

The Role of Mothers-in-Law in Determining Women's Work: Evidence from India

Madhulika Khanna ¹ Divya Pandey ²

Presented at 9th South Asia Economic Policy Network Conference, World Bank
May 11, 2022

¹MacMillan Center, Yale University

²Inclusion Economics India at Krea University

Gender Disparities in Labor Force Participation

- Women's global labour force participation rate is 26.5 percentage points below that of men (ILO 2018)
 - This gap is close to 70 percentage points in India
 - FLFP in India < FLFP in countries with similar incomes [Figure](#)

Gender Disparities in Labor Force Participation

- Women's global labour force participation rate is 26.5 percentage points below that of men (ILO 2018)
 - This gap is close to 70 percentage points in India
 - FLFP in India < FLFP in countries with similar incomes [Figure](#)
- 33% married Indian women out of the labor force express desire to work (Fletcher, Pande, and Moore 2018)
 - Employing these women can raise FLFP by 80%

What keeps women out of the workforce?

- Gender disparities in the labor market can be explained by:
 - **Housework and childcare responsibilities on women** (Bertrand, Goldin, and Katz 2010; Adda, Dustmann, and Katrien 2017)
 - **Gender-specific social norms restricting women's autonomy and mobility** (Jayachandran 2019; Anukriti et al. 2020)
- In India, family structure can affect the two frictions in opposite directions

What keeps women out of the workforce?

- Gender disparities in the labor market can be explained by:
 - **Housework and childcare responsibilities on women** (Bertrand, Goldin, and Katz 2010; Adda, Dustmann, and Katrien 2017)
 - **Gender-specific social norms restricting women's autonomy and mobility** (Jayachandran 2019; Anukriti et al. 2020)
- In India, family structure can affect the two frictions in opposite directions

*This paper examines the effect of **family structure** on female labor force participation in India.*

Intergenerational Coresidence: Role of the MIL

- Intergenerational coresidence is persistently high in India (Ruggles and Heggeness, 2008)
- MIL heads the power hierarchy within the domain of women's responsibilities (Deshmukh-Ranadive, 2005)

Intergenerational Coresidence: Role of the MIL

- Intergenerational coresidence is persistently high in India (Ruggles and Heggeness, 2008)
- MIL heads the power hierarchy within the domain of women's responsibilities (Deshmukh-Ranadive, 2005)

Mothers-in-law

Intergenerational Coresidence: Role of the MIL

- Intergenerational coresidence is persistently high in India (Ruggles and Heggeness, 2008)
- MIL heads the power hierarchy within the domain of women's responsibilities (Deshmukh-Ranadive, 2005)

Mothers-in-law

Limits Autonomy:

Voice (Jeejebhoy and Sathar, 2001)

Violence (Gangoli and Rew, 2011)

Social Networks (Anukriti, et al., 2011)

Financial Autonomy (Gram et al., 2018)

Improves other aspects of well-being

Support network (Allendorf, 2006)

Health (Allendorf, 2013)

Maternal Anemia (Varghese and Roy, 2019)

Housework (chores + childcare)

DIL's LFP

Intergenerational Coresidence: Role of the MIL

- Intergenerational coresidence is persistently high in India (Ruggles and Heggeness, 2008)
- MIL heads the power hierarchy within the domain of women's responsibilities (Deshmukh-Ranadive, 2005)

Coresidence with MIL and DIL's LFP

Autonomy Effect (-)

Housework Effect (+)

This Paper

Research question: What is the Effect of the MIL on Women's Labor Force Participation?

This Paper

Research question: What is the Effect of the MIL on Women's Labor Force Participation?

Coreidence explored through exogenous variation due to the MIL's death

Research question: What is the Effect of the MIL on Women's Labor Force Participation?

Coreidence explored through exogenous variation due to the MIL's death

- *Net effect* on FLFP depends on the relative strengths of the two effects
- Housework effect likely substantial when gendered restrictions were *already weak*

Research question: What is the Effect of the MIL on Women's Labor Force Participation?

- **Challenge:** Decision to live with MILs is endogenous

Solution:

- We use a sample in which DIL/MIL **coreside** at the baseline

Research question: What is the Effect of the MIL on Women's Labor Force Participation?

- **Challenge:** Decision to live with MILs is endogenous

Solution:

- We use a sample in which DIL/MIL **coreside** at the baseline

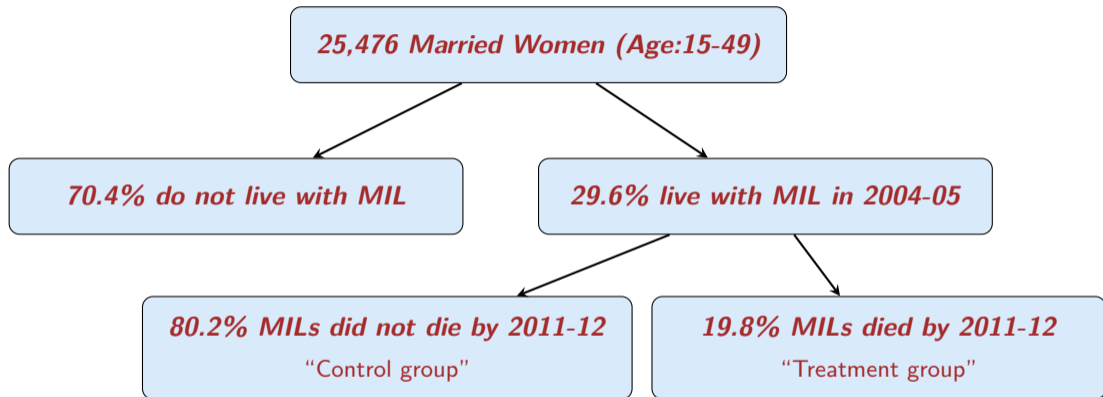
- **Challenge:** MIL's death could be endogenous

Solutions:

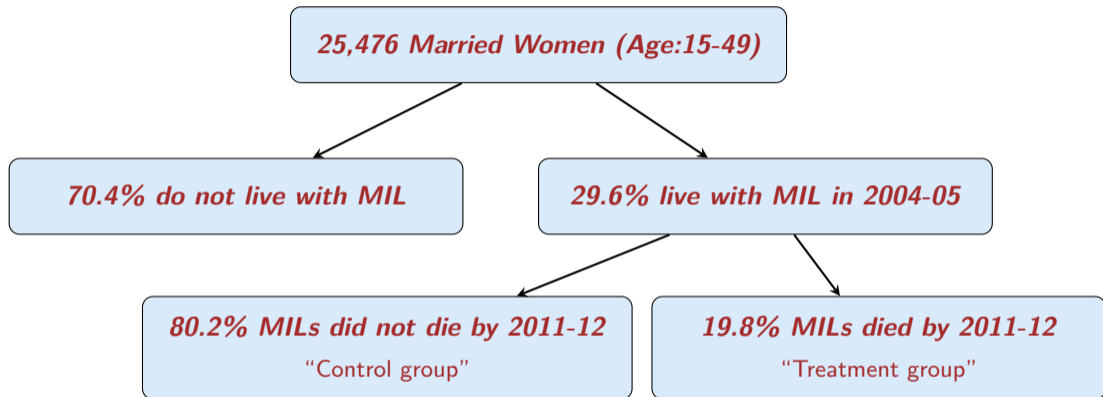
- The longitudinal nature of our data allows us to include **individual fixed-effects**
- Placebo tests reveal **no effect** of the **FIL's death** on **DIL's labor supply**

Data

Indian Human Development Survey (2004-05 & 2011-12)



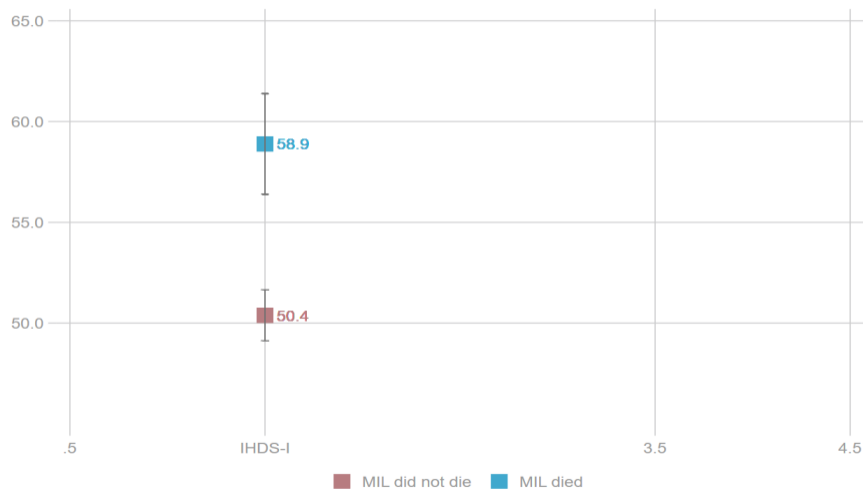
Indian Human Development Survey (2004-05 & 2011-12)



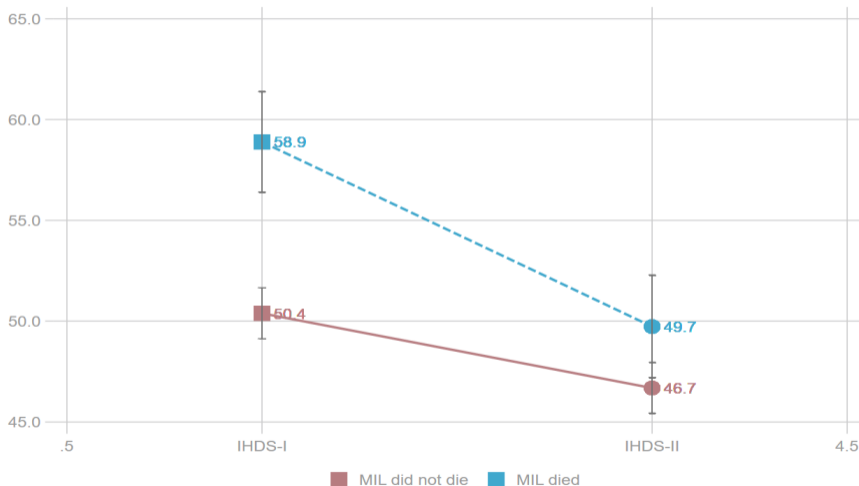
- **Estimation Sample:** 7541 DIL/MIL pairs; 2145 villages & neighborhoods; MIL died in 1496 cases
- **Main outcome variable:** Indicator if the DIL worked for > 240 hours in year before interview

Empirical Strategy & Key Results

Average LFP in 2004-05 Higher for Women whose MILs Died



The Decline in LFP is Steeper for Women whose MILs Died



How Large is the Effect?

How Large is the Effect?

Recruiting Services

(Jensen 2012)

2.4pp



2.4pp

How Large is the Effect?

Recruiting Services
(Jensen 2012)

2.4pp



2.4pp 3pp



Birth Control Pills
(Bailey 2006)

3pp



How Large is the Effect?

Recruiting Services
(Jensen 2012)

2.4pp



2.4pp 3pp

Birth Control Pills
(Bailey 2006)



3pp

9pp

Electricity
(Dinkelman 2011)



9pp



How Large is the Effect?



Mechanisms

Suggestive Evidence: Negative Workload Effect

- The effect is monotonically **increasing** in **number of children** [Figure](#)
- The effect is **larger** for women whose MIL's were **not disabled** at the baseline [Table](#)
- Negative effect is **driven** by women whose **natal homes** are **far** [Table](#)
- Women **visit** natal homes **less** often [Table](#)
- Women spend **more time** in **household** production tasks [Table](#)
 - **No effect** of **FIL's death** on **women's** time use patterns [Table](#)
 - **No effect** of **MIL's death** on **men's** or **children's** time use patterns [Table](#) [Table](#)

Suggestive Evidence: Importance of Gender Norms

- **Negative effects** are more **prominent** for women who face **less stringent norms** to begin with:
 - Relatively **larger** for women who live in households where **norms** are **weak** at the **baseline** [Figure](#)
 - Monotonically **increasing** in **age** of women [Figure](#)
 - Marginally **higher** for **lower caste** women [Table](#)
- **Increased autonomy** of women who face **strict norms** at the **baseline** [Table](#)

Conclusion

Key Takeaways

- Coresiding MIL's death ↓ women's labor force participation by 10% due to ↑ housework
- There is some evidence on the restrictive role played by the MIL
- This paper sheds light on low FLFP in a large & growing developing economy
- There are both demand- and supply-side factors for low FLFP in India (Afridi, Dinkelman, and Mahajan 2018; Fletcher, Pande, and Moore 2018)
 - This paper speaks to the supply channel

Policy Implications

Any policy to encourage FLFP should consider:

Reducing Burdens of Housework

Childcare (Nandi et al. 2020)

Paid Parental Leave (Byker 2016)

Part-time Jobs (Jaumotte 2004)

Challenging Rigid Gender Roles

Women Leaders (Beaman et al. 2012)

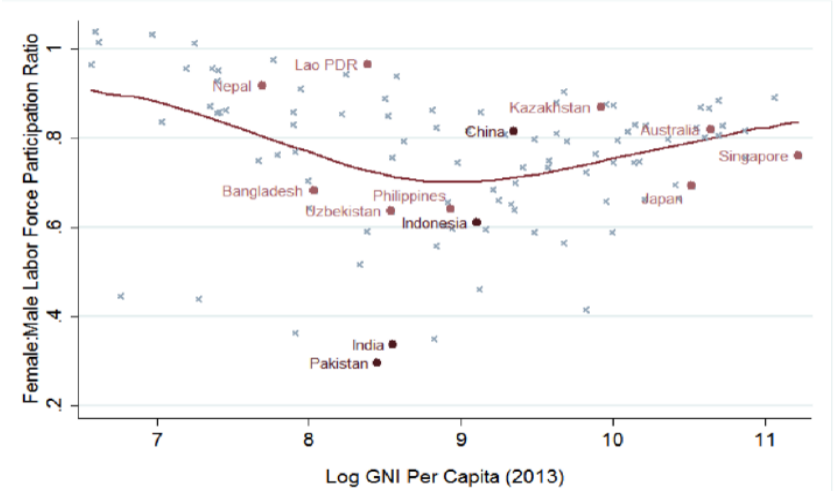
Reshaping Gender Attitudes

(Dhar, Jain, and Jayachandran 2018)

- Increasing women's LFP can have additional benefits:
 - Improves the survival rates of girls (Qian 2008)
 - Increases women's bargaining power (Carranza 2014)
 - Relaxes gender norms against women's employment (Field et al. 2016)

Appendix

Cross-country Relationship: Income VS FLFP



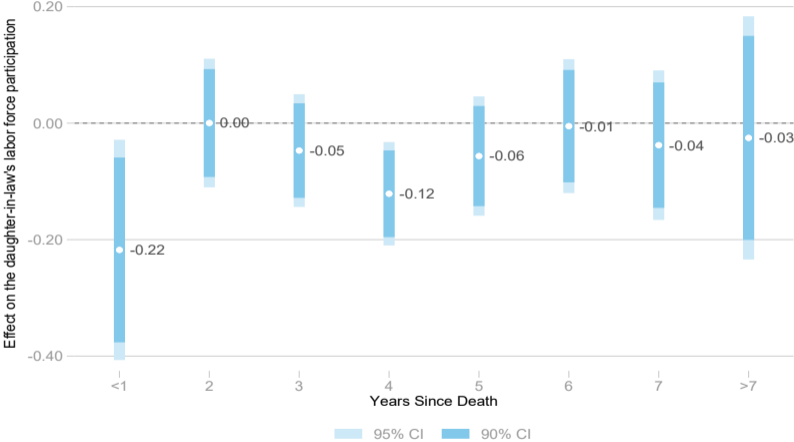
Full Full Sample Characteristics in 2004-05: By Coresiding MIL

	(1)	(2)	(2) - (1)
	Sub-group: Did not live with mother-in-law	Sub-group: Lived with mother-in-law	
Urban residence	0.33	0.26	-0.06***
SC/ST/OBC	0.85	0.86	0.00
Own land	0.44	0.54	0.09***
Assets (number)	11.50	12.95	1.45***
Age (in years)	34.88	29.23	-5.64***
Age at marriage (in years)	16.99	17.55	0.56***
Number of brothers	2.05	1.98	-0.07***
Number of sisters	1.96	1.88	-0.08***
Purdah	0.53	0.59	0.06***
Men eat first	0.30	0.38	0.09***
Cash in hand	0.84	0.77	-0.07***
Name in house papers	0.17	0.11	-0.06***
Labor force participation: >240 hours	0.58	0.52	-0.06***
Number of observations	17,935	7,541	

Sample Characteristics in 2004-05: By MIL's Death

	(1)	(2)	(2) - (1)
	Sub-group: Mother-in-law did not die	Sub-group: Mother-in-law died	
Urban residence	0.26	0.27	0.00
SC/ST/OBC	0.86	0.85	-0.01
Own land	0.54	0.54	0.01
Assets (number)	13.08	12.41	-0.67***
Age (in years)	28.31	32.96	4.65**
Age at marriage (in years)	17.61	17.31	-0.30**
Number of brothers	1.96	2.04	0.07**
Number of sisters	1.87	1.92	0.04**
Purdah	0.59	0.59	0.00
Men eat first	0.39	0.34	-0.05**
Cash in hand	0.76	0.80	0.03**
Name in house papers	0.10	0.13	0.03**
Mother-in-law ill in 2004-05	0.16	0.24	0.08***
Mother-in-law disabled in 2004-05	0.07	0.16	0.09***
Labor force participation: >240 hours	0.50	0.59	0.09***
Number of observations	6,045	1,496	

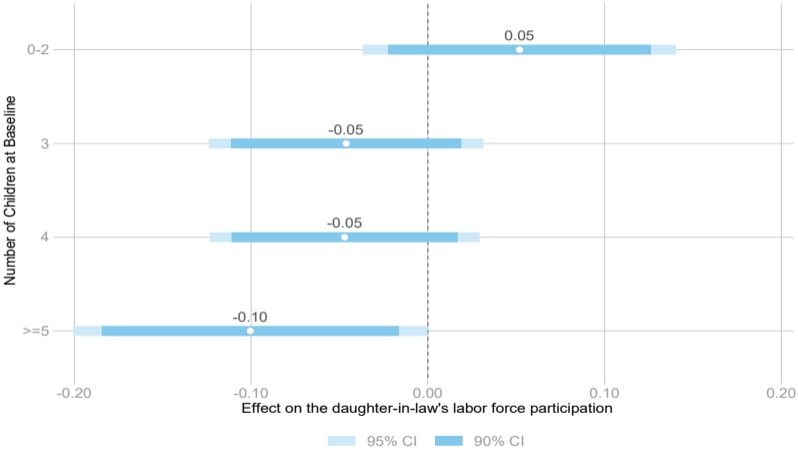
Effect on Women's Employment: By Years since MIL's Death



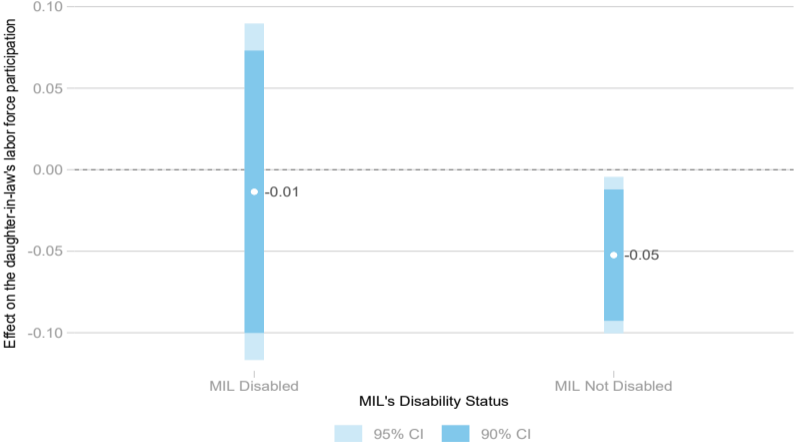
Effect on DIL's Employment: By Sector

	(1)	(2)	(3)	(4)	(5)	(6)
	Labor Force Participation: Farm Job	Labor Force Participation: Animal Husbandry Job	Labor Force Participation: Agricultural Wage Job	Labor Force Participation: Non-agricultural Wage Job	Labor Force Participation: Salaried Job	Labor Force Participation: Business Job
Post	0.007 (0.013)	-0.035** (0.014)	0.038*** (0.010)	0.049*** (0.008)	-0.033*** (0.005)	-0.035*** (0.004)
Post X Mother-in-law Died	-0.034* (0.019)	-0.016 (0.021)	0.006 (0.016)	-0.006 (0.013)	0.003 (0.007)	-0.002 (0.007)
Observations	15048	15048	15048	15048	15048	15048
R-squared	0.724	0.686	0.700	0.581	0.508	0.509
Control Average	0.252	0.280	0.137	0.0768	0	0
Individual Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Time Varying Controls	Yes	Yes	Yes	Yes	Yes	Yes

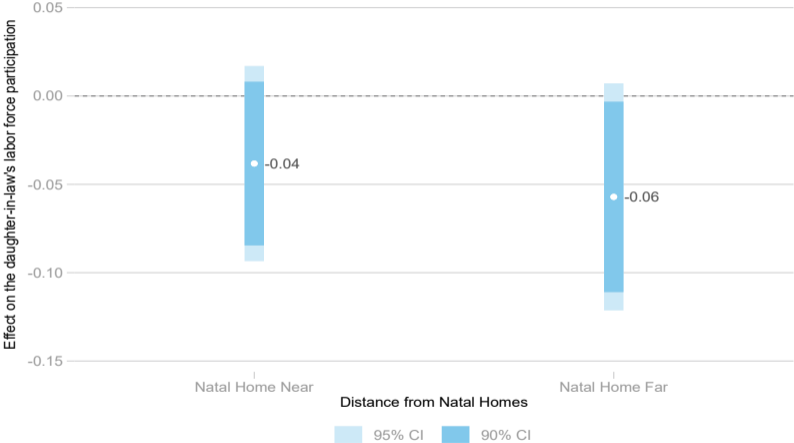
Effect on Women's Employment: By Number of Kids at the Baseline



Effect on Women's Employment: By MIL's Disability Status



Effect on Women's Employment: By Distance from Natal Home



Effect on Women's Employment, By Kids, MIL's Disability & Natal Home

	(1) Labor Force Participation, by No. of Kids	(2) Labor Force Participation, by Adult Women	(3) Labor Force Participation, by Distance from Natal Home
Post X Mother-in-law died X 0-2 children	0.052 (0.045)		
Post X Mother-in-law died X 3 children	-0.046 (0.040)		
Post X Mother-in-law died X 4 children	-0.047 (0.039)		
Post X Mother-in-law died X ≥ 5 children	-0.100** (0.051)		
Post X Mother-in-law died X Disabled		-0.014 (0.053)	
Post X Mother-in-law died X Not Disabled		-0.052** (0.024)	
Post X Mother-in-law died X Natal home close			-0.038 (0.028)
Post X Mother-in-law died X Natal home far			-0.057* (0.033)
Observations	15048	15048	15048
R-squared	0.689	0.689	0.689
Control Average	0.467	0.467	0.467
Individual Fixed Effects	Yes	Yes	Yes
Time Varying Controls	Yes	Yes	Yes

Mechanism: Effect on Women's Aggregate Time Use

	(1) Total Time Spent in Getting Water	(2) Total Time Spent in Getting Fuel
Post	-10.615*** (1.724)	-81.424*** (6.284)
Post X Mother-in-law died	4.266* (2.582)	21.042** (8.305)
Observations	16895	16854
R-squared	0.631	0.618
Control Average	24.10	49.03
Individual Fixed Effects	Yes	Yes
Time Varying Controls	Yes	Yes

Effect on Women's Average Time Use

	(1) Average Time Spent in Getting Water	(2) Average Time Spent in Getting Fuel
Post	-7.135*** (0.839)	-41.723*** (2.956)
Post X Mother-in-law died	2.418** (1.183)	13.260*** (3.842)
Observations	16895	16854
R-squared	0.624	0.613
Control Average	9.454	19.27
Individual Fixed Effects	Yes	Yes
Time Varying Controls	Yes	Yes

Effect on Women's Time Use: By FIL's Death

	(1) Total Time Spent in Getting Water	(2) Total Time Spent in Getting Fuel	(3) Average Time Spent in Getting Water	(4) Average Time Spent in Getting Fuel
Post	-8.616*** (2.124)	-83.283*** (7.708)	-6.404*** (1.117)	-45.295*** (4.065)
Post X Father-in-law died	-1.471 (3.308)	-1.109 (10.550)	-1.605 (1.935)	-7.776 (6.686)
Observations	10019	9991	10011	9983
R-squared	0.645	0.638	0.638	0.628
Control Average	23.61	46.66	9.956	19.38
Individual Fixed Effects	Yes	Yes	Yes	Yes
Time Varying Controls	Yes	Yes	Yes	Yes

Effect on Men's Time Use

	(1) Total Time Spent in Getting Water	(2) Total Time Spent in Getting Fuel	(3) Average Time Spent in Getting Water	(4) Average Time Spent in Getting Fuel
Post	-0.419 (0.666)	-1.743 (1.198)	1.969*** (0.556)	-0.668 (0.906)
Post X Mother-in-law died	0.766 (1.155)	0.662 (2.182)	-0.668 (1.222)	-1.040 (1.816)
Observations	16895	16892	16799	16796
R-squared	0.590	0.583	0.587	0.584
Control Average	10.80	29.52	4.698	13.94
Individual Fixed Effects	Yes	Yes	Yes	Yes
Time Varying Controls	Yes	Yes	Yes	Yes

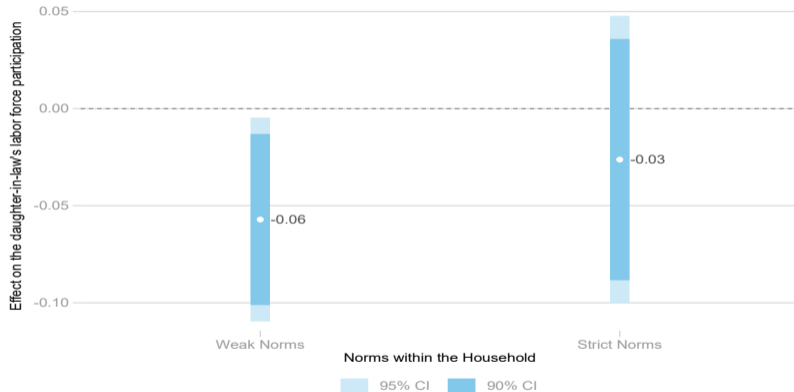
Effect on Children's Time Use

	(1) Girls' Total Time Spent in Getting Water	(2) Girls' Total Time Spent in Getting Fuel	(3) Boys' Total Time Spent in Getting Water	(4) Boys' Total Time Spent in Getting Fuel
Post	-0.301 (0.673)	-1.116 (1.170)	1.878*** (0.548)	-0.521 (0.913)
Post X Mother-in-law died	0.645 (1.178)	0.206 (2.204)	-0.616 (1.192)	-0.708 (1.864)
Observations	16895	16895	15003	16895
R-squared	0.542	0.525	0.611	0.510
Control Average	4.693	5.660	4.123	3.732
Individual Fixed Effects	Yes	Yes	Yes	Yes
Time Varying Controls	Yes	Yes	Yes	Yes

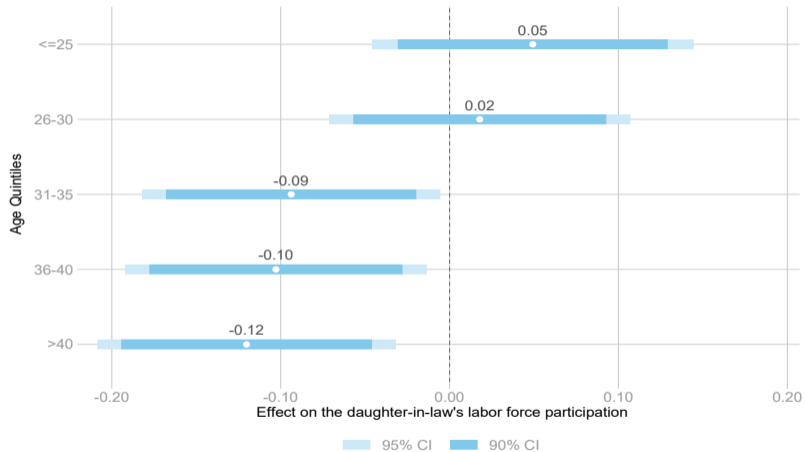
Mechanism: Effect on Women's Other Outcomes

	(1)	(2)	(3)
	Men Eat First	Woman Keeps Purdah	Woman Visits Natal Home Often
Post	-0.096*** (0.018)	0.002 (0.015)	0.024 (0.016)
Post X Mother-in-law Died	0.026 (0.024)	-0.031 (0.020)	-0.051** (0.023)
Observations	15048	15048	15048
R-squared	0.612	0.775	0.583
Control Average	0.278	0.600	0.760
Individual Fixed Effects	Yes	Yes	Yes
Time Varying Controls	Yes	Yes	Yes

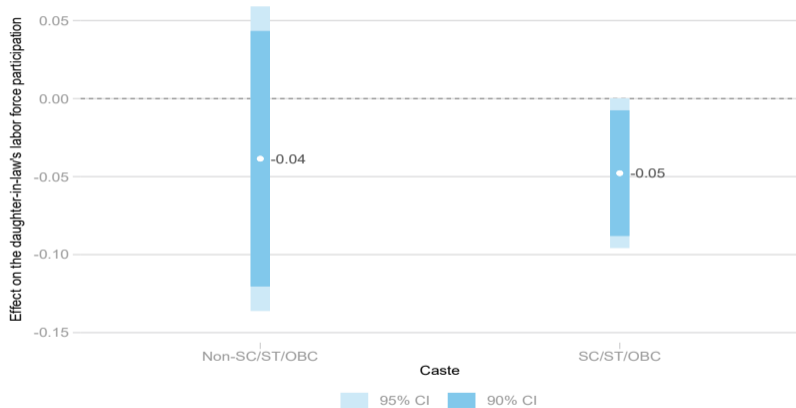
Heterogeneous Effects: By Norms Before MIL's Death



Heterogeneous Effects: By Age



Heterogeneous Effects: By Caste



Effect on Women's Employment, By Norms, Age and Caste

	(1) Labor Force Participation, by Norms	(2) Labor Force Participation, by Age	(3) Labor Force Participation, by Caste
Post X Mother-in-law died X Weak Norms	-0.057** (0.027)		
Post X Mother-in-law died X Strict Norms	-0.026 (0.038)		
Post X Mother-in-law died X <=25 years		0.049 (0.049)	
Post X Mother-in-law died X 26-30 years		0.018 (0.046)	
Post X Mother-in-law died X 31-35 years		-0.094** (0.045)	
Post X Mother-in-law died X 36-40 years		-0.103** (0.046)	
Post X Mother-in-law died X >40 years		-0.120*** (0.045)	
Post X Mother-in-law died X Non-SC/ST/OBC			-0.039 (0.050)
Post X Mother-in-law died X SC/ST/OBC			-0.048* (0.024)
Observations	15048	15048	15048
R-squared	0.689	0.690	0.689
Control Average	0.467	0.467	0.467
Individual Fixed Effects	Yes	Yes	Yes
Time Varying Controls	Yes	Yes	Yes

Effect on Women's Measures of Autonomy

	(1) Need Permission to Visit Local Grocery Store	(2) Need Permission to Visit Friend's Home	(3) Need Permission to Visit Health Center
Post	0.197*** (0.022)	0.086*** (0.016)	0.105*** (0.013)
Post X Mother-in-law died	-0.007 (0.029)	-0.029 (0.022)	-0.007 (0.020)
Observations	15048	15048	15048
R-squared	0.544	0.522	0.534
Control Average	0.485	0.878	0.922
Individual Fixed Effects	Yes	Yes	Yes
Time Varying Controls	Yes	Yes	Yes

[Back](#)[Back](#)

Effect on Women's Autonomy, By Norms at the Baseline

	(1) Need Permission to Visit Grocery Store	(2) Need Permission to Visit Friend's Home	(3) Need Permission to Visit Health Center
Post X Mother-in-law died X Weak Norms (N_1)	0.036 (0.035)	-0.009 (0.027)	0.022 (0.026)
Post X Mother-in-law died X Strict Norms (N_2)	-0.086* (0.049)	-0.066* (0.035)	-0.060** (0.027)
Observations	15048	15048	15048
R-squared	0.544	0.523	0.534
Control Average	0.634	0.878	0.922
Individual Fixed Effects	Yes	Yes	Yes
Time Varying Controls	Yes	Yes	Yes

Sample Characteristics: By FIL's Death

	(1)	(2)	(2) - (1)
	Sub-group: Father-in-law did not die	Sub-group: Father-in-law died	
Urban residence	0.24	0.25	0.01
SC/ST/OBC	0.86	0.85	-0.02
Own land	0.57	0.56	-0.00
Assets (number)	13.29	12.98	-0.31
Age (in years)	26.81	29.86	3.05***
Age at marriage (in years)	17.54	17.67	0.13
Number of brothers	1.94	1.97	0.03
Number of sisters	1.86	1.94	0.07
Purdah	0.64	0.59	-0.05**
Men eat first	0.47	0.41	-0.05**
Cash in hand	0.75	0.76	0.01
Name in house papers	0.08	0.11	0.03**
Labor force participation: >240 hours	0.47	0.55	0.08***