a Frisch elasticity of labor supply
- Welfare loss: at least $906 million in the 4 economies
  - Misclassification of child eligibility $\implies$ greater loss
  - Interactions with taxes $\implies$ greater loss
  - Suggests that less dependence on income (or dependence on broad income bands, like in Germany) might be welfare-improving

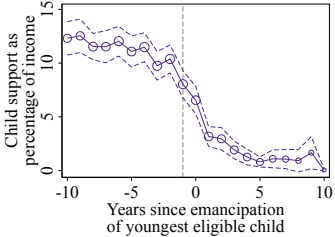
Thank you!

Child support rate, by dataset

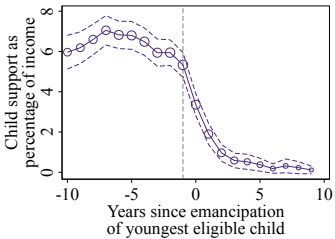
PSID (US)



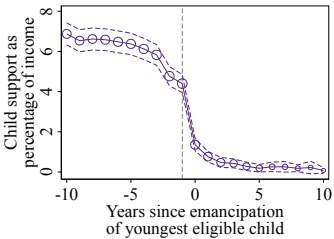
NLSY79 (US)



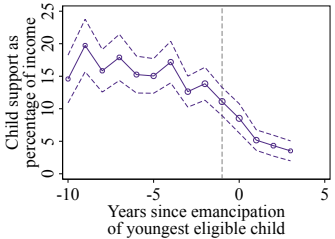
BHPS/UKHLS (UK)



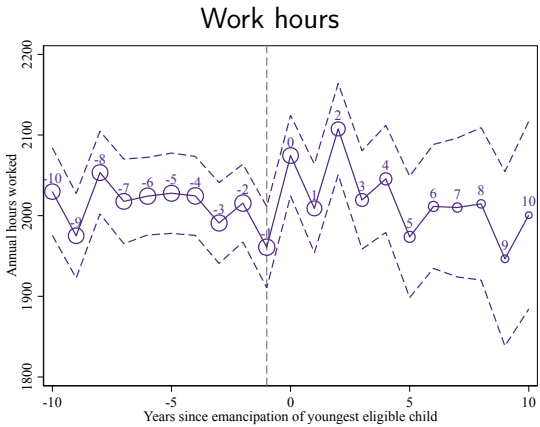
HILDA (AUS)



SHP (CHE)



Work hours and earnings graphs, non-residualized



Reduced-form estimates for fathers

	Dependent variable:			
	Log of work hours	Log of earnings	Has positive work hours	Has positive earnings
	(1)	(2)	(3)	(4)
Post-emancipation	0.033***	0.048***	0.017***	0.0033
	(0.011)	(0.015)	(0.0056)	(0.0061)
Observations	23,666	24,285	27,357	27,563
No. of fathers	3,584	3,680	3,926	3,993
Mean hours/earnings/fraction	2261.7	56149.6	0.87	0.89

Estimates of the labor supply response, by dataset (intensive margin)

	USA pooled	PSID (USA)	NLSY (USA)	BHPS+ (GBR)	HILDA (AUS)	SHP (CHE)
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Dependent variable: Log of work hours						
Child support rate	-1.23***	-1.09	-1.27***	-0.46	-0.47	0.0044
	(0.38)	(0.83)	(0.42)	(0.49)	(0.39)	(0.55)
Observations	9,527	4,923	4,604	3,830	8,234	1,560
No. of fathers	1,729	1,030	699	523	1,005	249
Mean hours	2,239	2,178	2,304	2,364	2,234	2,303
First stage F-stat.	90	68	111	83	222	16
Panel B: Dependent variable: Log of earnings						
Child support rate	-0.78	-0.91	-0.73	0.085	-1.85***	-0.21
	(0.48)	(0.87)	(0.57)	(0.58)	(0.68)	(0.58)
Observations	9,634	4,886	4,748	3,979	8,678	1,521
No. of fathers	1,739	1,025	714	537	1,043	245
Mean earnings	54,528	48,534	60,695	46,386	54,258	107,870
First stage F-stat.	89	66	111	86	227	13

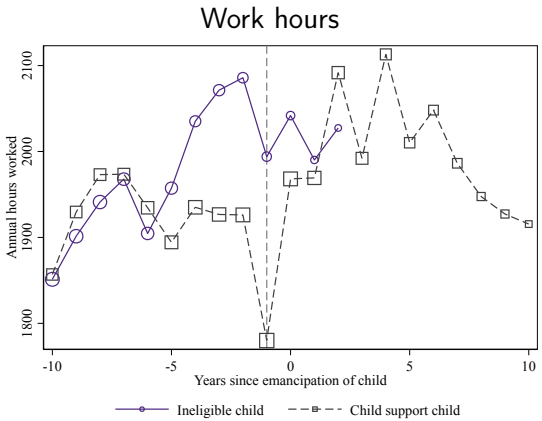
Estimates of the labor supply response, by dataset (extensive margin)

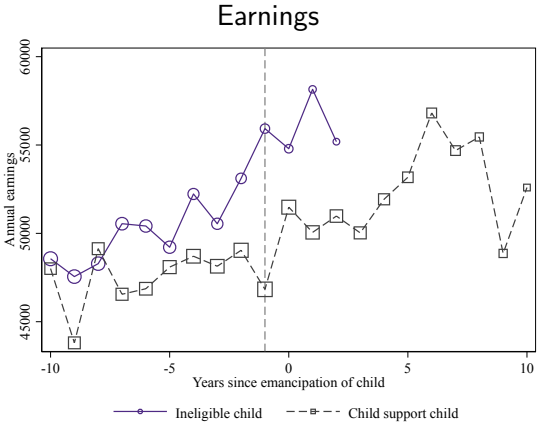
	USA pooled	PSID (USA)	NLSY (USA)	BHPS+ (GBR)	HILDA (AUS)	SHP (CHE)
	(1)	(2)	(3)	(4)	(5)	(6)
Panel C: Dependent variable: Has positive work hours						
Child support rate	-0.064	-0.14	-0.041	-0.079	-0.86***	-0.12
	(0.15)	(0.20)	(0.18)	(0.15)	(0.28)	(0.22)
Observations	10,277	5,257	5,020	3,989	10,137	1,626
No. of fathers	1,789	1,066	723	533	1,171	255
Fraction with positive hours	0.93	0.94	0.92	0.96	0.82	0.96
First stage F-stat.	91	74	108	82	227	15
Panel D: Dependent variable: Has positive earnings						
Child support rate	-0.082	-0.038	-0.095	0.28	-0.21	0.18
	(0.15)	(0.19)	(0.19)	(0.28)	(0.29)	(0.18)
Observations	10,296	5,257	5,039	4,126	10,155	1,602
No. of fathers	1,789	1,066	723	544	1,171	252
Fraction with positive earnings	0.94	0.94	0.94	0.97	0.86	0.95
First stage F-stat.	94	74	114	80	227	15

Falsification: Estimated coefficients are not significant

	Dependent variable:			
	Log of work hours	Log of earnings	Has positive work hours	Has positive earnings
	(1)	(2)	(3)	(4)
Panel A: Sample: Fathers with CS obligations (main sample)				
Post-emancipation of child support child	0.033***	0.048***	0.017***	0.0033
	(0.011)	(0.015)	(0.0056)	(0.0061)
Observations	23,666	24,285	27,357	27,563
No. of fathers	3,584	3,680	3,926	3,993
Mean hours/earnings/fraction	2261.7	56149.6	0.87	0.89
Panel B: Sample: Fathers with no CS obligations (unweighted)				
Post-emancipation of ineligible child	-0.0033	-0.0096	-0.0021	0.00075
	(0.0059)	(0.0085)	(0.0031)	(0.0032)
Observations	108,852	110,079	117,251	118,674
No. of fathers	12,875	13,393	13,513	14,115
Mean hours/earnings/fraction	2296.5	69968.2	0.93	0.93
Panel C: Sample: Fathers with no CS obligations (weighted)				
Post-emancipation of ineligible child	-0.016	-0.0087	0.0030	0.0030
	(0.011)	(0.015)	(0.0056)	(0.0068)
Observations	108,852	110,079	117,251	118,674
No. of fathers	12,875	13,393	13,513	14,115
Mean hours/earnings/fraction	2285.5	59431.8	0.91	0.91

Falsification: No increase in work for subsequent children





Falsification: No increase in work for subsequent children

	Dependent variable:			
	Log of work hours	Log of earnings	Has positive work hours	Has positive earnings
	(1)	(2)	(3)	(4)
Panel A: Sample: Fathers with CS obligations (main sample)				
Post-emancipation of child support child	0.033***	0.048***	0.017***	0.0033
	(0.011)	(0.015)	(0.0056)	(0.0061)
Observations	23,666	24,285	27,357	27,563
No. of fathers	3,584	3,680	3,926	3,993
Mean hours/earnings/fraction	2261.7	56149.6	0.87	0.89
Panel B: Sample: Main sample with subsequent children				
Post-emancipation of child support child	0.050*	0.100**	0.039***	0.0039
	(0.029)	(0.041)	(0.015)	(0.014)
Post-emancipation of ineligible child	0.0017	-0.035	-0.026	0.010
	(0.032)	(0.043)	(0.016)	(0.018)
Observations	3,785	3,908	4,448	4,503
No. of fathers	556	574	614	632
Mean hours/earnings/fraction	2277.6	53383.4	0.86	0.87

Estimates are robust to various specification changes

		Dependent variable:				First-stage F-statistic range
		Log of work hours	Log of earnings	Has positive work hours	Has positive earnings	
		(1)	(2)	(3)	(4)	(5)
0	Main estimates	-0.80***	-1.05***	-0.34***	-0.075	100–102
		(0.24)	(0.34)	(0.12)	(0.13)	
1	Exclude 3 years before emancipation	-0.56**	-0.84**	-0.33**	-0.0067	72–76
		(0.27)	(0.38)	(0.15)	(0.15)	
2	Exclude 3 years bef. to 4 years aft. eman.	-0.79**	-1.02**	-0.062	-0.076	41–43
		(0.38)	(0.49)	(0.17)	(0.18)	
3	Exclude 11 years around emancipation	-1.34**	-1.16	-0.053	-0.19	13–14
		(0.67)	(0.86)	(0.31)	(0.33)	
4	Include only 11 years around emancipation	-1.08**	-1.32**	-0.48*	0.13	38–41
		(0.47)	(0.66)	(0.25)	(0.29)	
5	Regression discontinuity specification	-0.93*	-1.51**	-0.53*	-0.11	30–33
		(0.51)	(0.73)	(0.28)	(0.31)	
6	Exclude wage as control variable	-0.83***	-1.05***	-0.15**	-0.0014	98–101
		(0.24)	(0.31)	(0.078)	(0.086)	

Estimates are robust to various specification changes

		Dependent variable:				First-stage F-statistic range
		Log of work hours	Log of earnings	Has positive work hours	Has positive earnings	
		(1)	(2)	(3)	(4)	(5)
0	Main estimates	-0.80***	-1.05***	-0.34***	-0.075	100–102
		(0.24)	(0.34)	(0.12)	(0.13)	
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Estimates are robust to various specification changes

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		(1)	(2)	(3)	(4)	(5)
0	Main estimates	-0.80***	-1.05***	-0.34***	-0.075	100–102
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		(0.24)	(0.31)	(0.078)	(0.086)	

Estimates are robust to various specification changes

		Dependent variable:				First-stage F-statistic range
		Log of work hours	Log of earnings	Has positive work hours	Has positive earnings	
		(1)	(2)	(3)	(4)	(5)
0	Main estimates	-0.80***	-1.05***	-0.34***	-0.075	100–102
		(0.24)	(0.34)	(0.12)	(0.13)	
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		(0.47)	(0.66)	(0.25)	(0.29)	
5	Regression discontinuity specification	-0.93*	-1.51**	-0.53*	-0.11	30–33
		(0.51)	(0.73)	(0.28)	(0.31)	
6	Exclude wage as control variable	-0.83***	-1.05***	-0.15**	-0.0014	98–101
		(0.24)	(0.31)	(0.078)	(0.086)	

Estimates are robust to various specification changes

		Dependent variable:				First-stage F-statistic range
		Log of work hours	Log of earnings	Has positive work hours	Has positive earnings	
		(1)	(2)	(3)	(4)	(5)
0	Main estimates	-0.80***	-1.05***	-0.34***	-0.075	100–102
		(0.24)	(0.34)	(0.12)	(0.13)	
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		(0.51)	(0.73)	(0.28)	(0.31)	
6	Exclude wage as control variable	-0.83***	-1.05***	-0.15**	-0.0014	98–101
		(0.24)	(0.31)	(0.078)	(0.086)	

Estimates are robust to various specification changes (cont.)

		Dependent variable:				First-stage F-statistic range
		Log of work hours	Log of earnings	Has positive work hours	Has positive earnings	
		(1)	(2)	(3)	(4)	(5)
7	Exclude imputed support rate	-0.77***	-1.09***	-0.36***	-0.047	94–95
		(0.24)	(0.36)	(0.12)	(0.12)	
8	Alternative imputation method	-0.73***	-1.09***	-0.39***	-0.090	100–108
		(0.24)	(0.35)	(0.13)	(0.14)	
9	Exclude divorces after child age 10	-0.78***	-1.22***	-0.32**	-0.11	71–74
		(0.28)	(0.41)	(0.15)	(0.16)	
10	Exclude Switzerland	-0.86***	-1.10***	-0.36***	-0.094	121–124
		(0.25)	(0.36)	(0.13)	(0.14)	
11	Excl. fathers who were delinq. on payments	-0.47**	-0.52*	-0.28***	0.095	136–143
		(0.19)	(0.27)	(0.10)	(0.11)	
12	Fixed effect for child age	-1.43**	-1.03	0.27	0.28	12–15
		(0.67)	(0.84)	(0.30)	(0.34)	
13	IV uses full support-age variation	-0.53**	-0.90***	-0.36***	-0.15	111–113
		(0.23)	(0.33)	(0.12)	(0.13)	
14	Difference-in-differences specification	-0.85***	-1.18***	-0.40***	-0.028	91–93
		(0.27)	(0.40)	(0.14)	(0.14)	

Estimates are robust to various specification changes (cont.)

		Dependent variable:				First-stage F-statistic range
		Log of work hours	Log of earnings	Has positive work hours	Has positive earnings	
		(1)	(2)	(3)	(4)	(5)
7	Exclude imputed support rate	-0.77***	-1.09***	-0.36***	-0.047	94–95
		(0.24)	(0.36)	(0.12)	(0.12)	
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		(0.27)	(0.40)	(0.14)	(0.14)	

Estimates are robust to various specification changes (cont.)

		Dependent variable:				First-stage F-statistic range
		Log of work hours	Log of earnings	Has positive work hours	Has positive earnings	
		(1)	(2)	(3)	(4)	(5)
7	Exclude imputed support rate	-0.77***	-1.09***	-0.36***	-0.047	94–95
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		(0.19)	(0.27)	(0.10)	(0.11)	
12	Fixed effect for child age	-1.43**	-1.03	0.27	0.28	12–15
		(0.67)	(0.84)	(0.30)	(0.34)	
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Estimates are robust to various specification changes (cont.)

		Dependent variable:				First-stage F-statistic range
		Log of work hours	Log of earnings	Has positive work hours	Has positive earnings	
		(1)	(2)	(3)	(4)	(5)
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Estimates are robust to various specification changes (cont.)

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		(1)	(2)	(3)	(4)	(5)
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		(0.25)	(0.36)	(0.13)	(0.14)	
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Estimates are robust to various specification changes (cont.)

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13	IV uses full support-age variation	-0.53**	-0.90***	-0.36***	-0.15	111–113
		(0.23)	(0.33)	(0.12)	(0.13)	
14	Difference-in-differences specification	-0.85***	-1.18***	-0.40***	-0.028	91–93
		(0.27)	(0.40)	(0.14)	(0.14)	

Estimates are robust to various specification changes (cont.)

		Dependent variable:				First-stage F-statistic range
		Log of work hours	Log of earnings	Has positive work hours	Has positive earnings	
		(1)	(2)	(3)	(4)	(5)
7	Exclude imputed support rate	-0.77***	-1.09***	-0.36***	-0.047	94–95
		(0.24)	(0.36)	(0.12)	(0.12)	
8	Alternative imputation method	-0.73***	-1.09***	-0.39***	-0.090	100–108
		(0.24)	(0.35)	(0.13)	(0.14)	
9	Exclude divorces after child age 10	-0.78***	-1.22***	-0.32**	-0.11	71–74
		(0.28)	(0.41)	(0.15)	(0.16)	
10	Exclude Switzerland	-0.86***	-1.10***	-0.36***	-0.094	121–124
		(0.25)	(0.36)	(0.13)	(0.14)	
11	Excl. fathers who were delinq. on payments	-0.47**	-0.52*	-0.28***	0.095	136–143
		(0.19)	(0.27)	(0.10)	(0.11)	
12	Fixed effect for child age	-1.43**	-1.03	0.27	0.28	12–15
		(0.67)	(0.84)	(0.30)	(0.34)	
13	IV uses full support-age variation	-0.53**	-0.90***	-0.36***	-0.15	111–113
		(0.23)	(0.33)	(0.12)	(0.13)	
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		(0.27)	(0.40)	(0.14)	(0.14)	

Other outcomes

	Dependent variable:				
	Log of food expenditure	Log of employee earnings	More than one job if working	Log of annual weeks worked	Log of weekly hours
	(1)	(2)	(3)	(4)	(5)
Child support rate	-0.49	-1.02***	-0.11	-0.40**	-0.17
	(0.38)	(0.33)	(0.23)	(0.20)	(0.22)
Observations	17,383	21,448	23,810	22,276	21,870
No. of fathers	2,637	3,373	3,553	3,308	3,288
Average levels	8.49	55.7	0.17	48.9	48.8
First stage F-stat.	120	95	100	122	122
Individual & year FEs	x	x	x	x	x
Other controls	x	x	x	x	x

Estimating the mothers' labor supply response

- Data: 1990–2008 Survey of Income and Program Participation (SIPP) in the US
  - Series of short panels (2–5 years)
  - Timing: monthly
  - Much larger than the fathers panel

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- Complication: Child lives with the mother
  - Potential confounders related to child leaving home after emancipation
  - Regression discontinuity (RD) design strategy
    - Local-linear RD
    - Center on month of emancipation

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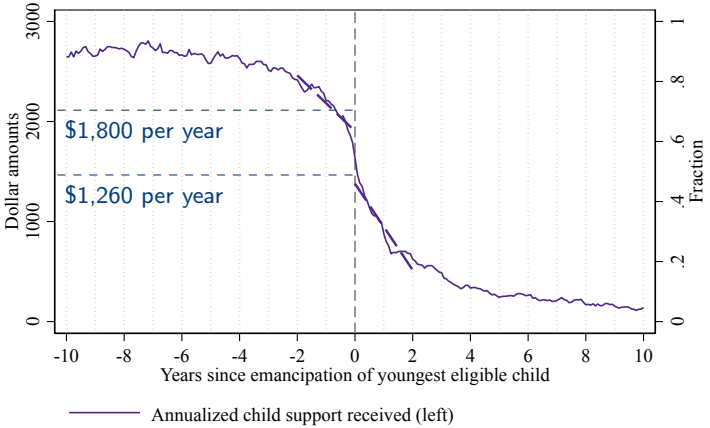
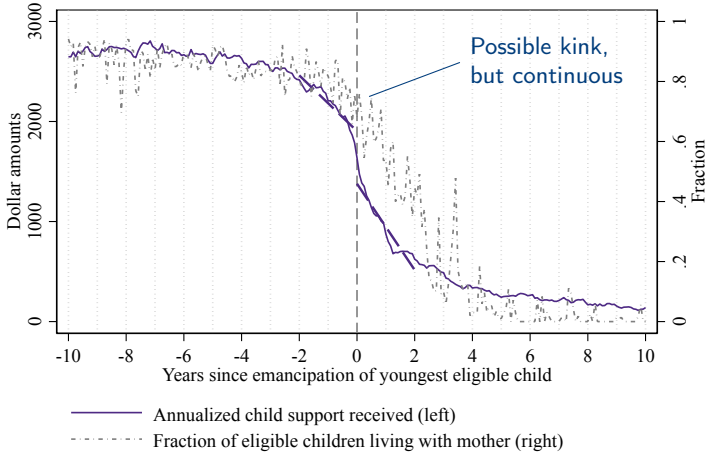
- **Intertemporal** income effect

  $\rightarrow$ Mothers should have responded before emancipation of the child

Support amount received drops sharply on emancipation...



... while potential confounders change continuously



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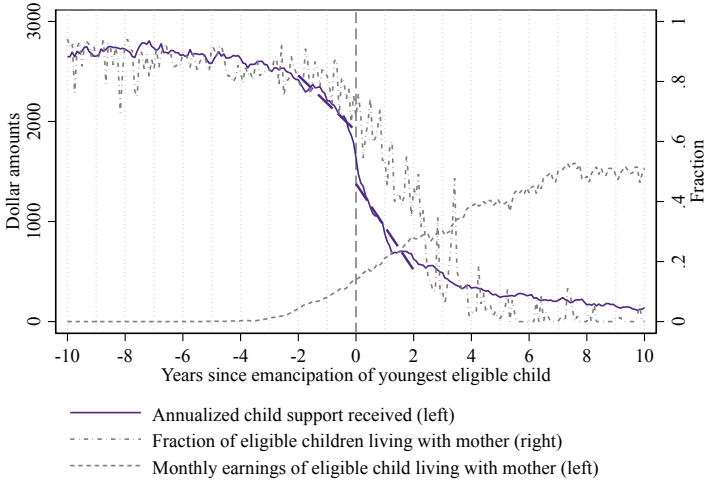

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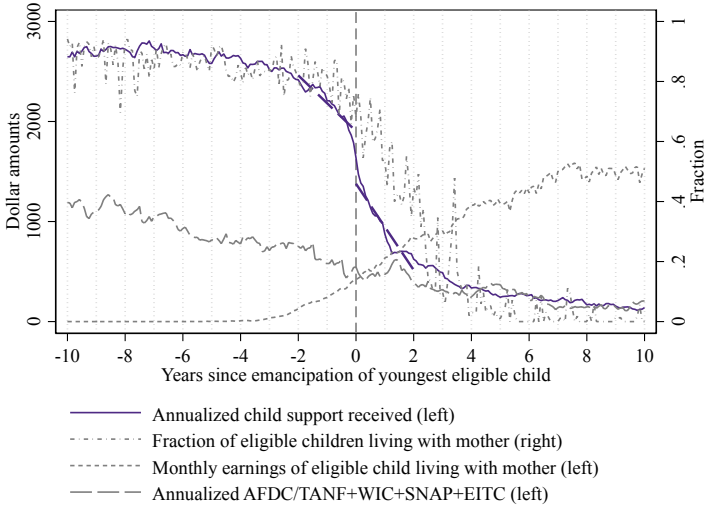
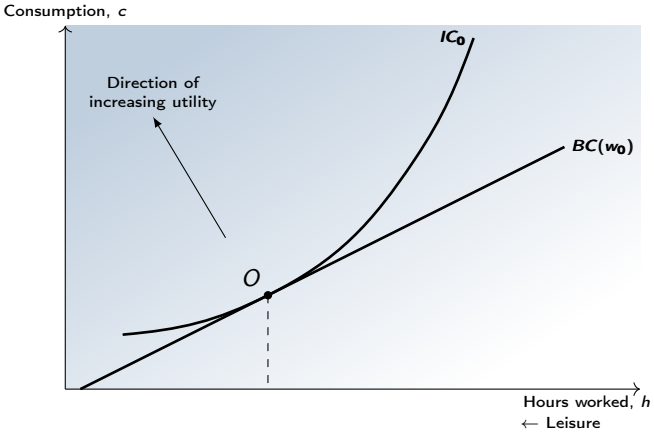


Intertemporal income effect is not significantly different from zero, but instrument might be weak

	Dependent variable:							
	Log of work hours		Log of earnings		Has positive work hours		Has positive earnings	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Child support rate	0.20	0.15	-0.27	0.64	-0.27	0.023	-0.29	-0.17
	(0.51)	(0.44)	(0.91)	(0.54)	(0.41)	(0.15)	(0.39)	(0.19)
Observations	114,457	114,249	117,797	117,560	145,874	145,685	152,683	152,485
No. of mothers	6,429	6,229	6,515	6,286	7,355	7,171	7,445	7,253
Mean hours/earnings/fraction	1932.1	1932.5	37265.1	37279.8	0.78	0.78	0.77	0.77
First stage F-stat.	38	43	53	55	21	23	24	25
All controls		x		x		x		x

Frisch versus compensated (Hicksian) elasticity

- Utility over consumption and hours $U(c, h)$



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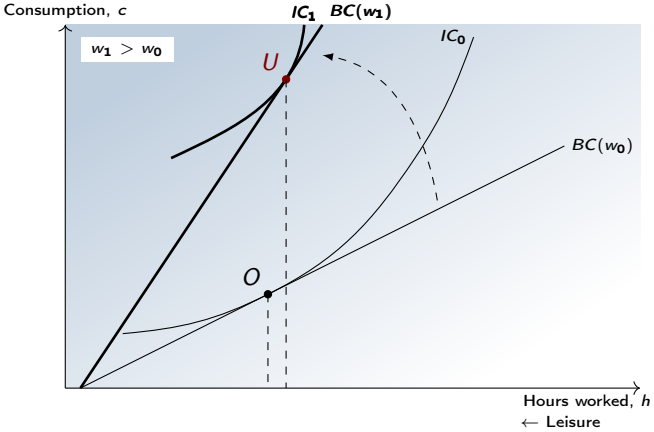

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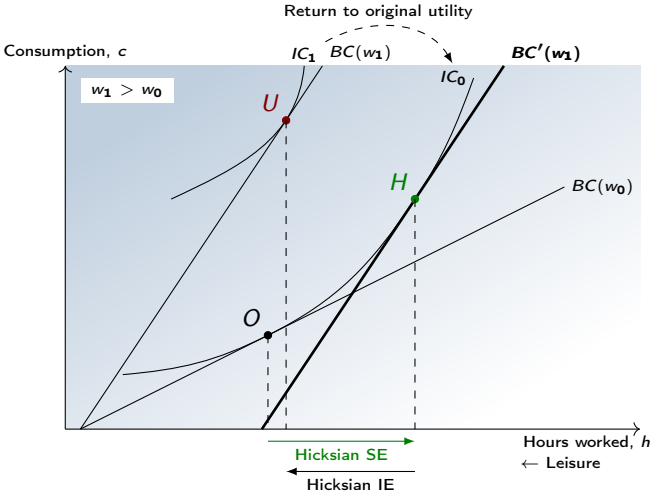
If leisure is a normal good: Uncompensated elasticity $\leq$ Hicksian elasticity



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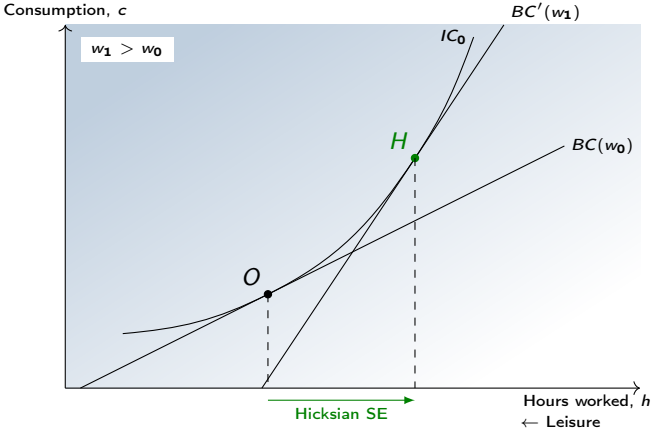

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  - λ is the MU of wealth, equivalently MU of c

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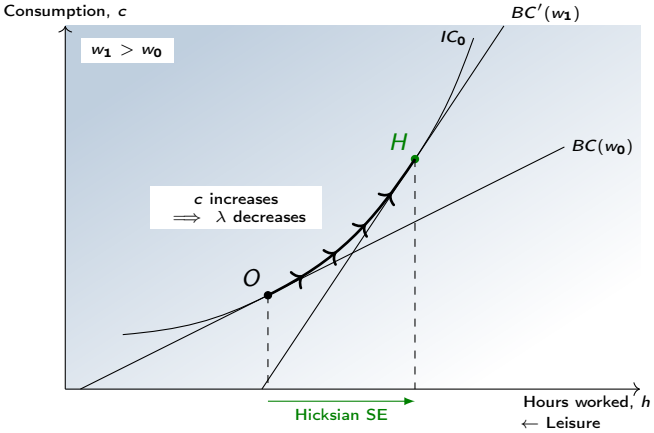

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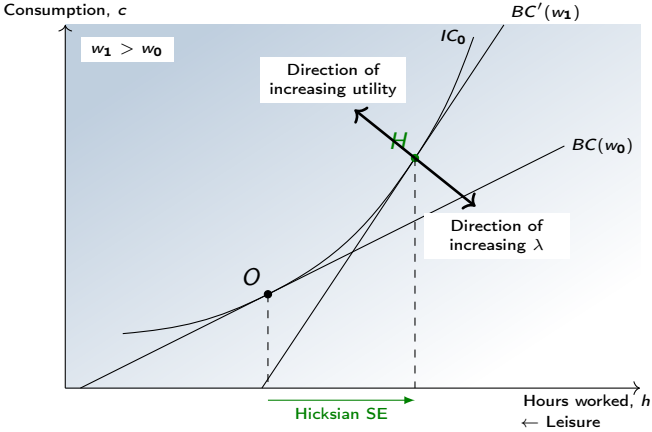

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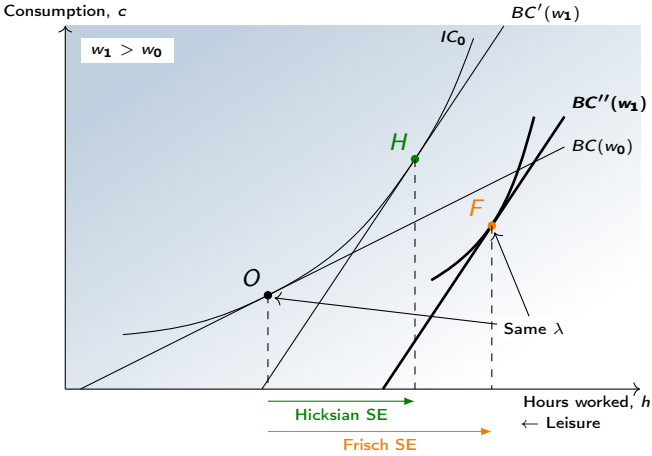

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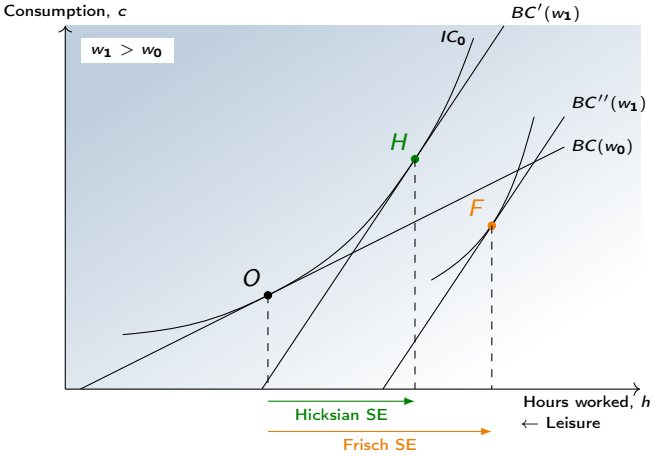

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  $\Longrightarrow$ Bundle F must be east of bundle H to hold constant λ
- Frisch holds constant incentives to consume
  - Lower utility level
  - Larger SE

Model for Frisch elasticity interpretation

- Father i solves:

$$\max_{\left\{c_{it},a_{i,t+1},h_{it}\right\}_{t=0,1,\ldots,\text{all states}}} \hat{\mathrm{E}}_{i0} \sum_{t=0}^{T} \beta^t \left[\qquad \right]$$

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- CRRA-like disutility function

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- CRRA-like disutility function
- Labor taste shifters depends on observable Z_{it} and unobservable characteristics U_{it}
- Consumption separable from labor

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s.t. $c_{it} + \frac{1}{1+r} a_{i,t+1} = a_{it} + w_{it} h_{it} - S_{it}$ (Budget constraint, Lagrangian mult. λ_{it})

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$S_{it} = s_{i,t-1} w_{i,t-1} h_{i,t-1}$ (Child support law of motion)

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- Support S_{it} enters as amount; computed as fraction s_{it} of past earnings $w_{i,t-1} h_{i,t-1}$
- Frisch elasticity $\equiv \frac{\partial \log h_t}{\partial \log w_t}\Big|_{\lambda_t}$, equal to γ in this model

Solution to the model

$$\log h_{it} = \gamma t \log \frac{1}{\beta (1+r)} + \gamma \log \lambda_{i0} + \gamma \log (1 - \dot{s}_{it})$$
$$+ \gamma \log w_{it} - \gamma Z'_{it}\boldsymbol{\alpha} - \gamma U_{it} + \gamma \sum_{\tau=1}^{t} \log (1 + \epsilon_{i\tau})$$

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  - $\lambda_{i0} = \beta(1+r)\hat{\mathrm{E}}_{i0}[\lambda_{i1}] = \beta^2(1+r)^2\hat{\mathrm{E}}_{i0}[\lambda_{i2}] = \ldots$
  - Link across period $\rightarrow$ cancel income effect using fixed effect

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- Coefficient on log of net of support rate is Frisch elasticity
  - $\dot{s}_{it} \equiv \frac{s_{it}}{1+r}$

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- Error term
  - $\epsilon_{i\tau}$: forecast errors (function of MU of wealth)
- Add $\log w_{it}$ on both sides to make log earnings the dependent variable

Assumptions needed to interpret elasticity as Frisch

1. Exogeneity w.r.t. taste shifters

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2. Instrument is known to fathers in advance
3. Rational expectations
4. Instrument uncorrelated with 2nd moments and above of forecast error

Incorporating mother's and child's consumption when estimating the Frisch

- Main estimates assume that fathers do not take into account consumption of the mother and/or child
  - If dislike mother's consumption: True Frisch is smaller
  - If likes mother's or child's consumption: True Frisch is larger

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- Simulation to bound Frisch
  - Model how much father likes mother/child consumption relative to his own family consumption
  - Statutory support rate around 15% per child
    - $\rightarrow$ Value child consumption at most 30% as much as own family consumption

Incorporating mother's and child's consumption, Frisch elasticity bounded between 0.6 and 1.1