In the Name of the Father: Inheritance Systems and the Dynamics of State Capacity

Èric Roca Fernández

GREQAM
Aix-Marseille Université

December 12th, 2018

State capacity

State capacity

- Key concept in political sciences.
- Measures how far-reaching and capable states are at enforcing compliance of individuals.
  - Douga et al. (2001), Ottervik (2013).
- Proxied by tax collection because "effective political systems should be able to extract resources, aggregate them, and use them for national purposes".
  - Walder (1995).

Motivation

- State capacity is related to economic prosperity.
- Countries with longer histories of state-level institutions fare better in economic terms:
  - Chanda et al. (2007), Dincecco and Katz (2014) and Borcan et al. (2017).
- State capacity brings about property rights, market-supporting institutions and judicial systems.
- These indirectly affect economic growth.
  - Valeri et al. (2002), Besley and Persson (2017), Fukuyama (2012).

State capacity determinants

- Conflict for the control of resources.
  - State capacity raises tax-collection efficiency $\rightarrow$ increases victory prospects.
    - Besley and Persson (2008, 2009), Dincecco and Katz (2014), Lagerlöf (
- Power alternance and probability of continued rule.
  - Opposed groups can alternate in power and make transfers to their people. Building state capacity increases tax collection efficiency and the potential transfers to the group in power.
    - Besley and Persson (2008, 2009, 2013).
- Country wealth:
  - It allows for greater expenditures on state capacity.
    - Besley and Persson (2009), Lagerlöf (2014).
- Other determinants:
  - Demand for public goods, political representativeness, homogeneity within a country.
    - Besley and Persson (2009), Persson and Tabellini (2004), Johnson and Koyama (2014), Gennaioli and Voth (2015).

This paper

What it does

- Theoretical analysis showing how *gender equality in inheritance access* affects the development of state capacity at its *early stages*.

Contribution

- Proposes a new, institutional factor.
- **Inheritance rules and their degree of gender equality.**
- Importance of the marriage market for landed heirs in fostering state building.
  - Generates a wealth effect.

This paper

Results

- In the short run: gender-egalitarian inheritance norms boost state capacity.
  - New result, opposed to the literature.
- In the long run: gender-biased inheritance rules generate higher levels of state capacity.

Key elements of the model

- Dynastic continuity
  - Association between landholding and family name.
  - An heiress stops dynastic continuity.
    - Heiresses brought lands to their husbands, who controlled them.
    - It dissociates wife's family name from landholdings.
  - Of utmost importance for medieval rulers. Dynastic continuity
- Inheritance rules
  - Male-cognatic primogeniture: the **oldest brother** inherits.
    - Prefers men over women.
    - Historically used.
  - Absolute primogeniture: the **oldest sibling** inherits.
    - Treats both genders alike.
  - We exogenously fix inheritance rules, and these cannot be changed.

Key elements of the model

- Inter-state marriages
  - Common in medieval time.
    - Habakkuk (1995), Clay (1068), Girouard (1978).
  - Increased estate size: heiresses "brought land to husbands".
    - Holt (1985), Rodrigues (1007), Debris (2005).
  - Generate a wealth effect: larger polities invest more in state capacity. Akin to Lagerlöf (2014).

Mechanisms

Male-cognatic primogeniture

Higher prob. of dynastic continuation $\uparrow$ state capacity

Men are more likely to inherit.

Dynastic continuity was valued.

Less inter-state marriages $\downarrow$ state capacity

Men are overrepresented in the marriage market.

Absolute primogeniture

Lower prob. of dynastic continuations $\downarrow$ state capacity

Men and women are equally likely to inherit

More inter-state marriages $\uparrow$ state capacity

More marriages can be arranged.

Wealth effect through land merging is higher.

The model: utiliy

- OLG framework.
- Large region divided into manors. Each manor is ruled by a Lord.
- Multiple Lords live for two periods and make decisions when adult.
- A homogeneous final good is produced using land: $Y_t^i = x_t^i$
- Utility:

$$\mathcal{U}_t^i = \log\left(c_t^i\right) + \gamma \log\left(x_{t'}^i\right)$$

γ Prob. of dynastic continuation.
Depends on inheritance rules.

$x_{t'}^i$ Landholdings the heir will receive.

- All Lords seek to expand their landholdings to transmit more to their heirs.
- Continuous conflict we model later.

The model: conflict

- From utility: Lords want to increase their landholdings.
- At each period, Lords battle all-against-all.
- A contest function determines the outcome of war:

$$x_{t'}^{i} = \frac{\left(1 + A_t^i + g_t^i\right) {b_t^i}^{\phi}}{\sum_i \left(1 + A_t^i + g_t^i\right) {b_t^i}^{\phi}} \sum_i x_t^i$$

- The number of soldiers b_t^i and state capacity $\left(A_t^i + g_t^i\right)$ affect the outcome of war.

Assumption

All Lords take the behaviour of competitors as given.

The model: budget constraint

- Budget constraint:
  - Two types of income:
  - Part of production the Lord reserves for himself: ψ
  - Taxation on commoners part:

$$c_t^i + p_b b_t^i + p_g g_t^i = \psi Y_t^i + (1 - \psi) \frac{A_t^i + g_t^i}{1 + A_t^i + g_t^i} Y_t^i$$

p_b	Cost of hiring a soldier	A_t^i	State capacity level.
p_g	Cost of increasing state cap.	g_t^i	Investment in state cap.
ψ	Share of prod. Lords keep.	Y_t^i	Production of Lord i.

Optimal choices

$$b_t^i = B\left(g_t^i\right) = \begin{cases} \frac{\gamma\phi(Y_t^i(A_t^i+g_t^i+\psi)-p_b g_t^i(A_t^i+g_t^i+1))}{p_b(A_t^i+g_t^i+1)(\gamma\phi+1)} & \text{if } g_t^i > 0 \\ \frac{\gamma Y_t^i \phi(A_t^i+\psi)}{(A_t^i+1)p_b(\gamma\phi+1)} & \text{if} g_t^i = 0 \end{cases} \quad (1)$$

$$g_t^i = G\left(g_t^i\right) = \max\left\{0, g | G_1\left(g\right) = 0\right\}.$$

- Properties:
  - State capacity building increases with the probability of dynastic continuation γ.
  - State capacity building increases with wealth Y_t^i, and marriages dynamically increase wealth.

Timing and dynamics

- Timing:
  - Lords decide b_t^i and g_t^i.
  - War takes place.
  - Lords offspring inherit and marry.
- Marriages:
  - Prefer wealthier spouses.
  - But distance between potential spouses below a threshold.
  - Outcome: positive assortative mating, softened by the restriction.
  - When marrying:
    - Landholdings are merged.
    - State capacity of thew landholding is the weighted average of its constituents.

The effects of inheritance systems

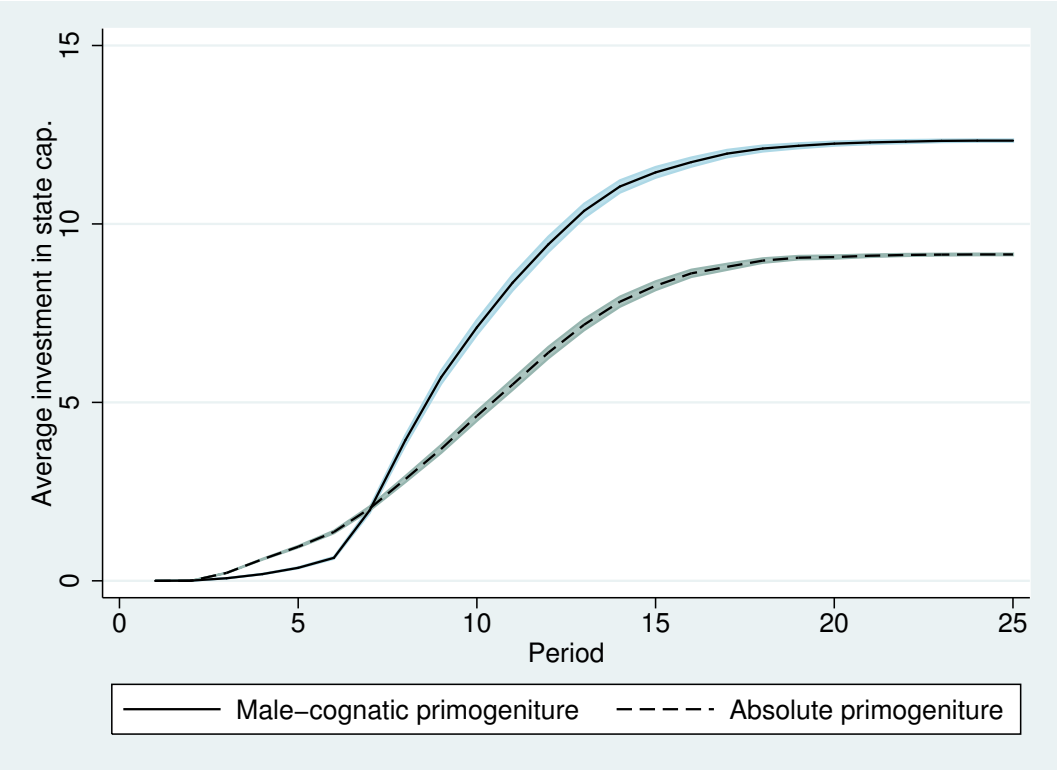
- Suppose a Lord has $\Phi \geq 1$ children.
- Prob. of dynastic continuation; direct effect on state-building:
  - Male-cognatic primogeniture: the dynasty continues as long as the Lord has **at least one son**: $\gamma^M = 1 - 0.5^{\Phi}$
  - Absolute primogeniture: the dynasty continues **if the first born is a son**: $\gamma^A = 0.5$
  - More investments in state capacity under male-cognatic primogeniture.
- Marriages; indirect, wealth effect on state-building:
  - *Male-cognatic primogeniture*: male more likely to inherit: $1 - 0.5^{\Phi}$.
  - Men are overrepresented in the marriage market for landed heirs.
  - *Absolute primogeniture*: equal probability for both genders.
  - Same number of men and women in the marriage market $\rightarrow$ more marriages.
  - More investments in state capacity under absolute primogeniture.
- Resort to simulations to determine the path of state capacity.

Simulations: parametrisation

Parameter	Value	Source
ψ	5/12	Slicher and Hendrik (1963).
Φ	3	Russell (1958).
ϕ	$1 + 1/10^{11}$	Arbitrarily set to have slow transitions.
p_b	1.375	Banegas (2010) and Sánchez et al. (2003).
p_g	1.2	Banegas (2010) and Verdès (2004).
γ^M	7/8	$\gamma^M = 1 - 0.5^{\Phi}$.
γ^A	1/2	$\gamma^A = 1 - 0.5$.
δ	0.01	1/100 of the minimum initial size.

Results

- Short run: higher levels of state capacity under absolute primogeniture.
- Long run: higher levels of state capacity under male-cognatic primogeniture.



Results

- The wealth effect dominates in the short run.
  - Faster process of unification under absolute primogeniture due to marriages.
  - In general, theory indicates that higher probability of continued rule fosters state capacity.
- *However* the possible number of marriages is limited.
- Eventually, these take place under male-cognatic primogeniture.
  - The wealth distribution becomes similar over time across inheritance rules.
  - When this is the case, the effect of γ dominates.

Conclusions

- Theoretical model exploring the evolution of state capacity at its early stages.
- Introduces inheritances as an institutional factor explaining its evolution.
- Focuses on the effect of gender equality embedded in inheritance rules.

Results

- Gender equality fosters state-building in the short run,
- **despite** offering lower probability of continued rule.
- This result highlights the importance of the wealth effect.
- In the long run, gender-discriminating rules boost state capacity more.
  - Result in line with previous literature.
  - Rationalises the historical use of discriminating inheritance practices.
  - Gende

Dynastic continuity

- The importance of dynastic continuity was critical in medieval time.
- Lords resorted to strategies to avoid facing the exctinction of the dynasty.
- Historical examples:
  - Robert Marmyon specified his heir should "take the name Marmyon" to avoid "extinction [...] and to ensure that its estates would continue in the name of Marmyon", Payling (1992).
  - The Drayton family married an heiress with a non-heir son while bequeathing to a male relative, Payling (2001).
  - The Marquess of Halifax disinherited his daughter and demanded his heir adopted his family name, Clay (1968).
  - Wills specify heirs should adopt testator's family name and bear arms unchanged, Cokayne (1887).

◂ Back