TRADING-OFF REPRODUCTIVE TECHNOLOGY AND ADOPTION: DO IVF SUBSIDIES DECREASE ADOPTION RATES?

Glenn I Cohen

Daniel L Chen

Introduction

- Bioethics debate on IVF
  - Crowd-out Adoption
  - Encourage Same-race Adoption

- Empirical Question
  - State Insurance Mandates
  - No Strong Evidence of Substitution

Background

- Expensive
  - Average cost per IVF cycle: $12,400 (2003)
  - Live birth costs between $66,667 and $114,286
  - Only 14-17% of employer provided insurance plans cover IVF

- Cost of adoption
  - $2,500 for foster child
  - $15,000 for non-foster child domestically
  - $25,000 for international adoption
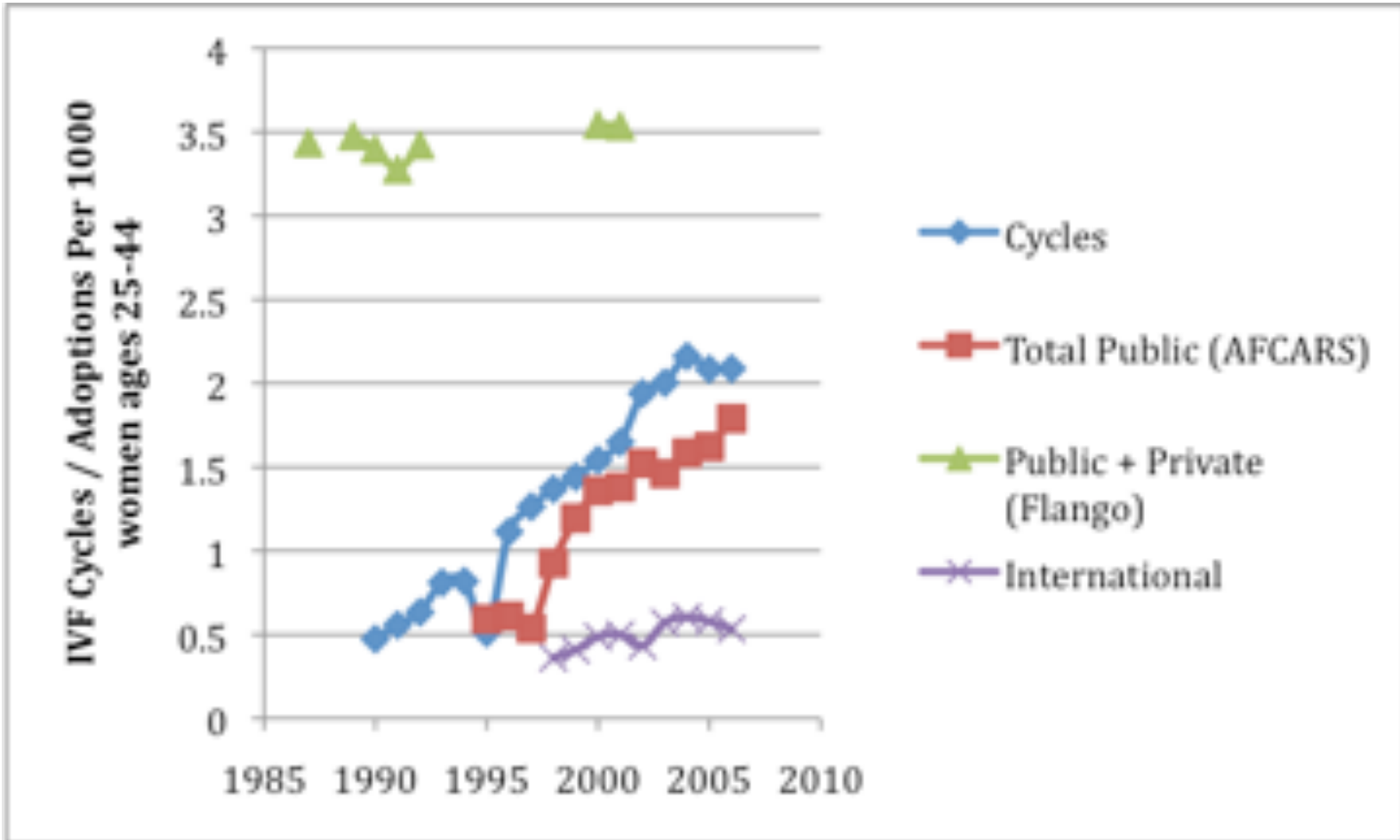 - Federal income tax credit for adoption related expenses to $10,000

State Level Reproductive Technology Mandates

Mandate Type	State	Year
Mandate for Complete coverage	Massachusetts	1987
	Rhode Island	1989
	Illinois	1991
	New Jersey	2002
Mandate for Partial coverage	West Virginia	1977
	Maryland	1985
	Arkansas	1987
	Hawaii	1987
	Montana	1987
	Ohio	1991
	Connecticut	2005
Mandate to Offer	Texas	1987
	Connecticut	1989
Non-IVF Mandate	California	1989
	Ohio	1997
	New York	1990
	Louisiana	2001

Data Sources

- IVF Utilization
  - Centers for Disease Control and Prevention (1995-2006)
  - Henne and Bundorf (1990-1994)
- Adoption
  - Neglect Adoption and Foster Care Analysis and Reporting System (1995-2006)
  - Flango and Flango (Department of Health and Human Services) (1987, 1989-1992, 2001, 2002)
  - Office of Children's Issues, United States Department of State (1998-2006)
- Control Variables
  - US Census and Current Population Survey

IVF Utilization and Adoption Rates

Empirical Strategy

- Cross-Sectional
  - $Outcome_{it} = a*Law_{it} + b*X_{it} + Year_i + e_{it}$

- Differences-in-Differences
  - $Outcome_{it} = a*Law_{it} + b*X_{it} + t_t + s + e_{it}$
  - Standard errors clustered at state level
  - Population weighted
  - X_{it} - Distribution of female population, income, education, race, firm size, unemployment, private insurance

The Effect of Insurance Mandates

	Cycles	Non-Related	Related	Foster	Step-Parent	Total Public	Public and Private	International
Complete	1.685**	-0.173***	-0.178**	0.883***	-0.0167	0.355	0.267	-0.0574*
	(0.662)	(0.0491)	(0.0722)	(0.304)	(0.0129)	(0.225)	(0.358)	(0.0287)
Partial	0.208	-0.0772	0.0933	0.0208	-0.0108	0.130	0.498*	-0.0243
	(0.158)	(0.0507)	(0.0613)	(0.129)	(0.00942)	(0.220)	(0.285)	(0.0290)
Offer	-0.0146	-0.0474	-0.276***	-0.298*	0.000134	-0.897**	-0.0522	0.0643
	(0.205)	(0.0459)	(0.102)	(0.165)	(0.0138)	(0.386)	(0.378)	(0.0391)
Non-IVF	0.132	-0.141***	-0.0162	-0.0837	-0.00222	-0.258	0.0957	-0.0447
	(0.145)	(0.0328)	(0.0681)	(0.108)	(0.00555)	(0.254)	(0.372)	(0.0328)

- Complete Insurance Mandates
  - Increase IVF Utilization   - Reduce related adoption
  - Increase foster adoption   - Reduce international adoption

The Effect of Insurance Mandates

	Cycles	Non-Related	Related	Foster	Step-Parent	Total Public	Public and Private	International
Complete	1.202***	0.0720**	-0.131**	0.144**	0.0173	-0.0463	0.551***	-0.0794***
	(0.213)	(0.0322)	(0.0602)	(0.0624)	(0.0235)	(0.169)	(0.149)	(0.0137)
Partial	-0.286***	0.0441	-0.0124	0.365	-0.0325	0.384	-0.131	0.271
	(0.0644)	(0.0373)	(0.0491)	(0.233)	(0.0261)	(0.293)	(0.156)	(0.181)
Offer	-0.575**	-0.590***	-0.197*	0.502*	-0.0741	-0.482	-0.350	0.432**
	(0.257)	(0.103)	(0.112)	(0.286)	(0.0766)	(0.436)	(0.359)	(0.190)
Non-IVF	-0.0783	0.0372	-0.0231	0.0993	0.0140	0.0901	0.288**	-0.0451***
	(0.115)	(0.0300)	(0.0489)	(0.113)	(0.00929)	(0.185)	(0.140)	(0.0158)

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Robustness

- Different legal categories

- Lags and Leads

- Exogeneity
  - Do adoption rates reflect a pent up demand for IVF? *Adoption rates are decreasing before insurance mandates are passed*
  - State-specific time trends

- Bootstrap

Conclusion

- One possible reason that adoption rates do not decrease and may even increase in response to insurance mandates for infertility treatments is that individuals may attempt to use IVF, fail, and then try to adopt instead.