

**WOMEN'S LABOR FORCE PARTICIPATION IN DEVELOPING COUNTRIES:
THE IMPACT OF GENDERED LANDOWNERSHIP RIGHTS**

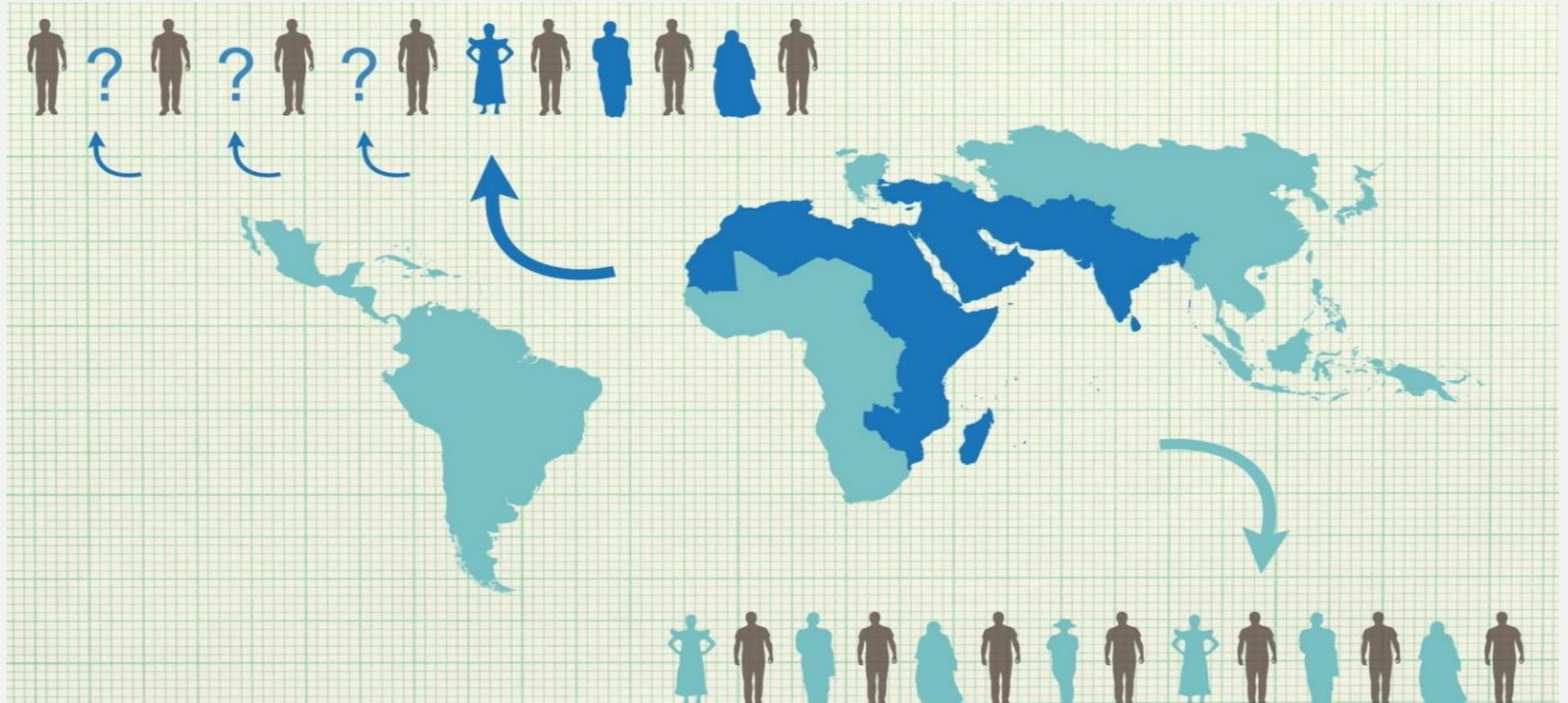
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The persistent gender gaps in the shift from agriculture to non-agricultural paid employment in developing countries



Literature on barriers to women's participation in paid employment

The demand side arguments

The supply side arguments

Culture and religion based arguments

Literature

Demand side explanations: level of economic development, types of structural change, development strategies (ISI vs. EOI), resource curse

Supply side explanations: gaps in educational attainment, welfare regimes, lack of public care provision, double burden of paid and unpaid domestic work

Culture: the strength of patriarchal norms, limiting influence of religion (Islam, Hinduism, Catholicism)

Literature on barriers to women's participation in paid employment

The demand side arguments

The supply side arguments

Culture and religion based arguments

Gendered property and labour relations in agriculture

Patriarchal relations of production in agriculture

- Since agricultural land constitutes a means of production, its ownership enables control over the entire production process, including labour.
- We argue that male dominance in land ownership strengthens patriarchal control over female labour in agriculture, giving rise to patriarchal relations of production.
- We investigate whether legal discrimination against women inheriting agricultural land curtails women's non-agricultural paid employment by
 1. strengthening men's control over women's labour (higher prevalence of women's unpaid family work)
 2. limiting women's access to education (gender gaps in educational attainment)
 3. giving rise to rural women's marriage migration (gender differences in reasons of migration)

Data and Methodology

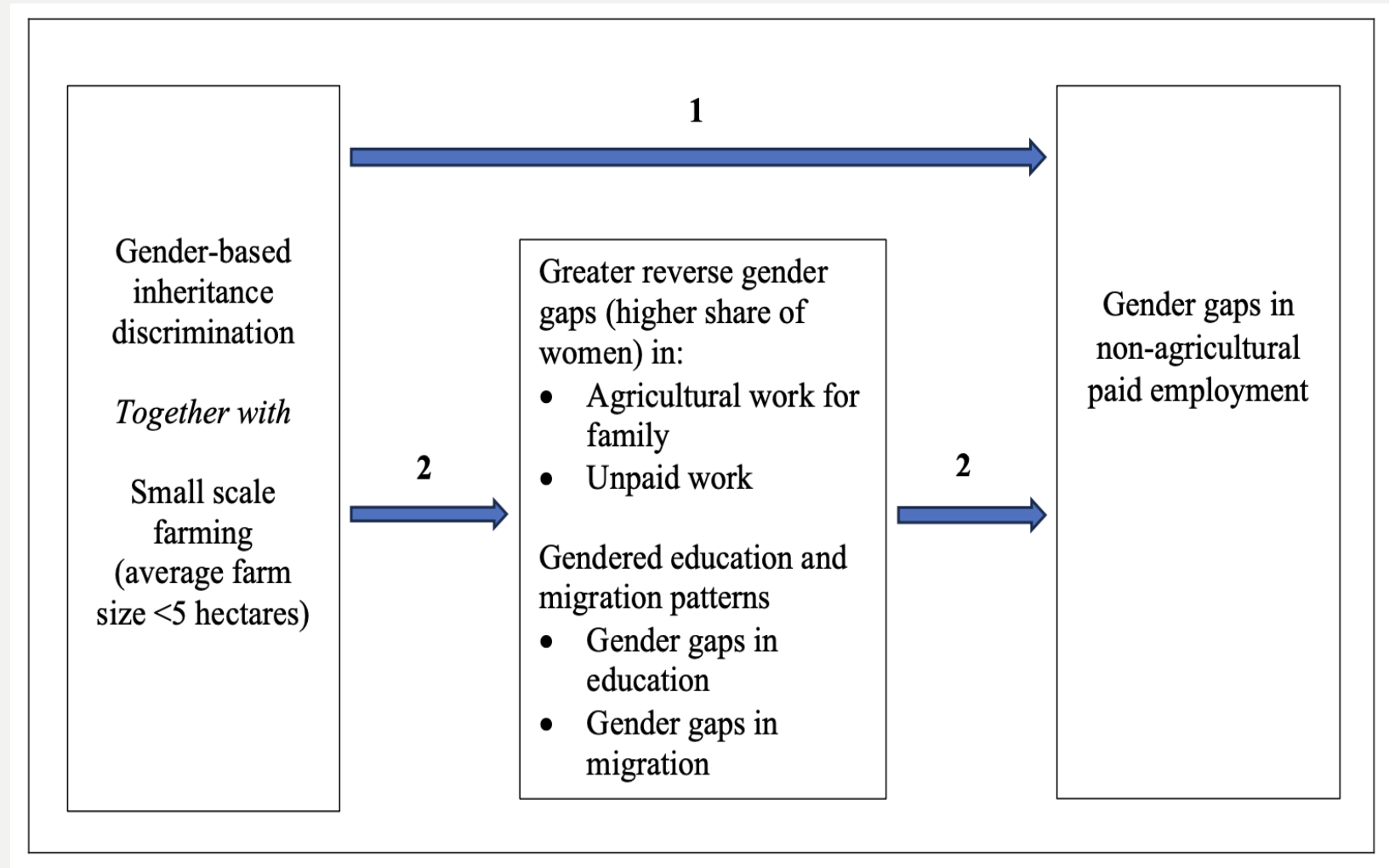
Cross-Country Panel Data Analysis

- The Jobs of the World Database (JWD)
 - *Aggregated data from IPUMS and DHS for 113 countries, between 1990 and 2019*
- World Bank's Women, Business and the Law 2023 dataset
- 1990 FAO World Census of Agriculture

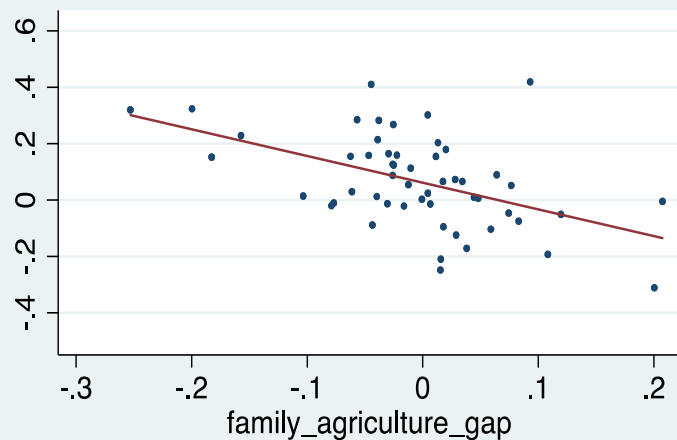
India Case Study: Difference-in-Differences Analysis

- The 2005- 2006 National Family Health Survey (NFHS)
- The National Sample Survey (NSS-64, July 2007-June 2008)

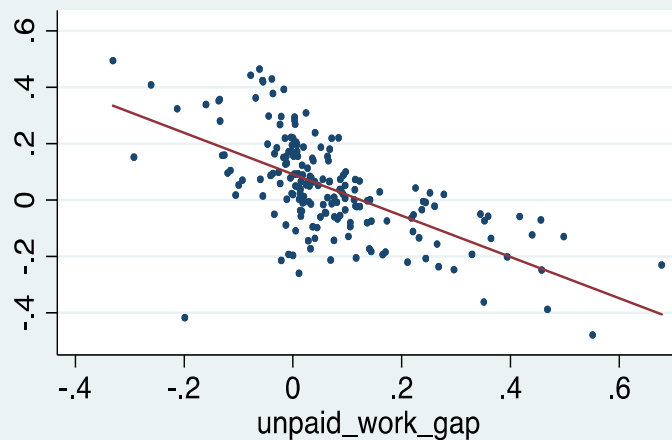
Cross-country panel data analysis



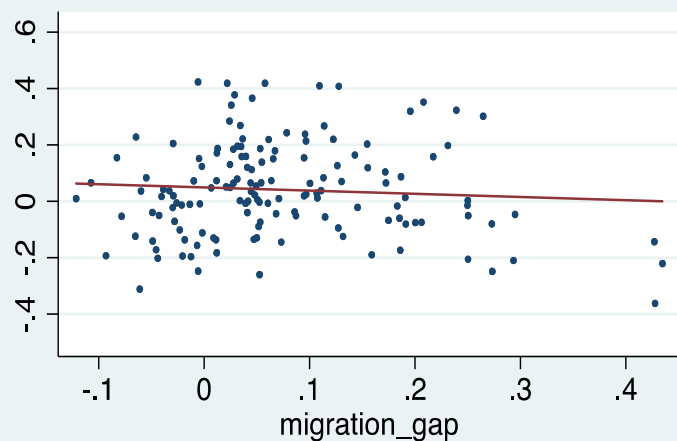
Gender gap in non-agricultural employment (women-men)



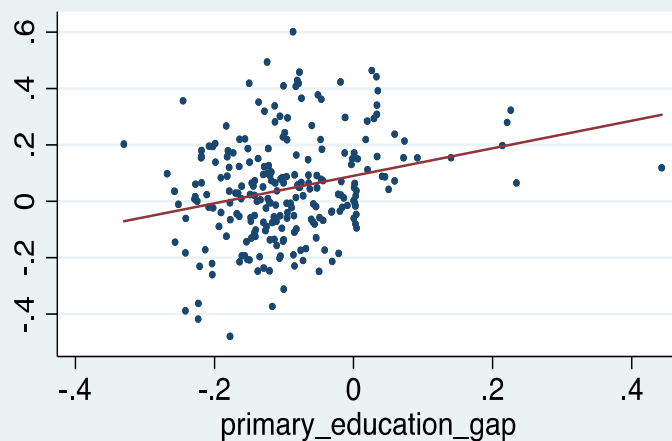
• nonagricultural_employment_gap — Fitted values



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• nonagricultural_employment_gap — Fitted values

Two-way fixed effects model

- $Women's\ employment\ in\ non-agriculture_{it} = \beta_1 X_{it} + \beta_2 Fertility_{it} + \beta_3 \log(GDP)_{it} + \beta_4 \log(GDP)^2_{it} + \varepsilon_{it}$
- X_{it} include our key independent variables

Results

- Negative association between family work in agriculture and non-agricultural employment
- Negative association between unpaid work and non-agricultural employment
- Positive association between migration and non-agricultural employment
- Interaction of unequal inheritance laws and small-scale farming has the expected negative impact

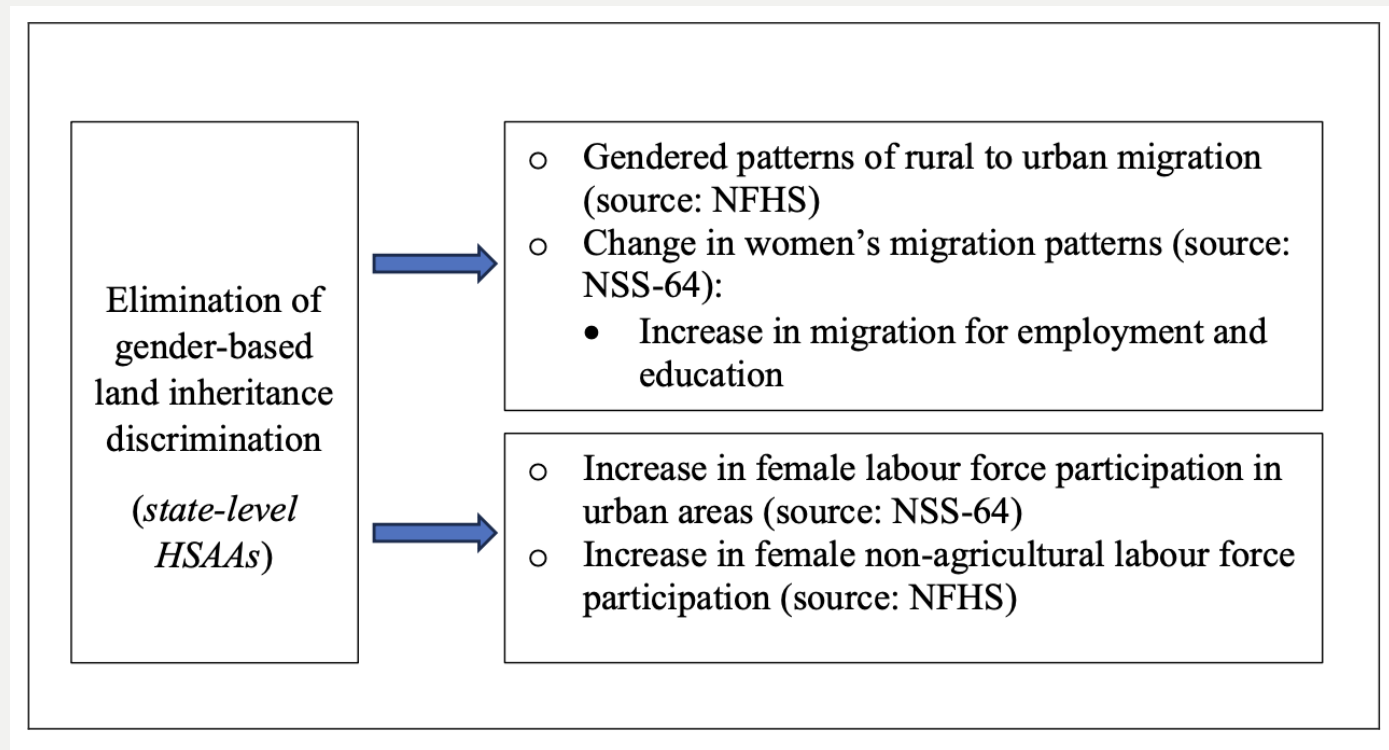
Table 2: Determinants of women's non-agricultural employment

	Share of women in non-agriculture			
	(1)	(2)	(3)	(4)
Share of women family workers in agriculture	-0.353*** (0.13)			
Share of women unpaid workers		-0.264** (0.12)		
Share of women migrated at least once			0.220*** (0.07)	
Unequal inheritance*small-scale farming				-0.094*** (0.02)
Share of women with at least primary education	0.063 (0.16)	0.009 (0.10)	0.082 (0.12)	-0.015 (0.19)
Share of women with at least secondary education	-0.218** (0.11)	-0.222*** (0.09)	-0.159 (0.11)	0.251 (0.19)
Fertility	-0.545 (0.43)	0.167 (0.13)	0.325** (0.15)	-0.22 (0.16)
Log (GDP)	-0.116 (0.29)	0.184 (0.25)	-0.40 (0.41)	0.806 (0.61)
Log (GDP) ²	0.008 (0.02)	-0.011 (0.01)	0.008 (0.02)	-0.045 (0.04)
<i>Fixed effects</i>				
Country	yes	yes	yes	yes
Year	yes	yes	yes	no
Observations	197	303	198	99
Within R2	0.629	0.478	0.477	0.099

Source: The Jobs of the World Database (Bandiera and Elsayed 2023)

India: Difference-in-differences analysis

- **The 1956 Hindu Succession Act:** the gender bias in land inheritance
- **The 2005 Hindu Succession Amendment Act:** removal of the gender bias in the entire country
- The amendments between 1986 and 1994 (*state-level HSAAs*): removal of bias in 4 treatment states Maharashtra (1994), Karnataka (1994), Tamil Nadu (1989) and Andhra Pradesh (1986)



Model specifications

Estimations with the NSS data

$$(3) \quad \textit{Migration for employment}_{ist} = \alpha + \beta_1 \textit{HSAA}_{ist} + X_{ist} + \lambda_s + \delta_t + \varepsilon_{ist},$$

$$(4) \quad \textit{Urban_FLFP}_{ist} = \alpha + \beta_2 \textit{HSAA}_{ist} + X_{ist} + \lambda_s + \delta_t + \varepsilon_{ist}$$

\textit{HSAA}_{ist} is a dummy variable equal to 1 if a woman i belongs to reform state s and was at school age (10 years or less) at the time of reform in her state

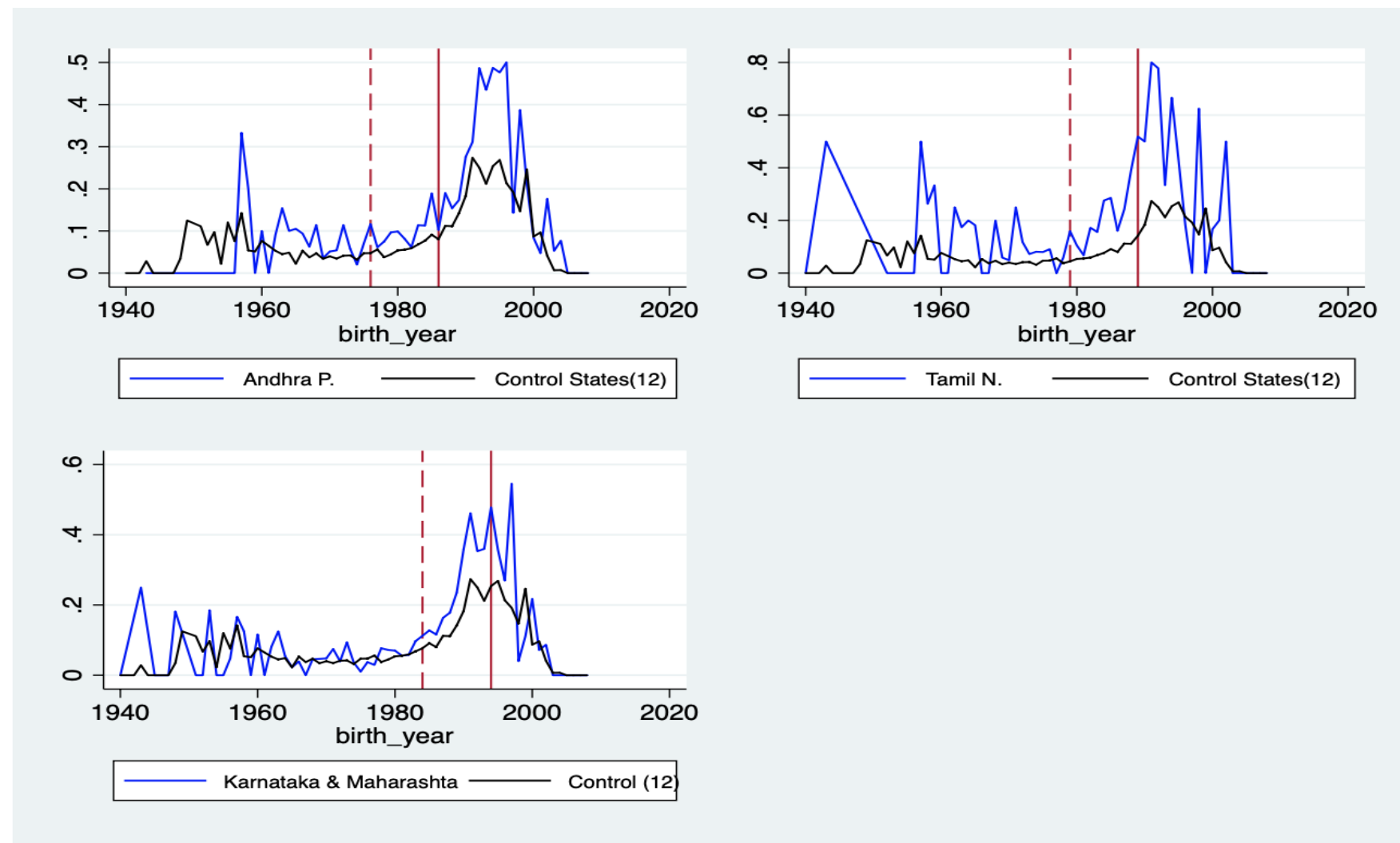
Estimations with the NFHS data

$$(5) \quad \textit{Rural to urban migration}_{ist} = \alpha + \beta_3 \textit{HSAA}_{ist} + X_{ist} + \lambda_s + \delta_t + \varepsilon_{ist},$$

$$(6) \quad \textit{Non-agricultural FLFP}_{ist} = \alpha + \beta_4 \textit{HSAA}_{ist} + X_{ist} + \lambda_s + \delta_t + \varepsilon_{ist}$$

\textit{HSAA}_{ist} is a dummy variable equal to 1 if a woman i belongs to reform state s and was unmarried at the time of reform in her state.

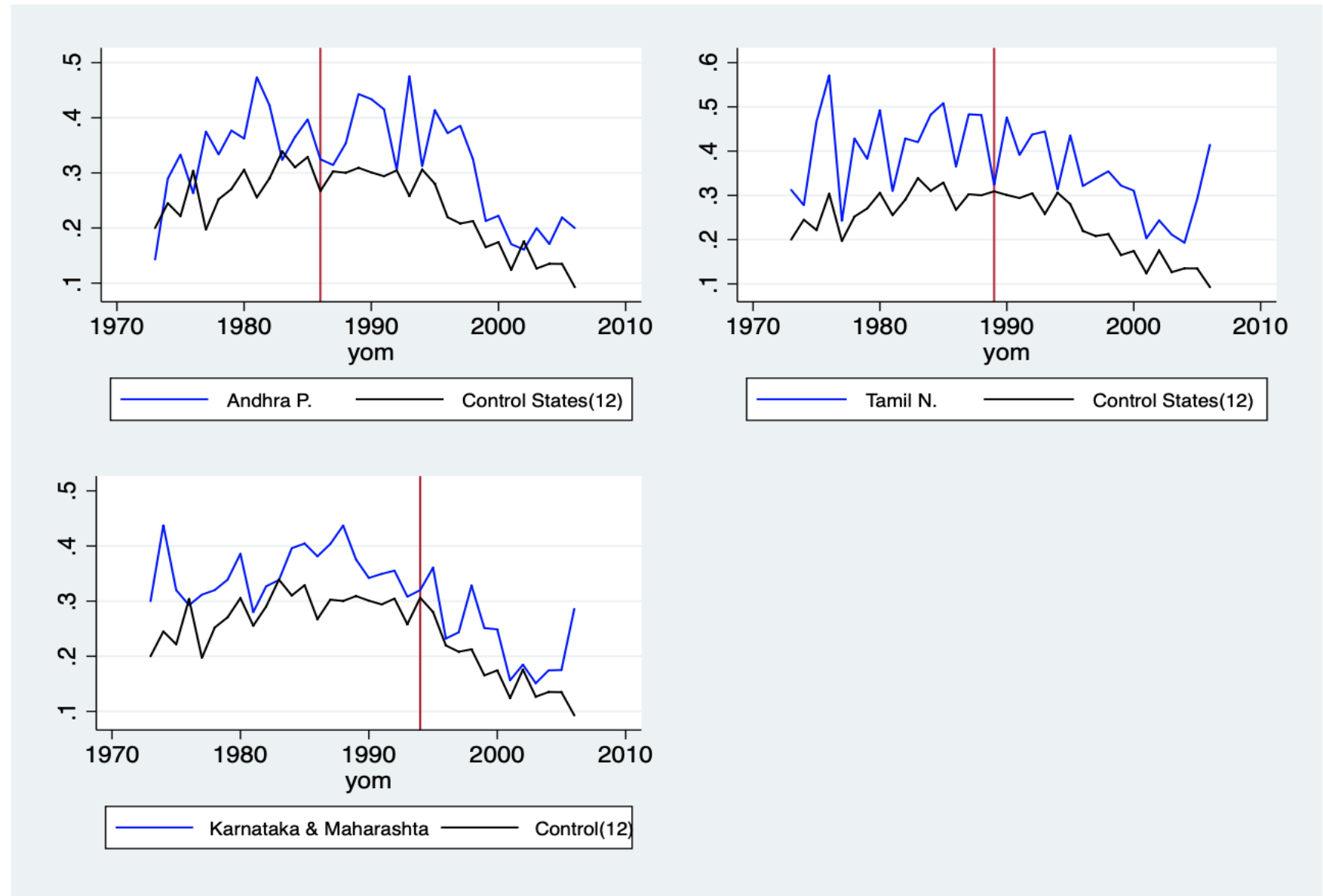
Figure 4: Women's average migration for employment or education in reforming and non-reforming states, NSS data



Source: The National Sample Survey 2007-2008 (64th round)

Notes: The solid red line in each panel indicates the year of reform in that particular state, the dashed line indicates 10 years prior to state.

Figure 5: Women's average non-agricultural labour force participation in reforming and non-reforming states, NFHS data



Source: The National Family Health Survey 2004-2005

RESULTS WITH THE NSS DATA

- The state-level HSAA increases the odds of migrating for employment or education by 1.2 times for Hindu, Buddhist, Jain, and Sikh women
- The HSAA increases the odds of labour force participation of urban women by 1.3 times.

Table 6: The impact of HSAA on women's migration patterns, NSS data

	Migration for employment or education	
Odds ratios	(1)	(2)
HSAA	1.156* (0.097)	1.181** (0.100)
State FE	yes	yes
Year of birth FE	yes	yes
Household controls	no	yes
Observations	33,822	33,822

Source: The National Sample Survey 2007-2008 (64th round)

Table 7: The impact of HSAA on Hindu women's labour force participation in urban areas, NSS data

Odds ratios	(1)	(2)	(3)
HSAA	1.161*** (0.064)	1.165*** (0.064)	1.255*** (0.072)
State FE	yes	yes	yes
Year of birth FE	yes	yes	yes
Household controls	no	yes	yes
Individual controls	no	no	yes
Observations	49,000	49,000	49,000

Source: The National Sample Survey 2007-2008 (64th round)

RESULTS WITH THE NFHS DATA

- The state-level HSAA increases the odds of women's migration to urban areas by 1.5 times.
- The HSAA increases the odds of non-agricultural labour force participation of women in urban areas by 1.2 times

Table 8: The impact of HSAA on Hindu women's migration to urban areas, NFHS data

Odds ratios	(1)	(2)	(3)
HSAA	1.404*** (0.125)	1.493*** (0.143)	1.449*** (0.137)
State FE	yes	yes	yes
Year of marriage FE	yes	yes	yes
Individual controls	no	yes	yes
Household controls	no	no	yes
Observations	22,362	22,359	22,209

Source: The National Family Health Survey 2004-2005

Table 9: The impact of HSAA on Hindu women's non-agricultural labour force participation in urban areas, NFHS data

Odds ratios	(1)	(2)	(3)
HSAA	1.148*** (0.056)	1.137*** (0.056)	1.176*** (0.060)
State FE	yes	yes	yes
Year of marriage FE	yes	yes	yes
Individual controls	no	yes	yes
Household controls	no	no	yes
Observations	22,363	22,360	22,210

Source: The National Family Health Survey 2004-2005

Conclusion

- Gender-based discriminatory land inheritance laws confine women to unpaid agricultural work, limit educational access, and hinder urban migration, thereby restricting non-agricultural employment opportunities.

- **Cross-Country Evidence:**

Women in countries with unequal inheritance laws and small-scale farming are disproportionately involved in unpaid agricultural labor and exhibit lower participation in non-agricultural paid employment.

- **India Case Study Insights**

Legal reforms granting women equal land inheritance rights i) shifted migration patterns from marriage migration to migration for education or employment; ii) increased female participation in urban labor markets and non-agricultural sectors.

- **Policy Implications:** Effective strategies must include not only childcare provision but also comprehensive exit packages—occupational training, guaranteed employment, and housing—to facilitate women's transition from agriculture to urban employment.