

Gender and Land in Mexico

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Why Women's Land Management?

- Welfare Gains (direct control over production and, to some extent, consumption)
- Increased Agency
- Access to Credit (collateral)
- Dearth of Empirical Evidence
- **Lack of Program Evaluation**

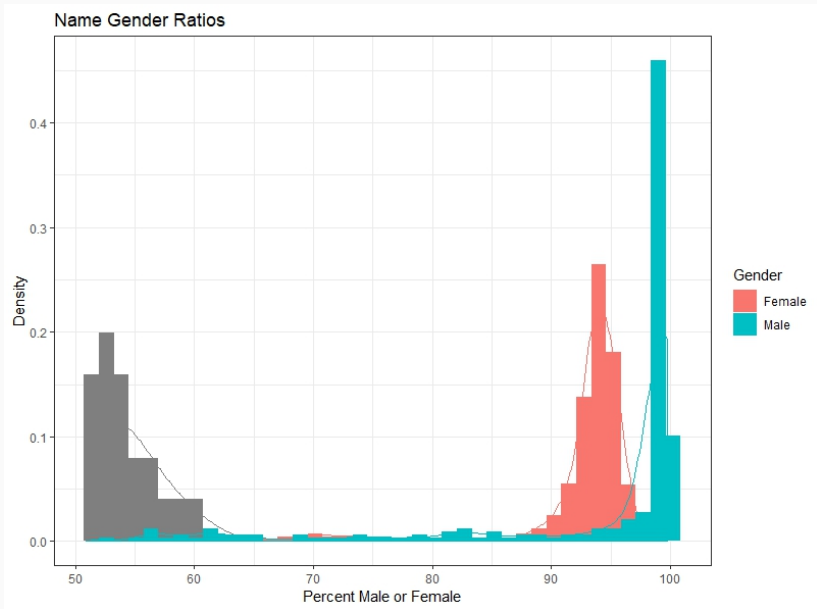
Research Questions

- What percent of managers are female in Mexico?
- What percent of land is managed by women in Mexico?
- What are the changes over time in the last 25 years?
- Can we determine what is causing changes over time?

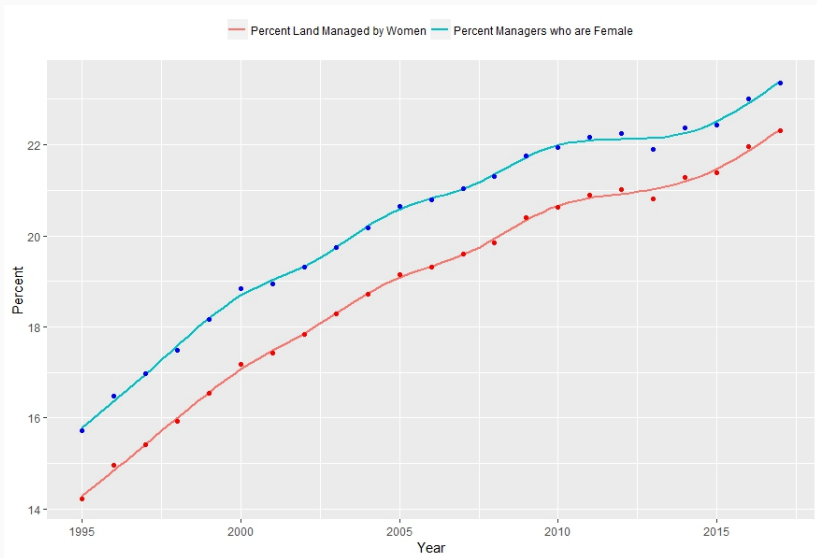
Opportunity: Procampo Administrative Records

- Ag. subsidy that serves millions every year
- 90% of Mexico's arable land from 1995-2017
- 34 Million observations identified at the *ejido* level
- Name, *ejido*, acres, crop, irrigation status, old/young
- In 1998, 2013-2016: Gender

Gender and Names in 1998, 2013-16 Plot



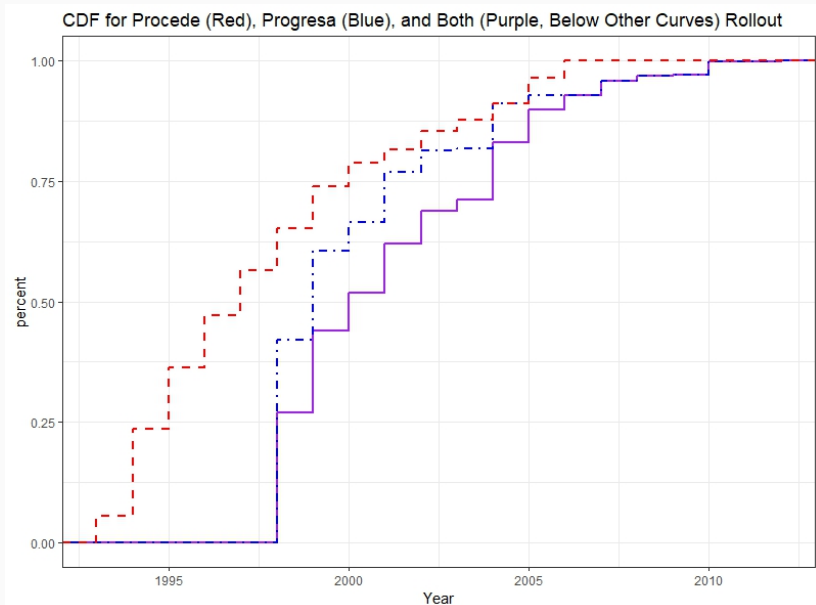
Processed Data



Causes?

- Land titling affecting men and women differently?
 - 3.4 Million titles distributed from 1993-06
 - Affected Migration, Bequeathing
- Women's empowerment program Progresa
 - Serves 1/4 Mexican families
 - Transfer directly to women of about 20% of HH expenditures
- Male emigration? (correlation)
 - Snapshot from 2000: 1/7 Mexican workers are in USA (Mishra, 2007)
 - More men than women migrating
- Divorce? (left for future research)
 - No fault divorce introduced in 2008
 - Divorce rates increase in this study period

Program Rollouts



Identification Strategy

- Conditional on fixed effects, parallel trends (pre-trends analysis)
- The condition that would bias our estimates is the existence of a factor that varies over both time and place, and is correlated with the program rollout schedule(s) and our dependent variables

Results 1

	<i>Dependent variable:</i>	
	Percent of Managers who are Female	Percent of Land Managed by Women
	(1)	(2)
Procede Dummy	0.184 (0.132) [-0.07, 0.32]	0.052 (0.121) [-0.17, 0.18]
Progresa Percent	0.624*** (0.167) [0.37, 0.82]	0.417** (0.175) [0.15, 0.61]
Interaction	-0.427*** (0.131) [-0.68, -0.29]	-0.258* (0.135) [-0.48, -0.12]
Observations	501,741	501,741
R ²	0.768	0.739
Adjusted R ²	0.757	0.727

Notes:

*p<0.1; **p<0.05; ***p<0.01

Ejido and state-by-year fixed effects.

Standard errors, in parentheses, clustered at state level.

Percentile-t Confidence Intervals at the 95% confidence level in square brackets.

Results 2

	<i>Dependent variable:</i>	
	Percent Female Managers	Percent Land Managed by Women
Ratio of Women to Men	0.742*** (0.179)	0.635*** (0.167)
Dependent variable mean	19.84	17.57
Observations	8,907	8,907
R ²	0.887	0.863
Adjusted R ²	0.849	0.816

Note:

*p<0.1; **p<0.05; ***p<0.01
Municipality and state-by-year fixed effects
Standard errors, in parentheses, clustered at state level

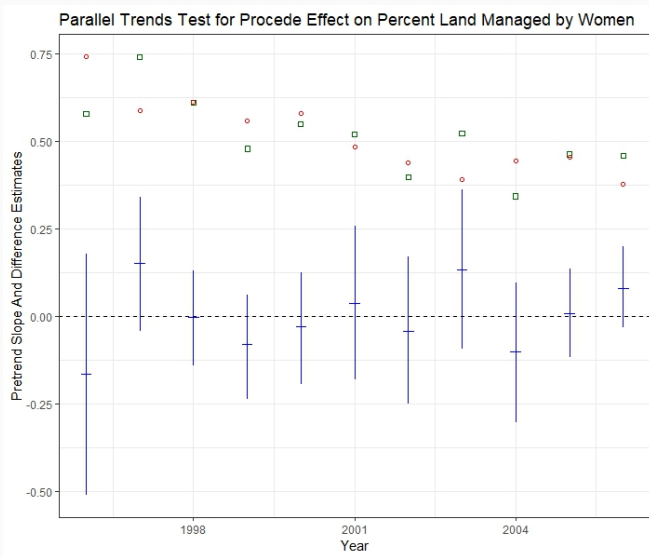
Conclusion

- Pose and Partially solve a Puzzle: Why did women's land increase so markedly from 1995 to 2017?
- Roughly 10% of the change over time is attributable to migration
- Roughly 5% can be attributed to the two gov programs
- What is causing the remaining 80-85% of the change?
- Next Steps: **irrigation and crop data to understand changes in welfare more clearly**

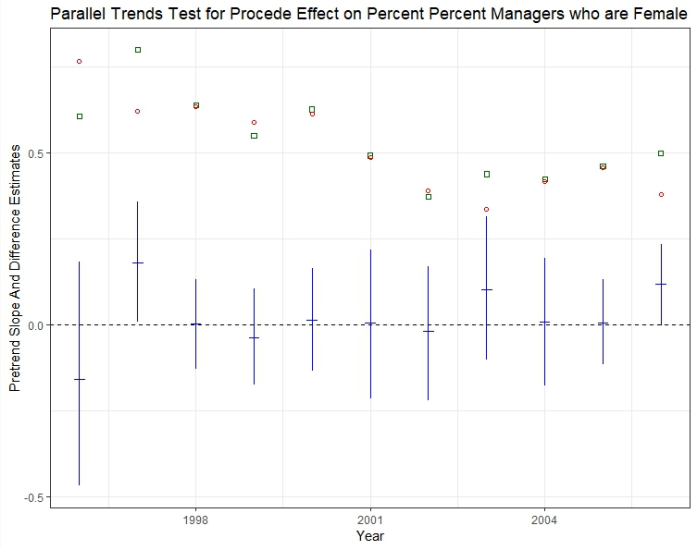
Gender and Names in 1998, 2013-16 Table

<u>Common Male Names</u>			<u>Common Female Names</u>		
Name	Female	Male	Name	Female	Male
Jose	889	169,925	Juana	16,302	1,090
Juan	331	78,535	Margarita	10,106	660
J	881	55,495	Maria De	9,611	579
Francisco	186	47,998	Rosa	8,468	548
Pedro	150	42,955	Maria Del	8,268	523
Antonio	172	38,556	Francisca	8,080	550
Manuel	125	36,580	Guadalupe	7,804	8,571
Miguel	122	30,528	Teresa	6,824	401
Jesus	517	26,644	Josefina	6,344	383
Luis	87	23,087	M. Guadalupe	5,852	382

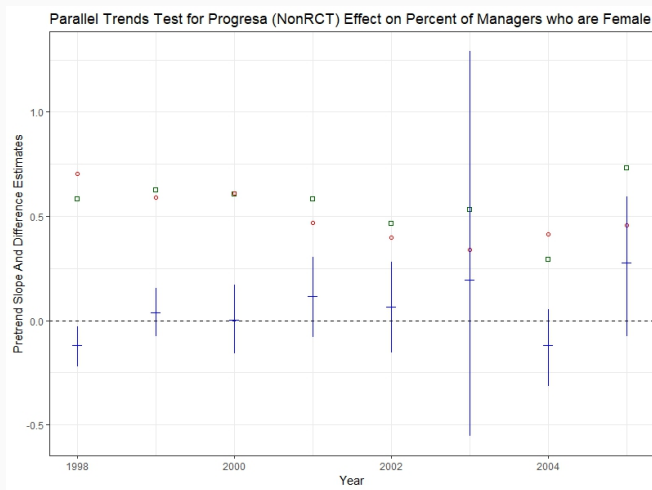
Pre-trends 1/4



Pre-trends 2/4

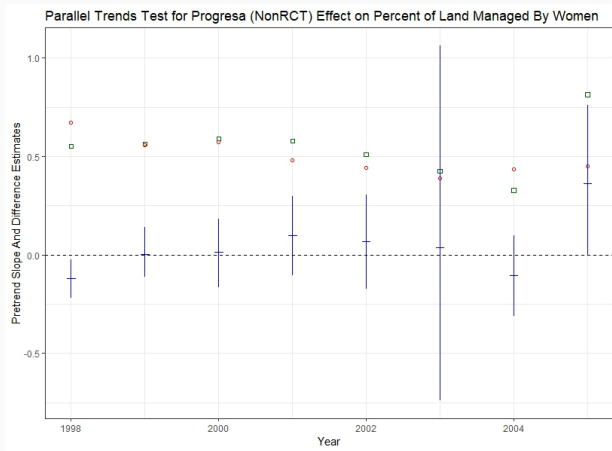


Pre-trends 3/4



Return

Pre-trends 4/4



Prompts a robustness check where we drop 1998 from our analyses.
No qualitative difference