Frontier Gender Norms: History and Legacy

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- *This paper:* a persistent cultural imprint of American frontier history on gender norms

Frontier Conditions and Women's Lives

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Women on the Frontier

- more likely to be **married** (early, with older men)
- **high fertility** (proxied by child-women ratios)
- **low LFP**, but among working women, **higher status occupations**

Frontier conditions and gender roles: a view from economics of the family

- **Isolation** from extended family and social networks
  - most goods and services home-produced → increased domestic burden, esp. for women (Greenwood, Seshadri & Yorukoglu, 2005; Cavalcanti & Tavares, 2008)
  - lack of protection against violence or outside options (Figueredo et al, 2001)
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The Legacy of the Frontier on Gender Norms

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- Low FLFP $\neq$ greater leisure; rather, more domestic work
  (likely mirroring the historical domestic burden, though lack time use data then)
- Conservative gender attitudes incl. among women
- Lower participation in politics

Contributions to the Literature

1. **Cultural and Historical Origins of Gender Norms**
   e.g., Fernandez et al, 2004; Fernandez & Fogli, 2009; Fogli & Veldkamp, 2011; Alesina et al, 2013

   $\longrightarrow$ frontier settlement and conservative gender norms, distinctive geography of gender inequality

2. **Historical Debates: Women on the Frontier**
   e.g., Fragher, 2008; Jeffrey, 1998; Jensen, 1981; Myres, 1982

   $\longrightarrow$ reconciling seemingly competing historical narratives with quantitative analysis and insights from family economics

3. **Comparative Perspective: Settlement of Australia and Gender Norms**
   Baranov et al, 2020, 2021; Grosjean & Khattar, 2019

   $\longrightarrow$ new insights on social isolation mechanism, possibly distinct in U.S.

Roadmap

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Fertility and Gender Inequality on the Frontier

The Frontier Legacy in the Long Run

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  up to and including 1890 the country had a frontier of settlement, but at present the unsettled area has been so broken into by isolated bodies of settlement that there can hardly be said to be a frontier line.

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  up to and including 1890 the country had a frontier of settlement, but at present the unsettled area has been so broken into by isolated bodies of settlement that there can hardly be said to be a frontier line.
- Frontier as a "**form of society rather than an area**" (Turner, 1896)

Mapping the Frontier

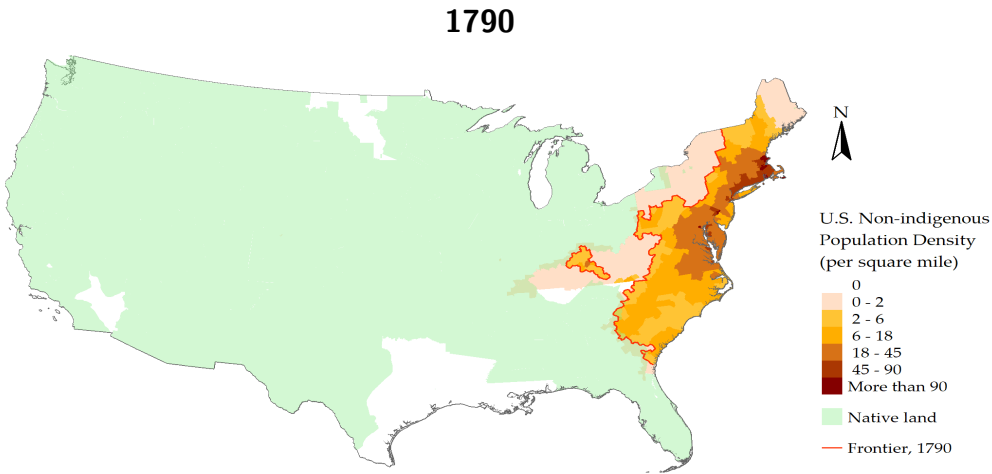
- **Locate frontier line** and **trace it over time**
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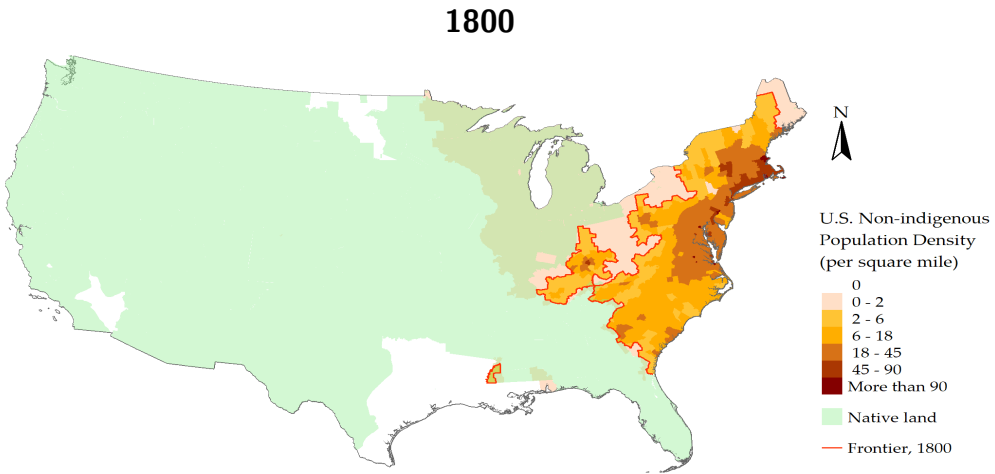
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  - Steckel (1989): frontier $\approx$ Minnesota, Iowa, Kansas, Texas, and west
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America's Westward Expansion

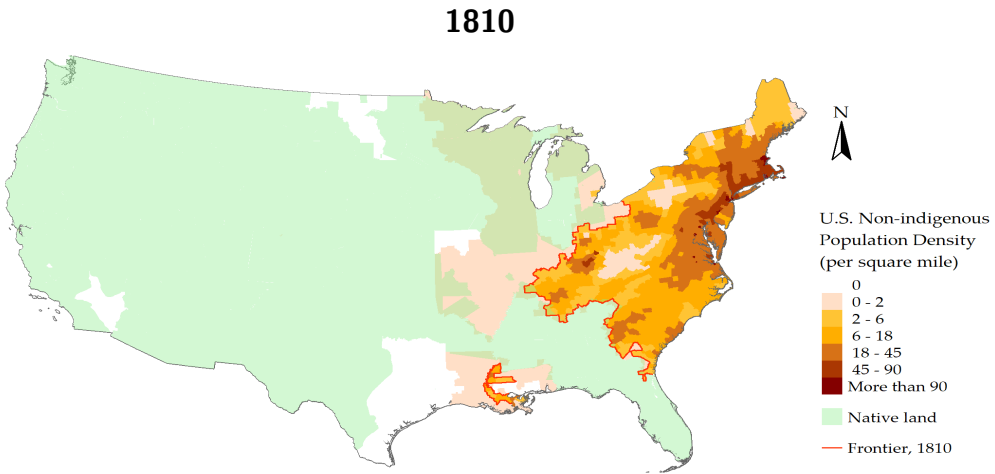
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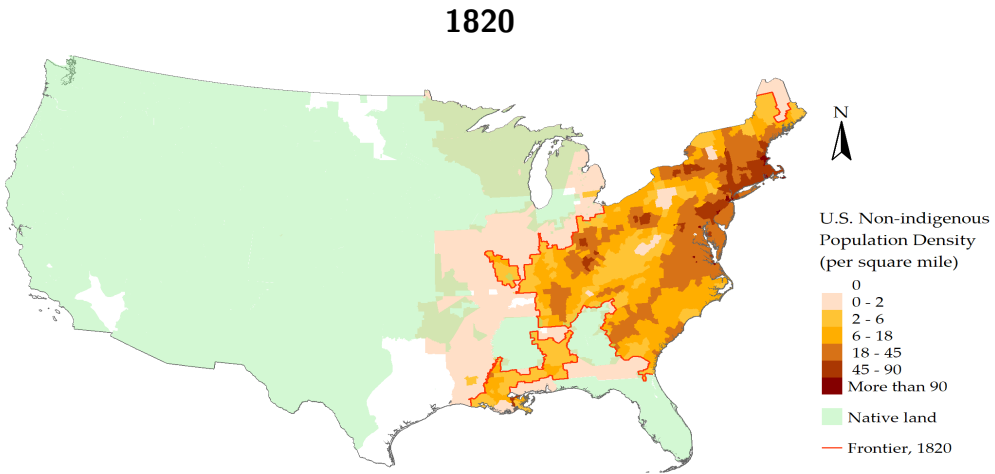
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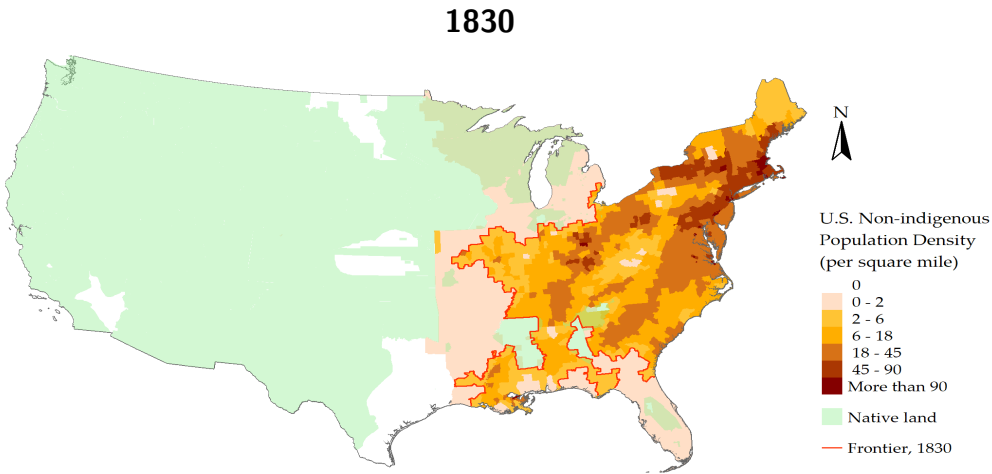
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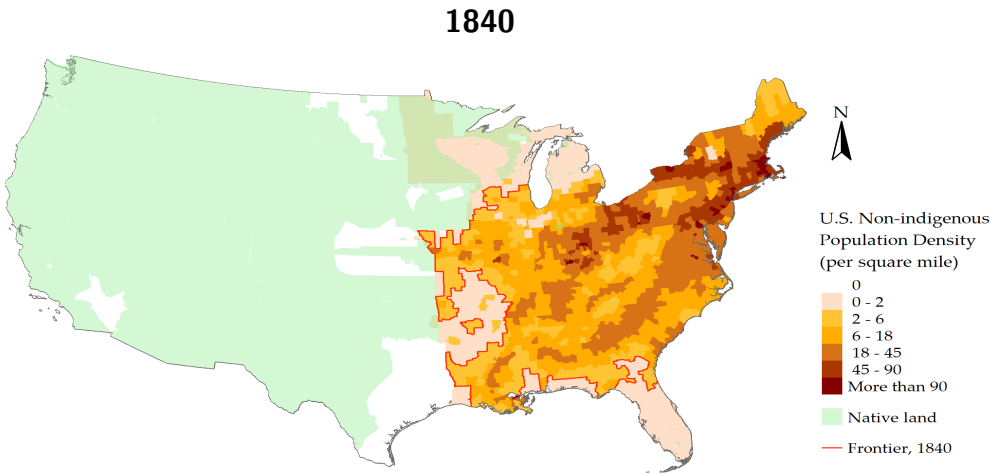
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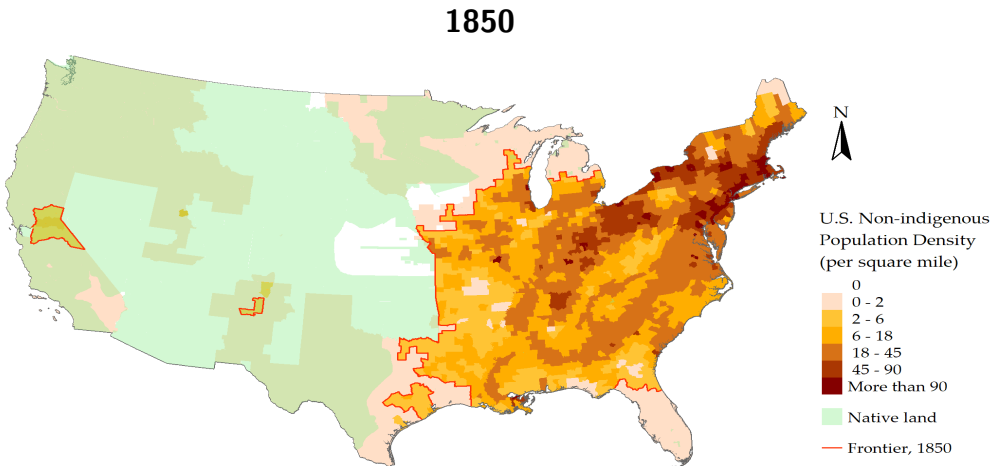
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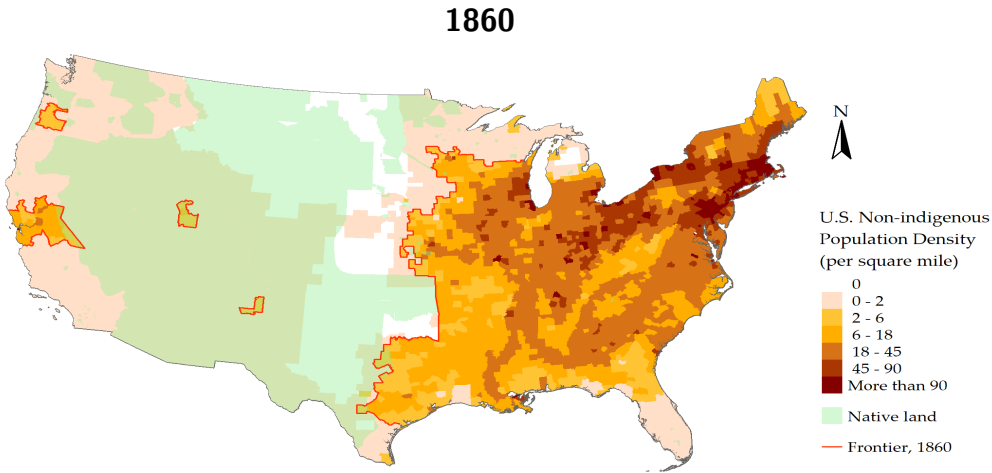
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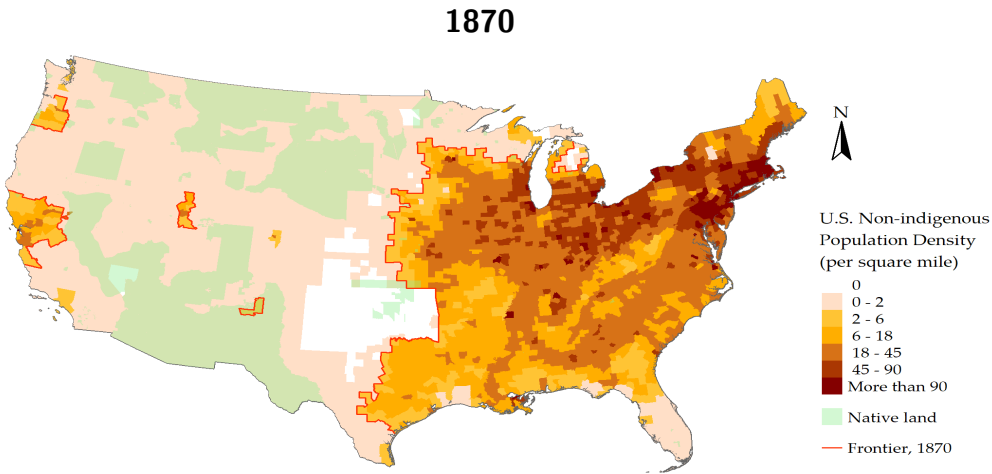
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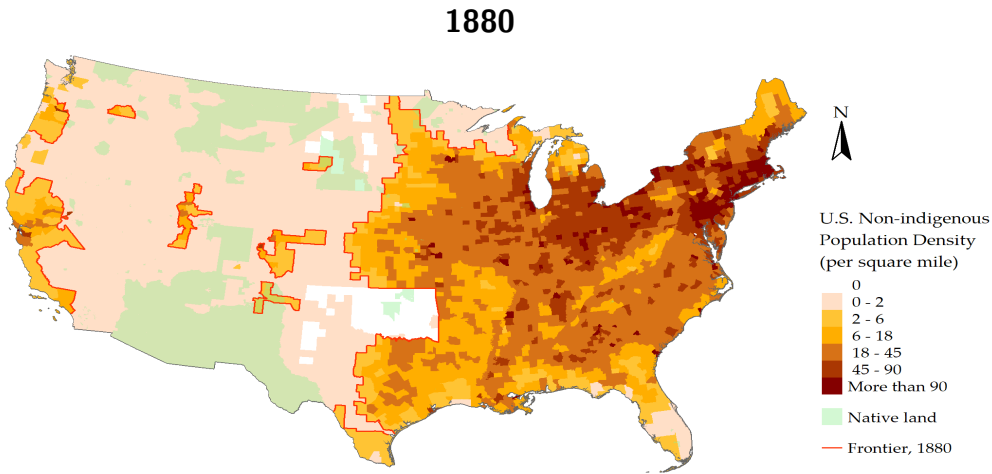
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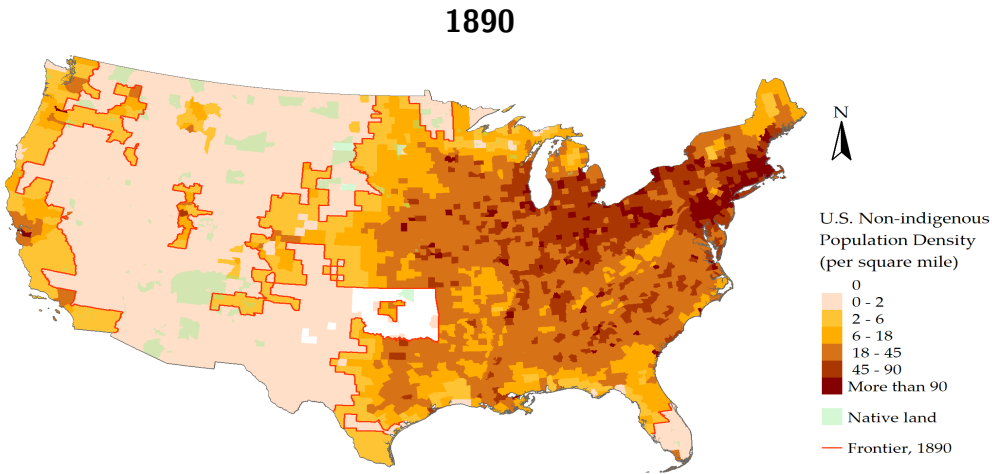
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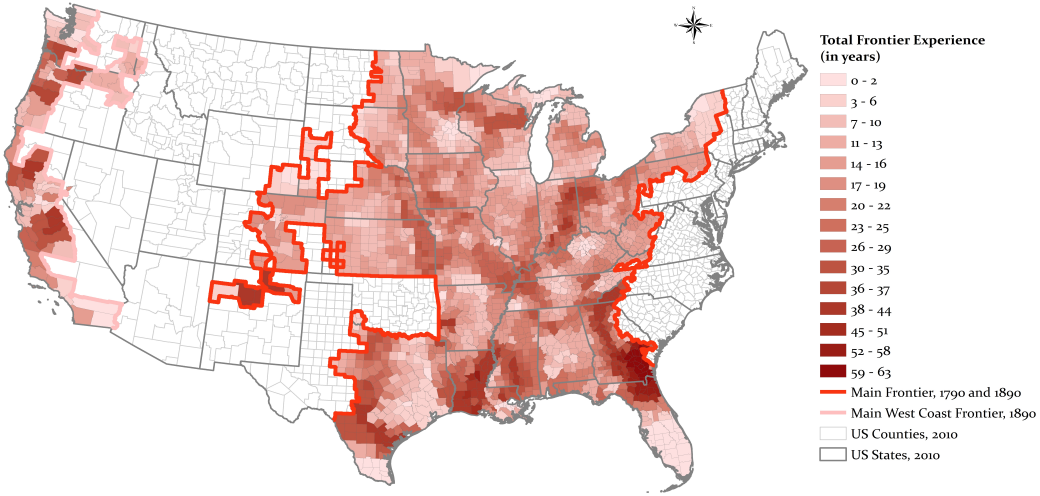
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- **Measure of total frontier experience (TFE)**
  - total number of years spent on the frontier between 1790 and 1890

Total Frontier Experience (TFE), 1790–1890



range of 0 to 63 years, mean of 18 years, std. dev. of 11 years

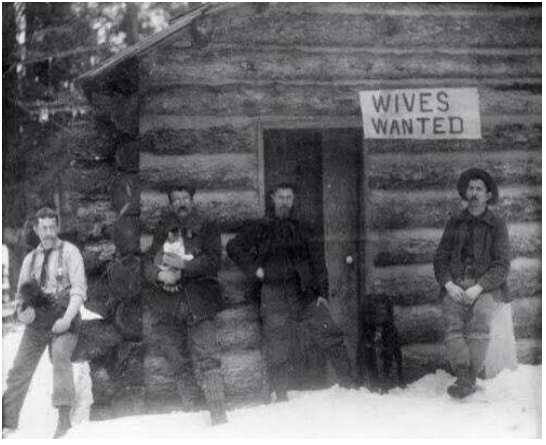
Images of Frontier Society





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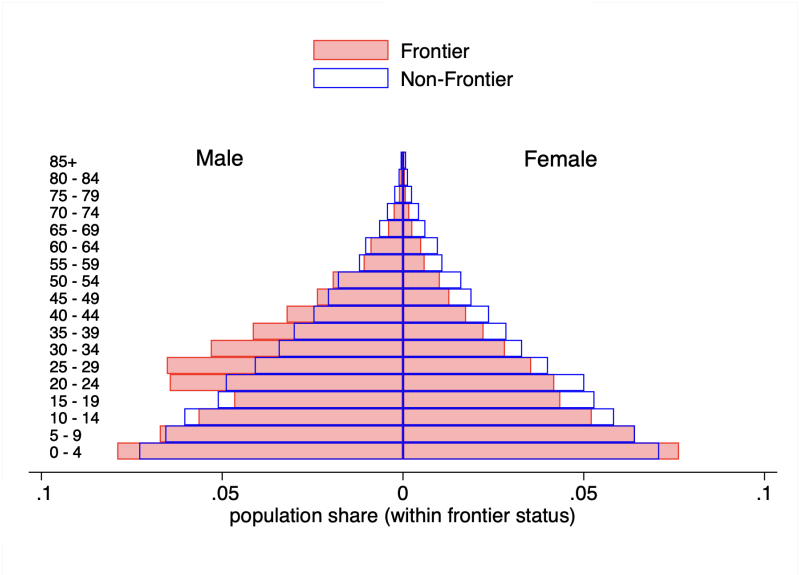
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Frontier Demographics

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Two historical narratives of gender roles on the frontier

1. Frontier women as **entrepreneurial**, **independent**

   Economic necessity and labor scarcity $\longrightarrow$ blurred gender roles, empowered women

   . . . by the demands it made on human beings for survival, ***frontier economy established a certain rough egalitarianism*** *which challenged other, long-established concepts of propriety.* (Flexner & Fitzpatrick, 1996)

   Men and women generally had different roles to play, but the mutuality between the sexes enforced by ***the needs of homesteading expanded women's power to negotiate and win****.* (Harris, 1984)

2. Frontier women as **home-bound**

   Increased domestic burden, no empowerment $\longrightarrow$ asymmetric erosion of gendered work

   Even though frontier conditions forced them into manly pursuits and led them to modify some of their standards, they hardly pressed for a liberation from female norms and culture. Much of the 'freedom' which women experienced was the freedom to work even harder than they had before, with dramatic results" (Jeffrey, 1979)

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Marriage, Fertility, and Female Labor on the Frontier

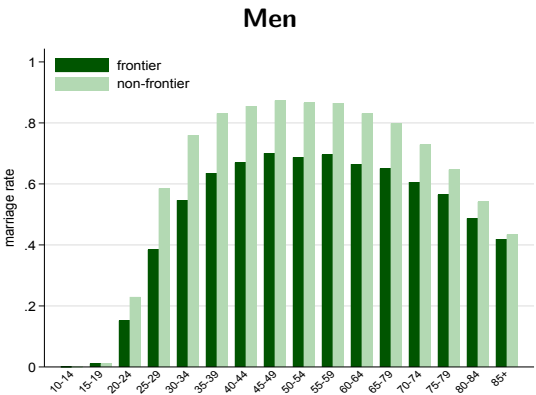
$$x_{ct} = \alpha + \beta \text{ frontier}_{ct} + \theta_{d(c)} + \theta_t + \varepsilon_{ct}$$

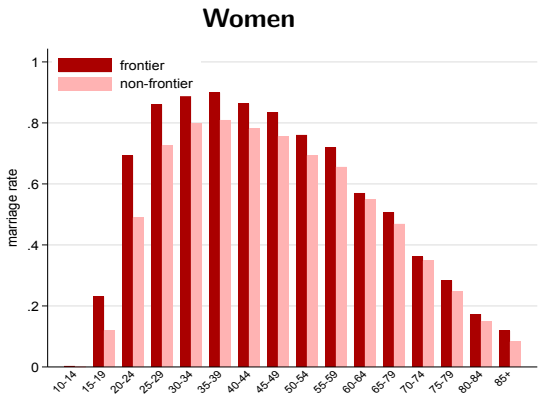
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	Marriage Patterns			
	Share of Women Ever Married (1)	Share of Men Ever Married (2)	Age Gap Between Spouses (3)	Women's Divorce Rate (4)
Frontier	0.0491*** (0.005)	-0.0624*** (0.007)	0.239*** (0.066)	-0.0014*** (0.000)
Dep. Var. Mean (non-frontier)	0.70	0.58	4.36	0.004
Dep. Var. Std. Dev. (non-frontier)	0.04	0.05	2.02	0.003
Division Fixed Effects	✓	✓	✓	✓
Year Fixed Effects	✓	✓	✓	✓

Marriage Rates by Age





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	Family and Work			
	Child-Women Ratio (Fertility) (1)	Share of Households w/ Grandmother (2)	Female Labor Force Participation (3)	Gender Occupational Segregation (4)
Frontier	68.67*** (11.289)	-0.0055*** (0.001)	-0.025*** (0.007)	0.030*** (0.010)
Dep. Var. Mean (non-frontier)	671	0.018	0.12	0.82
Dep. Var. Std. Dev. (non-frontier)	119	0.006	0.13	0.22
Number of County-Years	6,048	5,844	4,905	4,818
Division Fixed Effects	✓	✓	✓	✓
Year Fixed Effects	✓	✓	✓	✓

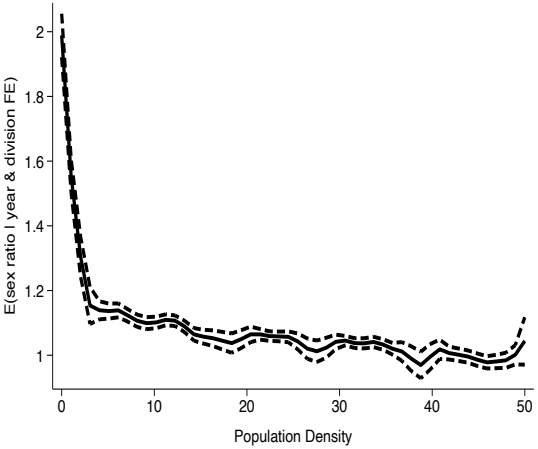
Semiparametric Analysis

$$x_{cdt} = g(\text{isolation}_{cdt}) + \theta_d + \theta_t + \varepsilon_{cdt}$$

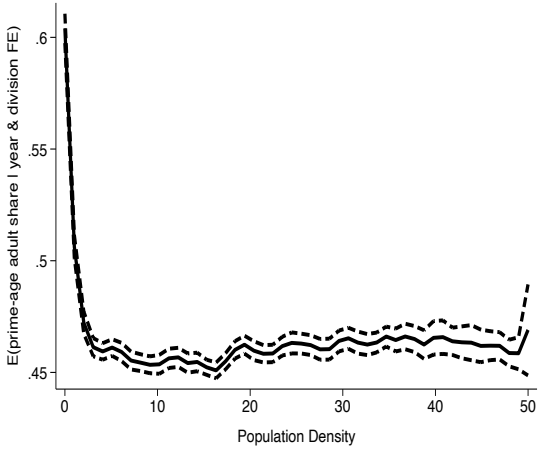
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Sex Ratio (Male/Female)



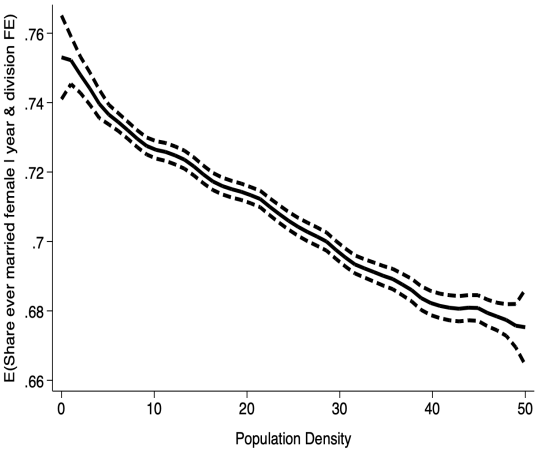
Share of Prime Age Adults



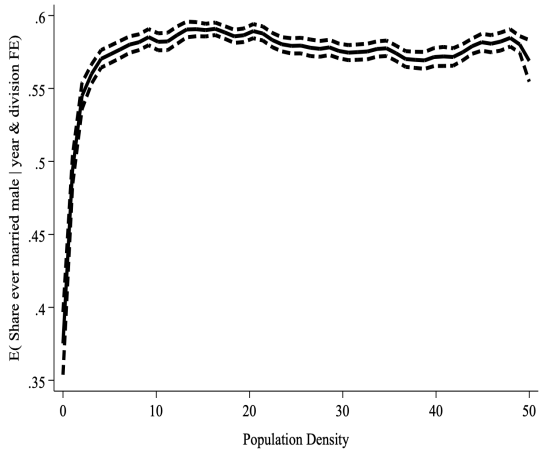
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Share of Women Ever Married



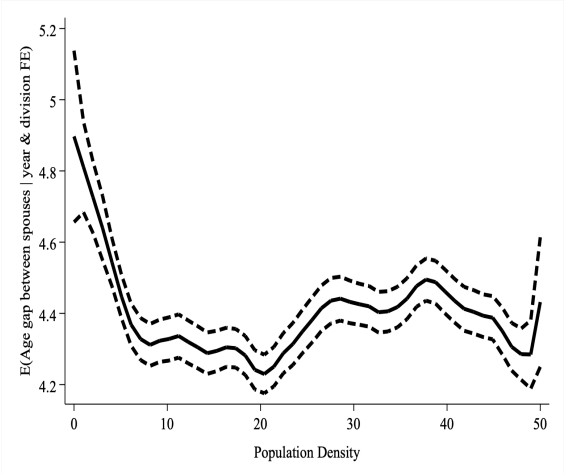
Share of Men Ever Married



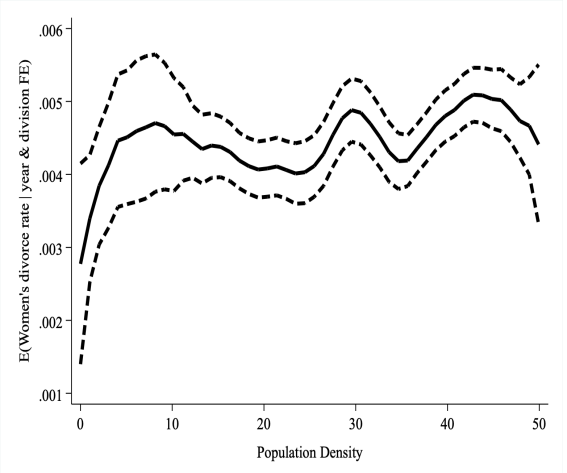
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Age Gap between Spouses



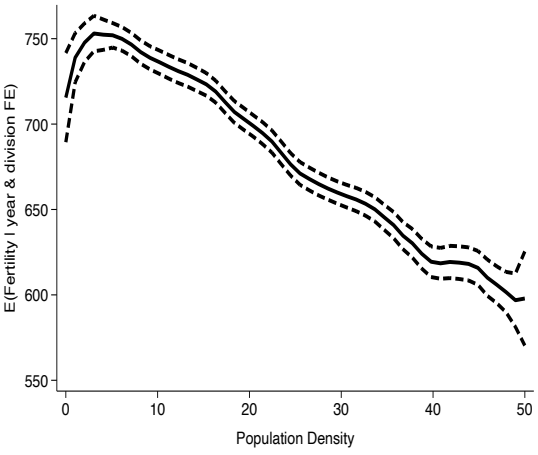
Women's Divorce Rate



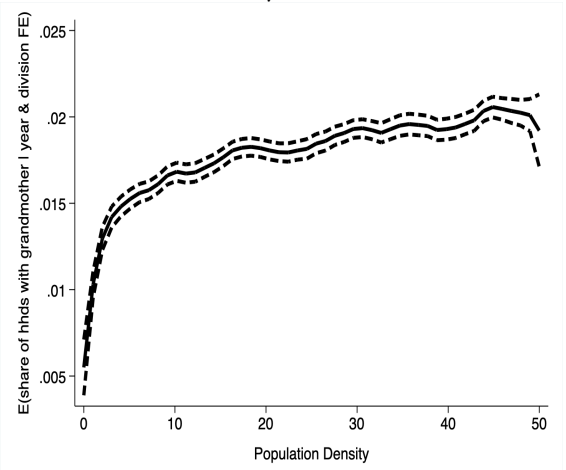
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Child-Women Ratio



Share of HH's w/ Grandmother



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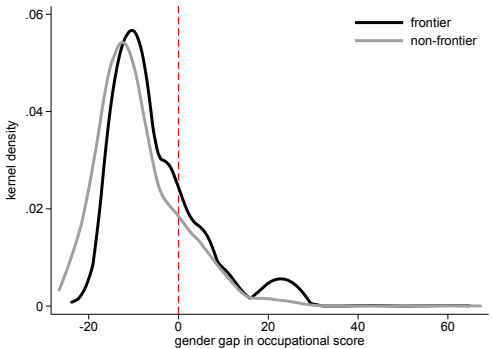
Assessing Female Economic Empowerment on the Frontier

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	Occupational Score		Literacy Rate		School Attendance	
	Women	Women rel. to men	Women	Women rel. to men	Girls	Girls rel. to boys
	(1)	(2)	(3)	(4)	(5)	(6)
Frontier	1.052***	0.072***	0.049***	0.023**	-0.114***	0.046**
	(0.278)	(0.020)	(0.016)	(0.009)	(0.017)	(0.021)
Dep. Var. Mean (non-frontier)	12.6	0.74	0.77	0.92	0.49	0.99
Dep. Var. Std. Dev. (non-frontier)	2.92	0.17	0.25	0.16	0.23	0.17
Number of County-Years	4,795	4,795	6,048	6,047	6,035	5,941
Division Fixed Effects	✓	✓	✓	✓	✓	✓
Year Fixed Effects	✓	✓	✓	✓	✓	✓

An Upper Tail of Economically Empowered Women

Distribution of the Gender Gap in Occupational Scores, 1860



- mass in upper tail: occscore=42
- "managers, officials and proprietors"
- in practice: hotel keepers, restaurant keepers, saloon keepers and bartenders, traders and dealers

The Role of Sex Ratios

	Marriage Patterns				Family and Work			
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	Panel A. Non-Frontier Counties							
Sex Ratio	0.195***	-0.318***	1.124***	-0.00192*	222.3***	-0.0203***	-0.0749*	0.0637*
	(0.024)	(0.026)	(0.258)	(0.001)	(53.756)	(0.002)	(0.041)	(0.034)
Dep. Var. Mean	0.70	0.58	4.36	0.004	671.84	0.01	0.12	0.82
Dep. Var. Std. Dev.	0.04	0.05	2.02	0.003	119.30	0.006	0.13	0.22
Number of County-Years	5,313	5,313	5,313	1,653	5,313	5,210	4,342	4,300
	Panel B. Frontier Counties							
Sex Ratio	-0.00286	-0.0603***	0.141	-0.000625***	11.35	-0.00179**	0.0136***	0.00108
	(0.006)	(0.020)	(0.102)	(0.000)	(28.370)	(0.001)	(0.005)	(0.002)
Dep. Var. Mean	0.76	0.51	4.63	0.003	774.73	0.01	0.07	0.85
Dep. Var. Std. Dev.	0.09	0.11	2.13	0.003	217.20	0.01	0.10	0.23
Number of County-Years	735	735	733	181	735	632	563	518

Roadmap

Introduction

Historical Background

Fertility and Gender Inequality on the Frontier

The Frontier Legacy in the Long Run

Conclusion

Estimating the Long-Run Legacy of TFE

$$y_c^t = \alpha + \beta_t \text{ total frontier experience}_c + \mathbf{x}_c'\boldsymbol{\gamma} + \theta_{s(c)} + \varepsilon_c$$

- total frontier experience$_c$ (TFE): number of decades on the frontier
- β_t: allow TFE relationship to vary over time
- $\mathbf{x}_c$: predetermined geographic and agroclimatic controls
  (lat., long., area, temp., rain, distance to waterways, potential agri. prod., ...)
- $\theta_{s(c)}$: state fixed effects
- Clustered se's: 60 mi^2 grid; spatial HAC 100–1000 km; state

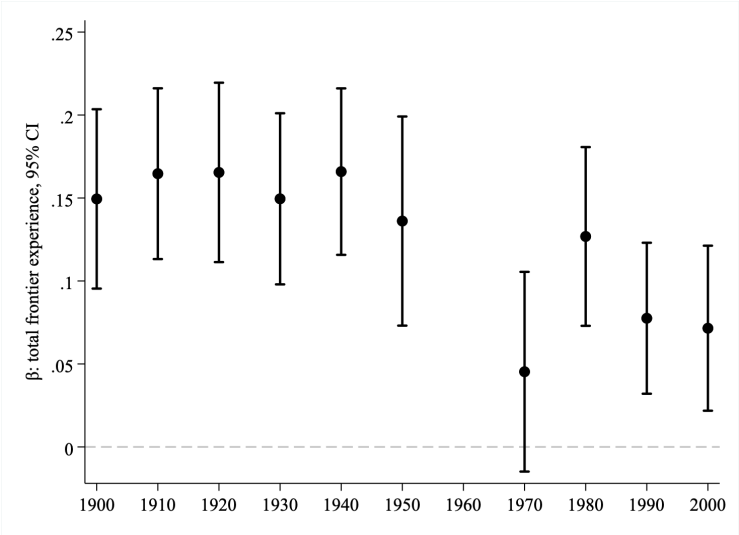
The Frontier Legacy of Gender Inequality in the Long Run

	Child-women Ratio (Fertility) (1)	Share Ever Married Female (2)	Share Ever Married Male (3)	Age Gap Spouses (4)	Female Labor Force Participation (5)	Gender Gap Labor Force Participation (6)	Gender Occupational Segregation (7)
	(A) Outcomes Measured in 1940						
total frontier experience	13.131***	0.005***	0.002**	0.059***	-0.015***	-0.019***	0.007***
	(2.019)	(0.001)	(0.001)	(0.013)	(0.002)	(0.002)	(0.002)
Dep. Var. Mean	375.70	0.78	0.69	4.44	0.17	0.22	0.71
Dep. Var. Std. Dev.	79.15	0.03	0.04	0.62	0.06	0.07	0.06
Number of Counties	2,032	2,032	2,032	1,987	2,033	2,033	2,032

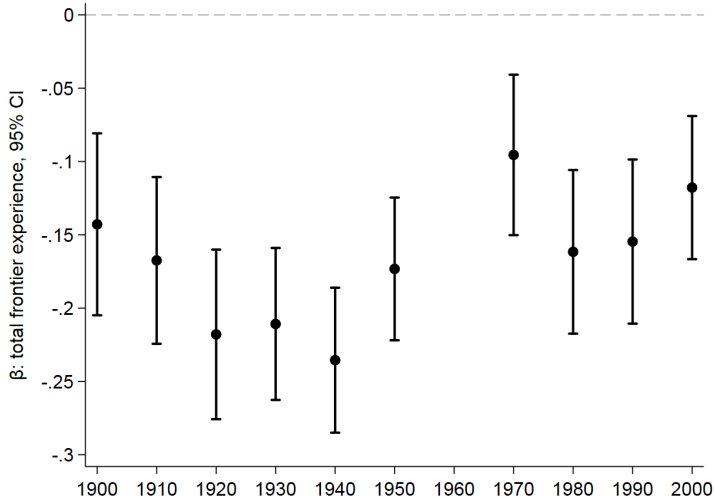
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	(A) Outcomes Measured in 1940						
total frontier experience	13.131***	0.005***	0.002**	0.059***	-0.015***	-0.019***	0.007***
	(2.019)	(0.001)	(0.001)	(0.013)	(0.002)	(0.002)	(0.002)
Dep. Var. Mean	375.70	0.78	0.69	4.44	0.17	0.22	0.71
Dep. Var. Std. Dev.	79.15	0.03	0.04	0.62	0.06	0.07	0.06
Number of Counties	2,032	2,032	2,032	1,987	2,033	2,033	2,032
	(B) Outcomes Measured in 2000						
total frontier experience	2.493***	0.009***	0.008***		-0.008***	0.001	
	(0.881)	(0.001)	(0.001)		(0.002)	(0.003)	
Dep. Var. Mean	269.33	0.81	0.74		0.54	0.81	
Dep. Var. Std. Dev.	34.61	0.05	0.05		0.06	0.09	
Number of Counties	2,036	2,036	2,036		2,036	2,036	
State FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Geographic controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes

The Frontier Legacy of Gender Inequality: Child-Women Ratios



The Frontier Legacy of Gender Inequality: FLFP



The Frontier Legacy of Upper Tail Working Women

	Occupational Score		At least High School Graduates	
	Women's	Women Rel. to Men	Share Female	Women Rel. to men
	(1)	(2)	(3)	(4)
	(A) Outcomes Measured in 1940			
total frontier experience	0.099*	0.017***	-0.010***	-0.002
	(0.051)	(0.003)	(0.002)	(0.005)
Dep. Var. Mean	18.04	0.91	0.21	1.33
Dep. Var. Std. Dev.	2.46	0.13	0.08	0.19
Number of Counties	2,032	2,032	2,032	2,032
	(B) Outcomes Measured in 2000			
total frontier experience			-0.008***	0.000
			(0.002)	(0.001)
Dep. Var. Mean			0.77	1.02
Dep. Var. Std. Dev.			0.08	0.04
Number of Counties			2,034	2,034
State FE	Yes	Yes	Yes	Yes
Geographic controls	Yes	Yes	Yes	Yes

The Frontier Legacy of Gendered Time Use

	Minutes Per Day Allocated to ...				
	Work	Leisure	Household Activities	Other	Leisure Share
	(1)	(2)	(3)	(4)	(5)
	(A) Women Only				
total frontier experience	3.792*	-7.357***	3.627*	0.086	-0.005***
	(1.945)	(1.807)	(1.884)	(2.424)	(0.001)
Number of Individuals	10,177	10,177	10,177	10,177	10,177
Dep. Var. Mean	137	266	225	800	0.19
Dep. Var. Std. Dev.	220	181	184	184	0.13
	(B) Men Only				
total frontier experience	-3.581	0.672	2.936	0.123	0.000
	(2.427)	(2.733)	(1.864)	(2.181)	(0.002)
Number of Individuals	9,416	9,416	9,416	9,416	9,416
Dep. Var. Mean	221	316	135	756	0.22
Dep. Var. Std. Dev.	271	217	155	187	0.15
State Fixed Effects	Yes	Yes	Yes	Yes	Yes
Survey Wave Fixed Effects	Yes	Yes	Yes	Yes	Yes
Geographic Controls	Yes	Yes	Yes	Yes	Yes
Individual Demographic Controls	Yes	Yes	Yes	Yes	Yes

Frontier Legacy of Gender Norms

	Life Style Survey (LSS)					*General Social Survey (GSS)*				
	A Woman's Place is in Home	Anti-Women's Rights Movement	Men Better Leaders	Men Smarter	Mean Summary Index	Women Want Home & Kid	Approve Women Working	Not Vote Woman President	Women Take care Home not Country	Mean Summary Index
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	(B) Men Only									
total frontier experience	0.003	0.016***	0.010	0.004	0.008**	0.048*	0.047***	0.020***	0.006	0.027***
	(0.005)	(0.005)	(0.007)	(0.005)	(0.004)	(0.027)	(0.012)	(0.007)	(0.014)	(0.010)
Number of Individuals	11,449	11,436	7,745	11,378	11,512	629	1,347	1,949	1,325	2,481
Dep. Var. Mean	0.33	0.43	0.43	0.29	0.37	0.52	0.18	0.08	0.16	0.21
	(C) Women Only									
total frontier experience	0.015***	0.017***	0.009**	0.004	0.012***	0.052***	-0.008	0.012	0.023	0.028***
	(0.003)	(0.005)	(0.004)	(0.003)	(0.002)	(0.018)	(0.012)	(0.008)	(0.014)	(0.009)
Number of Individuals	14,160	14,133	9,453	14,127	14,251	838	1,786	2,574	1,771	3,231
Dep. Var. Mean	0.29	0.39	0.20	0.09	0.25	0.47	0.19	0.07	0.16	0.20
State Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Survey Wave Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Geographic Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Individual Demographic Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Frontier History around Women in Politics

	Rep. Voted For Suffrage in 1919 (1)	Share Women House Reps. 1917–2020 (2)	Temperance Movement Activities (3)	NWP Actions For Suffrage 1914–1922 (4)	Share Women All Politics 1900–2000 (5)
total frontier experience, cong. district	0.044	-0.002			
	(0.027)	(0.009)			
total frontier experience, county			-0.0259***	-0.005*	-0.015*
			(0.007)	(0.003)	(0.008)
Number of Observations	223	226	1,743	2,034	5,856
Dep. Var. Mean	0.70	0.07	0.18	0.01	0.09
Dep. Var. Std. Dev.	0.45	0.13	0.39	0.10	0.34
State Fixed Effects			Yes	Yes	Yes
Geographic controls	Yes	Yes	Yes	Yes	Yes

Conclusion

- Frontier settlement was integral to American culture and identity
  - Settlers forged local norms and institutions at critical juncture of development
  - Lasting imprint on gender norms
- Frontier conditions and gender roles
  - historically, women were more likely to marry, and did so earlier, with older men
  - higher fertility, low FLFP (though with an thick upper tail)
  - seemingly conflicting historical narratives about women on the frontier are complementary
- Mechanisms for persistence
  - social norms
  - weak political representation