Roots of Gender Equality: The Persistent Effect of Beguinages on Attitudes Toward Women

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Motivation and Research Question

- Gender equality is conducive to economic prosperity.
  - Decreased fertility allowing human capital accumulation: de Moor and Van Zanden (2010)
    - Empirical evidence in present time: Klasen (2002) and Klasen and Lamanna (2009)
- Origins of gender equality less clear:
  - Physiological differences: Galor and Weil (1996), Alesina et al. (2013).
  - Historical accidents: Grosjean and Khattar (2015).

This Paper

- **Economic and cultural** origins of gender equality.
  - Changes in women's bargaining power.
  - Transmssion of gender-egalitarian culture.
- Beguinages:
  - Female-only, semi-religious, medieval communities.
- Research Question:
  - Higher gender-equality during the 19th century in regions that hosted medieval beguinages?
  - Does it extend to the 20th century?

The Beguine Movement

- Characteristics:
  - self-supporting, semi-religious communities of
    - Market-oriented.
    - Different occupations: textiles, baking, trade, teaching.
  - **unmarried or widowed** women of
  - **different** socio-economic origins;
  - **independent** of any male authority.
- Where?
  - **The Low Countries** and neighbouring regions in France and Germany.
- When?
  - Beginning of the **13th century** onward.

Geographical Distribution

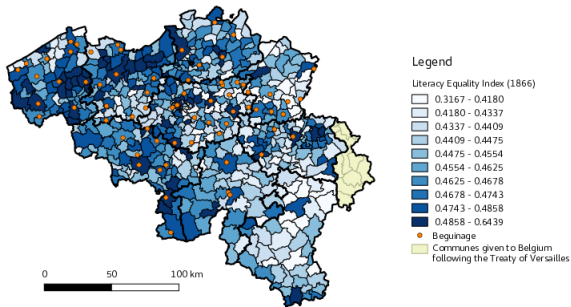Figure: Beguinages in Belgium and measure of literacy equality

Preview of the Results

- In municipalities with a beguinage, literacy rate between men and women were more similar.
- Our results are strengthened when we use an instrumental variable approach correcting for the potential endogeneity of beguinage location.
- Results are in general robust to a host of additional covariates and sub-samples.

Mechanism

- From female associations to gender equality:
  - Beguinages represented a new option for girls.
    - The society encouraged marriage or monastic life.
    - Beguinages allowed singlehood.
  - Access to a wider choice-set increases girls' bargaining power.
  - Women achieve outcomes that are closer to the male counterpart.
- Persistence:
  - Children observe that men and women are more similar.
  - This believe is passed over to new generations.
  - *Even though beguines did not bear children*.

Data

- Exploit **cross-section** variation in beguinage location to identify their effects on gender-related outcomes.

- One country: Belgium.

- Census data:
  - Earliest possible data: census of 1866.
  - **Not** individual data. Information is **aggregated** at the municipal level.

- We measure gender equality comparing:
  - Female literacy **compared** to male literacy.

Econometric Specification

- $y_{i,r} = \alpha + \beta beguinage_{i,r} + X_{i,r}\gamma + \kappa_r + \epsilon_{i,r}c$

- RHS - We use three indicators to account for beguinages:
  - Dummy variable - whether a city ever had a beguinage,
  - Exposure time to beguinage presence,
  - Five-level indicator combining presence and time.

- LHS - Outcomes of interest (measured in 1846 or 1866):

  - Literacy gap: $\frac{Number\ of\ literate\ women}{Number\ of\ literate\ men}$
  - Robustness:

    - Female literacy share: $\frac{Number\ of\ literate\ women}{Number\ of\ literate\ women + Number\ of\ literate\ men}$

    - Female literacy index: $\frac{Share\ of\ literate\ women}{Share\ of\ literate\ men}$

Summary Statistics

	Mean	Std.Dev.	Min.	Max.
Beguinage presence				
Beguinage (0/1)	0.026	0.159	0	1
Intensity: No Beg.	0.974	0.159	0	1
Intensity: 1 Beg., < 200 years	0.007	0.086	0	1
Intensity: 1 Beg., > 200 years	0.012	0.108	0	1
Intensity: > 1 Beg., > 200 years	0.003	0.054	0	1
Intensity: > 3 Beg., > 200 y.	0.004	0.061	0	1
Exposure (centuries)	0.134	1.065	0.000	22.440
Outcomes				
Lit. equality index, 1866	0.822	0.137	0.236	1.808
Female lit. share, 1866	0.448	0.042	0.191	0.644
Female lit. index, 1866	0.856	0.122	0.256	1.601
Controls				
Fem. monas.	0.030	0.184	0	2
Masc. monas.	0.024	0.170	0	3
Other monas.	0.072	0.259	0	1
Distance river (km)	9.082	8.757	0.002	52.396
Distance Leuven (km)	69.560	33.467	0.377	167.249
Min. distance beguinage (km)	16.265	18.164	0.000	122.010
Distance big city (km)	18.577	19.988	0.000	114.328
Observations	2711			

OLS Results: Female literacy

| | Dep. variable: Lit. equality index, 1866 | | | | | |
| | Baseline | | Fixed-effects | | Geography | |
	(1)	(2)	(3)	(4)	(5)	(6)
Beguinage (0/1)	0.144		0.153		0.079	
	(0.019)***		(0.019)***		(0.023)***	
	[0.019]***		[0.020]***		[0.026]***	
Exposure (centuries)		0.021		0.022		0.013
		(0.003)***		(0.003)***		(0.004)***
		[0.003]***		[0.003]***		[0.004]***
Fixed-effects	No	No	Canton	Canton	Canton	Canton
Geography	No	No	No	No	Yes	Yes
Observations	2549	2549	2549	2549	2445	2445
R^2	0.030	0.029	0.203	0.200	0.262	0.260

Threats to Identification

- Potential endogeneity of beguinage location:
  - selection of towns that were more favourable to women.

- Several robustness checks.
- Instrumental variable approach:
  - Binary variable indicating whether a town obtained a "municipal charter" before the 13th century.

Treats to Idenfication: Instrument

- Municipal charters typically:
  - increased municipal autonomy,
  - conveyed benefits for citizens: partial exemption from war and a municipal judicial system,
  - allowed towns to organize a market and establish gilds, and
  - charters granted after the lord secured a hefty payment.
- Considering the secular occupations of beguines (education, spinning, trade), towns with a municipal charter are likely to attract them as they can be more economically dynamic (e.g. presence of a market).

IV Results: Female Literacy

	Dep. variable: Lit. equality index, 1866	
	(1)	(2)
	Panel A: IV results	
Beguinage (0/1)	0.099	
	(0.039)**	
	[0.030]***	
Exposure (centuries)		0.019
		(0.008)**
		[0.006]***
Fixed-effects	Canton	Canton
Geography	Yes	Yes
Fist-stage F-val.	44.625	27.329
Observations	2445	2445
R^2	0.262	0.260
	Panel B: First stage	
Municipal charter	0.559	2.962
	(0.084)***	(0.567)***
	[0.067]***	[0.484]***
Fixed-effects	Canton	Canton
Geography	Yes	Yes
Observations	2445	2445
R^2	0.534	0.766

Concluding Remarks

- We provide new evidence on the long-lasting effects institutions have on gender-related outcomes.
- We find that towns that held a beguine community, were more favourable towards women:
  - literacy rates were more similar,
- Results are compatible with a model of cultural transmission highlighting the role of the marriage market.
  - *Not shown during the presentation.*
  - Monasteries exhibit similar effects.
  - Less marriages in towns with a beguinage.
  - Larger effect among earlier beguinages.

APPENDIX

The Mechanism

- Possible mechanism linking beguinages with gender equality:
  - Increased opportunities beyond marriage and monastic life
    Better bargaining position for women leading to better outcomes.
  - Access to a monastery should have similar effects:
  - Distinguish between monastic orders:
    - Open: in touch with the population, alternative to marriage.
    - Enclosed: not in touch, catered women with religious vocation.

	Dep. variable: Lit. equality index, 1866			
	(1)	(2)	(3)	(4)
Beguinage (0/1)	0.079		0.081	
	(0.023)***		(0.024)***	
	[0.026]***		[0.027]***	
Exposure (centuries)		0.013		0.014
		(0.004)***		(0.004)***
		[0.004]***		[0.004]***
Fem. monastery	0.042	0.041		
	(0.020)**	(0.022)*		
	[0.018]**	[0.019]**		
Female monasteries				
No mon.			Ref.	Ref.
1 open			0.066	0.068
			(0.032)**	(0.034)**
			[0.035]*	[0.037]*
2 open			0.079	0.060
			(0.089)	(0.095)
			[0.087]	[0.095]
1 closed			−0.027	−0.036
			(0.053)	(0.056)
			[0.043]	[0.044]
1 unknown			0.006	0.005
			(0.024)	(0.025)
			[0.026]	[0.027]
Masc. monastery	0.007	0.009	0.007	0.008
	(0.014)	(0.015)	(0.014)	(0.015)
	[0.013]	[0.014]	[0.013]	[0.013]
Other monastery	0.006	0.005	0.009	0.008
	(0.021)	(0.022)	(0.021)	(0.021)
	[0.017]	[0.017]	[0.017]	[0.017]
Fixed-effects	Canton	Canton	Canton	Canton
Geography	Yes	Yes	Yes	Yes
Beg. (0/1) = Fem. mon. or 1 open mon., (p-val)	0.125		0.549	
Observations	2445	2445	2445	2445
R^2	0.262	0.260	0.264	0.262

The Mechanism

- Women have better outside options.
- The less likeable types of men are unable to find a spouse, and remain single.
- We should observe:
  - Less marriages *(we have evidence)*
  - of better quality. *(ideally, less divorce rates, but no data.)*

	Dep. variable: Number of marriages		
	(1)	(2)	(3)
Beguinage (0/1)	−0.326		
	(0.135)**		
Min. Distance Beg. (log-km)		0.127	
		(0.046)***	
IDW			−0.492
			(0.196)**
Fixed-effects	Arrond.	Arrond.	Arrond.
Geography	Yes	Yes	Yes
Decades FF	Yes	Yes	Yes
Observations	376	376	364
Pseudo-R^2	0.137	0.137	0.139

The Mechanism

- If cultural transmission is the relevant transmission mechanism
- an earlier presence of beguinages should increase gender equality:
  - Such communities started transforming gender norms earlier
  - More folks can adopt a gender-egalitarian view and
  - transmit it to other peers and children.

	Dep. variable: Lit. equality index, 1866	
	(1)	(2)
Centuries with a beguinage	0.014	
	(0.004)***	
	[0.005]***	
First beguinage established		
Never		Ref.
Between 1200-1300		0.073
		(0.019)***
		[0.025]***
Between 1300-1400		0.111
		(0.076)
		[0.066]*
Between 1400-1500		0.045
		(0.038)
		[0.034]
Fixed-effects	Canton	Canton
Geography	Yes	Yes
Observations	2445	2445
R^2	0.262	0.263

Robustness: Buffers around beguinages, OLS

	Dep. variable: Lit. equality index, 1866								
	5 km		10 km		20 km		Distance as regressor		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Beguinage (0/1)	0.098 (0.068) [0.040]**		0.078 (0.034)** [0.035]**		0.075 (0.025)*** [0.027]***				
Exposure (centuries)		0.015 (0.011) [0.007]**		0.012 (0.005)** [0.005]**		0.011 (0.004)*** [0.004]***			
Min. Distance Beg. (log-km)							−0.018 (0.007)*** [0.007]***		
IDW								0.134 (0.039)*** [0.034]***	
IDW, exposure									0.149 (0.036)*** [0.032]***
Fixed-effects	Canton	Canton	Canton	Canton	Canton	Canton	Canton	Canton	Canton
Geography	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	243	243	905	905	1973	1973	2445	2373	2373
R^2	0.708	0.701	0.408	0.404	0.290	0.288	0.260	0.269	0.269

Robustness: No open beguinage, OLS

	Dep. variable: Lit. equality index, 1866	
	(1)	(2)
	Panel A: No open beguinage	
Beguinage (0/1)	0.073 (0.027)*** [0.029]**	
Exposure (centuries)		0.011 (0.005)** [0.005]**
Fixed-effects	Canton	Canton
Geography	Yes	Yes
Observations	2435	2435
R^2	0.257	0.255

Robustness: Distances and network, OLS

	Dep. variable: Lit. equality index, 1866		
Min. Distance Beg. (log-km)	-0.018 $(0.007)^{***}$ $[0.007]^{***}$		
IDW		0.134 $(0.039)^{***}$ $[0.034]^{***}$	
IDW, exposure			0.149 $(0.036)^{***}$ $[0.032]^{***}$
Fixed-effects	Canton	Canton	Canton
Geography	Yes	Yes	Yes
Observations	2445	2373	2373
R^2	0.260	0.269	0.269

Robustness: Abandoned beguinages

- Suppose that beguines selected town with more favourable attitudes.
- Then, towns with a short-lived beguinage should *also* display higher levels of gender equality.
  - What matters is that they held similar attiudes.
- Compare short- and long-lived beguinages.

Robustness: Abandoned beguinages

	Dep. variable: Lit. equality index, 1866			
	5 short.	10 short.	15 sort.	20 short.
	(1)	(2)	(3)	(4)
Short beg.	−0.013	0.010	−0.001	−0.012
	(0.055)	(0.038)	(0.034)	(0.029)
	[0.033]	[0.031]	[0.030]	[0.024]
Long. beg.	0.077	0.075	0.074	0.074
	(0.024)***	(0.024)***	(0.024)***	(0.024)***
	[0.026]***	[0.027]***	[0.027]***	[0.027]***
Short. = Long.	0.110	0.134	0.061	0.020
Fixed-effects	Canton	Canton	Canton	Canton
Geography	Yes	Yes	Yes	Yes
Nr of Short beg.	5	10	15	20
Observations	2445	2445	2445	2445
R^2	0.262	0.262	0.262	0.262