

The Impact of Prolonged Early Employment on Women's Fertility, Education and Labor Market Outcomes

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Motivation

- Women make pivotal decisions early in their adult life...
 - Whether and when to start a family?
 - Whether and when to join the labor market?
 - Whether and when to invest in education?
- Each decision bears consequences for the others.
- These decisions are being made simultaneously.
- These decisions are endogenous.
- It's challenging to study the causal effect of early employment.

This Study

- How does prolonged early employment affects women's:
 - Education
 - Fertility
 - Labor market outcomes
- Israel as a test case:
 - An extension to the mandatory service as a natural experiment:
Women were performing duties that mimicked the labor market.
 - Using data from two censuses to study the effect in the long-run.
- Main findings:
 - Positive effect on education in the short run.
 - Prolonged early employment induced women to postpone motherhood, while completed fertility remains unchanged.
 - Persistent and positive effect on women's labor force participation.

Literature

- Early-career unemployment negatively affects labor market outcomes.
(Stevenson, 1978; Arulampalam, 2001; Gregg, 2001; Mroz and Savage, 2006)
- The child penalty: negative impact of motherhood on employment and earnings.
(Angelov et al., 2016; Kleven et al., 2019)
- Negative effect of military service on labor market outcomes.
(Imbens and Klaauw, 1995; Angrist et al., 2011; Card and Lemieux, 2001)

Contributions:

- 1 The effect of employment (duration) on future life trajectories.
- 2 The effect of employment on fertility.
- 3 The effect of military service on labor market outcomes of women.

Background: Mandatory Service in Israel

- Since 1949: mandatory service for both men and women who turn 18.
- Exempt from service: Ultra-Orthodox, non-Jewish, and women who are married, pregnant, or very devout.
- Until September 1952: 12 months for women.
- Since September 1952: 24 months for women.
- In the 1950s:
 - Men mostly perform combat roles.
 - Women are mostly secretaries, teachers and nurses.
- The main reason for the extension: the Egyptian Revolution of 1952.
- The next military conflict was the Sinai war in 1956.

Empirical Strategy- RD Framework

The change in the length of service as a natural experiment.

$$y_i = \alpha + \tau LONG_i + \gamma' X_i + \epsilon_i$$

Where:

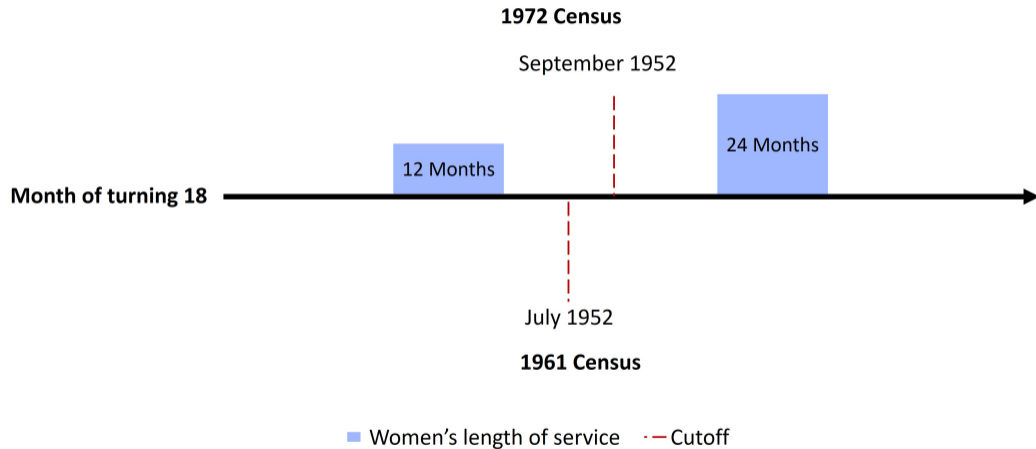
- y_i : outcome of interest for woman i .
- $LONG_i$: a dummy that equals 1 if woman i turned 18 after the policy change.
- X_i : ethnicity (Mizrahi), immigration status, age at immigration.

Main analysis: $h=6$ months, triangular kernel.

Early marriage

Continuity test

Empirical Strategy- RD Framework



Data

- The census of 1961 and of 1972.
- Limited to Jewish women who turned 18 around the policy change.
- Excluding women who immigrated after or married before 17.
- 3,382 observations in 1961
Average age: 27
- 3,473 observations in 1972.
Average age: 38

Descriptive statistics

Results: Education and Skill

	1961		1972	
	(1)	(2)	(3)	(4)
	Higher edu.	High-skilled	Higher edu.	High-skilled
Long	0.032*** (0.009)	0.032* (0.018)	-0.005 (0.016)	-0.006 (0.018)
Mean	0.02	0.12	0.10	0.15
Effect % of mean	180.1%	26.3%	-4.8%	-3.8%
Observations	1,692	1,673	1,686	1,736

Positive effect on education in the short-run.
The effect disappears in the longer run.

Results: Fertility

	1961	1972
	(1)	(2)
	# children	# children
Long	-0.24*** (0.059)	-0.08 (0.091)
Mean	2.00	3.16
Effect as % of mean	-12.3%	-2.6%
Observations	1,484	1,622

An additional year of early employment induced women to delay motherhood, but does not affect the total number of children.

Results: Labor Market Outcomes

	1961		1972	
	(1) LFP	(2) Employment	(3) LFP	(4) Employment
Long	0.062*** (0.023)	0.059** (0.025)	0.046* (0.025)	0.049* (0.025)
Mean	0.35	0.33	0.38	0.37
Effect as % of mean	17.9%	17.7%	12.2%	13.3%
Observations	1,698	1,698	1,736	1,736

Positive effect on LFP and employment, in the short- and long-run.

Conclusions

- Positive effect on education:
 - 3.2 PP → 180% increase 7 years after service.
 - No significant effect 16 years after service.
- Effects on fertility:
 - Postponed fertility.
 - No effect on completed fertility.
- Persistent and positive effect on women's labor force participation:
 - 6.2 PP → 18% increase 7 years after service.
 - 4.6 PP → 12% increase 16 years after service.

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Thank you

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Appendix

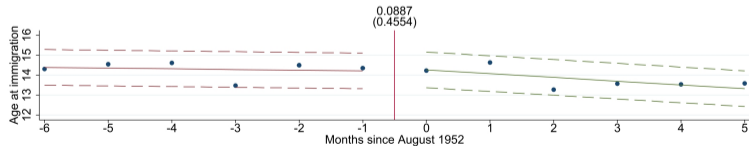
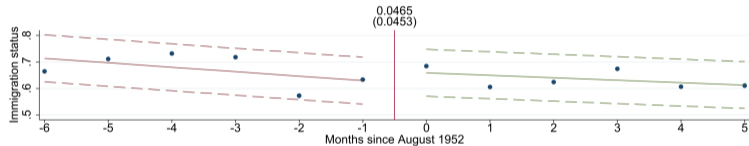
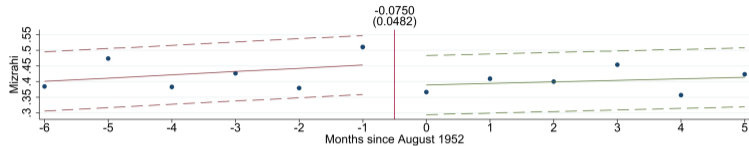
Panel A: Census of 1961

	N	Mean	SD	Min	Max
Age	3382	26.98	0.69	26	28
Immigration status	3382	0.62	0.48	0	1
Mizrahi	3237	0.39	0.49	0	1
Married	3382	0.88	0.32	0	1
Age at immigration	2056	13.94	4.06	1	17
Number of children	2950	1.79	1.18	0	9
Observations	3382				

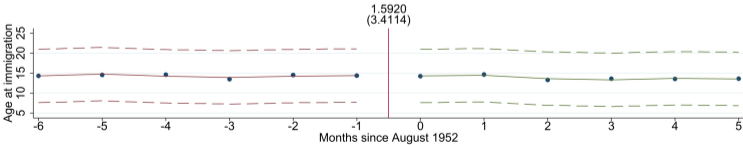
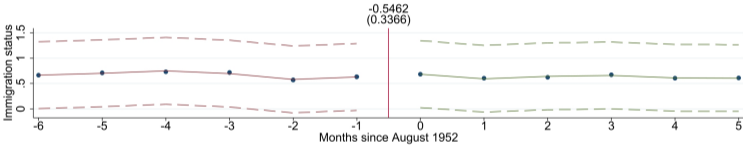
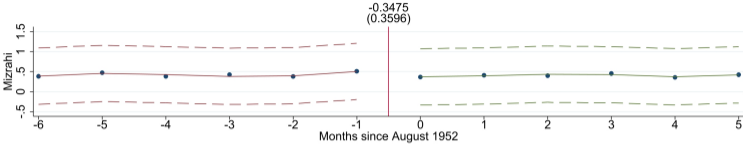
Panel B: Census of 1972

	N	Mean	SD	Min	Max
Age	3473	37.78	0.65	37	39
Immigration status	3473	0.63	0.48	0	1
Mizrahi	3314	0.40	0.49	0	1
Married	3473	0.92	0.28	0	1
Age at immigration	2140	13.93	3.82	1	17
Number of children	3257	3.10	1.75	0	16
Observations	3473				

Continuity Test of Pre-Treatment Variables (Linear Fit)



Continuity Test (Quartic Polynomial Fit)



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Testing Covariate Balance: Census of 1961

	T mean	C mean	Diff:T-C	Separate tests	Joint test
Mizrahi	0.394	0.382	0.025	1.960	0.334
Immigration status	0.608	0.639	-0.064	0.274	0.334
Age at immigration	13.891	13.998	-0.026	2.209	0.334

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Results: Early Marriage

	1961	1972
	(1)	(2)
	Married at 19 or earlier	Married at 19 or earlier
Long	-0.036 (0.023)	-0.015 (0.024)
Mean	0.35	0.29
Effect as % of mean	-10.2%	-5.4%
Observations	1,698	1,656

No evidence for marriage as an avoidance strategy.

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