Representative Democracy with or without Elections: An Economic Analysis

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Motivation

- Political economy models going back to Buchanan et al. (1980) have studied how the institutional environment may provide incentives to discipline politicians once in office, in line with James Maddison point regarding “the need to get institutional incentives right so that politicians act in the public interest”.

- The primary issue identified by Maddison is “the need to form a political class that is competent and honest enough.”

- A literature beginning with Besley (2005) studies how the institutional environment may influence policy outcomes by affecting self-selection into politics and as a result who gets into public office.

- We consider political selection and the resulting quality of policy decision-making under idiosyncratic imperfect information in two distinct democratic institutional environments.

Motivation

- Compare policy quality when representative chosen out of the set of politicians (electoral democracy) versus when randomly selected from the demos, i.e., the subset of citizens willing to serve as representatives if selected (demarchy).

- Hayek (1973) viewed demarchy as “the ideal for which democracy was originally adopted”.

- Aristotle viewed demarchy as democratic and elections as aristocratic/elitist. Montesquieu and Rousseau took it seriously but favored elections as a means of selecting a natural aristocracy.

Model

- The representative chooses a policy under uncertainty, given idiosyncratic imperfect information regarding the right decision.
- The quality of chosen policy depends on the representative's human capital θ which is private info and directly affects her potential private sector earnings and signal quality.
- The differences between Electoral Democracy and Demarchy affect citizens' incentives to participate in the selection process in place, and hence the quality of policy decisions.
- Politicians are citizens who have chosen to invest in a political career instead of entering the private sector and becoming entrepreneurs.
- Demos members are citizens willing to serve as representatives if selected by lot. If not selected as representatives, they continue being entrepreneurs, i.e., they participate in the private sector and earn a salary according to their human capital.
- Both the set of politicians and the demos are endogenously determined in our model.
- The model is designed to isolate the impact this endogeneity has on the relative ranking of outcomes under Electoral Democracy versus Demarchy.

Model

- Being the representative carries certain returns such as salary and ego rents.
- Politicians unlike demos members face a cost for building support to rise through the ranks onto the public platform which is necessary to have a chance of getting elected.
- Costly rent-seeking: All citizens potentially face costs of establishing networks of influence, exchanging favors or promises with interest-groups and building know-how on relaxing institutional constraints, which enable the appropriation of a fraction μ of the polity's resources, depending on the strength of institutions.
- We show that if the perks R from being a representative are sufficiently high, then there is no rent seeking under Demarchy and participation in the selection process is driven only by the returns from being the representative.

Results

- For a high-enough return for the representative, drawing a representative from the demos attracts citizens with higher human capital as compared to elections and thus dominates elections in terms of the quality of policy decisions.

➢While higher returns raise the incentive to be the representative under both systems, an increase in the representative's income raises the returns from public life under elections by less than under Demarchy since this is mitigated by a fall in the probability of being elected as more citizens become politicians.

- Increasing complexity of policy issues (i.e., a drop in mean expertise affecting the ability of the representative to implement the right policies) makes it more likely that Demarchy dominates elections.

➢An increase in complexity reduces the probability of winning elections and thereby the incentives of citizens with high human capital to become politicians.

- Calibrating our model, we show it is more likely for Demarchy to dominate elections in terms of quality of policy decisions, in countries with higher inequality.

Model specifics

- N citizens/workers
- Human capital θ ∈ $\{\underline{\theta}, \bar{\theta}\}$, iid with mean $\hat{\theta}$
- Income y=Aθ
- Collective decision a ∈ {0,1}
- State of the world x ∈ {0,1}
- Common prior Pr(x=1) ≡ ρ ≥ 1/2
- Signal about the unknown state of the world σ ∈ {0,1}
- t(θ) = Pr (x = σ | σ, θ); quality of signal t(θ) increasing with human capital θ
- Identical preferences *u(a, x)*, which are such that the polity would like to match the state: ideal policy for each citizen is to match the signal, i.e, a = σ
- Human capital and signal quality are private info.
- Polity selects a representative to set policy.
- After being selected, the representative acquires a private signal σ.
- The higher the representative's human capital, the higher the quality of her decision in terms of matching the state: Representatives with higher human capital make better decisions here.

Electoral Democracy

- Under electoral democracy, citizens choose whether they will become politicians or entrepreneurs.
- The expected utility of an entrepreneur of type θ net of the expected welfare from the policy chosen by the representative is $U^e(\theta)=A\theta-\tau$
- Cost of becoming politician: c(θ) increasing in human capital, consistent with higher returns in the private market (and with substitutability between human and political capital accumulation, not explicitly modeled).
- Elected politician appropriates μ>0 share of the polity's resources devoted to public services, Nτ.
- Legal benefits/perks (after-tax) of being elected: R
- The expected utility of a politician of type θ who is not elected to be the representative is $U^p(\theta)= -c(\theta)-\tau$
- The expected utility of a politician of type θ conditional on being elected to be the representative is $U^w(\theta)=R-c(\theta)+(\mu N-1)\tau$

Equilibrium under electoral democracy

- Let ω^p be the probability of a politician winning the elections.
- The set of types who are politicians is $\Theta^p(\omega^p)$ ={ θ |Aθ ≤ ω^p(R+μNτ) - c(θ) }
- The size of this is endogenous and depends on the cost of becoming a politician, c(θ), the probability of being elected, ω^p, the size of benefits and perks of an elected representative, R, and the amount of funds this representative can appropriate, μNτ.
- The equilibrium probability, ω^{p*}, assigned by a politician on the event that they will become a representative is

$$\omega^{p*} = \sum_{n=0}^{N-1} \frac{\mathrm{b}\left(\mathrm{n}\middle|\mathrm{N}-1, \int_{\theta\in\Theta^p\left(\omega^{p*}\right)} f(\theta)d\theta\right)}{1+n}$$

Equilibrium under electoral democracy

- Sufficient conditions for the existence of equilibrium:

A$\underline{\theta}$ <(1/N)(R+μNτ)-c($\underline{\theta}$) Politician's investment cost not too high thus expected net utility from becoming a politician for someone with the lowest human capital, is above the lowest income in the private sector, precluding that no one becomes a politician.

A$\bar{\theta}$ >(R+μNτ)-c($\bar{\theta}$) Politician's investment cost sufficiently high so that the expected net utility from becoming a politician for someone with the highest human capital, is below the highest income in the private sector, ruling out that everyone becomes a politician.

- **Proposition**: There exists a unique threshold Θ^p such that a citizen of type θ is a politician iff θ $\in\Theta^p$=[$\underline{\theta}$, θ^p]
- The threshold human capital θ^p is increasing in R, μ, N and $\hat{\theta}$ because these raise the expected welfare of the elected politician relative to that of an entrepreneur, raising the incentive for citizens with higher human capital to become politicians.

Demarchy

- The representative is selected by lot from the demos
- No cost to build support to rise through the ranks onto public platform is needed to get chance of being selected (we allow for a potential cost paid by demos members to enable them to appropriate resources if selected).
- Representative cannot appropriate resources without rent seeking: μ =0
- Legal benefits/perks of being selected: R
- We show that if R is sufficiently high then there will be no rent seeking here.
- Citizens choose whether they will enter the demos or not.
- Expected utility of an entrepreneur of type θ net of expected welfare from policy chosen by the representative is $U^e(\theta)=A\theta-\tau$.
- Expected utility of being a member of the demos is $\omega^d R+(1- \omega^d)A\theta-\tau$ where ω^d is the probability of a demos-member becoming the representative.

Demarchy

- Let Θ^d be the set of types who become demos members: $\Theta^d = \{\theta \mid A\theta \leq R\}$
- Θ^d is independent of the probability of a demos-member becoming the representative and of the equilibrium size of the demos because the non-selected members of the demos remain in the private sector.
- Sufficient condition $R > A\underline{\theta}$ ensures that the reward for the selected representative under sortition exceeds the lowest income in the private sector, which precludes the case where no one would want to be in the demos.
- **Proposition**: There exists a unique threshold θ^d such that a citizen of type θ belongs to the demos iff $\theta \in \Theta^d = [\underline{\theta}, \theta^d]$
- If $R > A\bar{\theta}$ then $\Theta^d = \Theta$, i.e., the entire polity belongs to the demos. Unlike the case where all types become politicians ruled out under elections as it implies no production, this is a possibility under Demarchy.
- If $R \leq A\bar{\theta}$ then $\theta^d = AR$ and an increase in R raises the threshold θ^d and mean quality.

Comparison

- A sufficient condition for Demarchy to dominate elections in terms of policy quality, is that the conditional distribution $F(\theta \mid \theta \in \Theta^d)$ dominates $F(\theta \mid \theta \in \Theta^p(\omega^*))$ according to First-Order Stochastic Dominance.
- Our results regarding the structure of the sets Θ^p and Θ^d imply that the regime with the best policy choice is the one with the highest human capital threshold. Two cases:
- Case 1: $R \geq A\bar{\theta}$, in which case $\theta^d = \bar{\theta}$ and hence $\Theta^d = [\underline{\theta}, \bar{\theta}]$ so that all citizens belong in the demos. Demarchy is superior to Electoral Democracy as even citizens with the highest human capital are part of the demos. (Attempting to do the same under elections by raising the elected politician's payoff so that $R \geq A\bar{\theta}-\mu N\tau+c(\bar{\theta})$, results in no production as all citizens become politicians.)
- Case 2: $R < A\bar{\theta}$, in which case $\theta^d > \theta^p$ and Demarchy dominates elections iff

$$R > \sum_{n=0}^{N-1} \frac{b(n \mid N-1, F(\theta^p))}{1+n}(R+\mu N\tau)-c(\theta^p). \quad (1)$$

Comparison

- Demarchy dominates elections if the payoff of the representative selected under demarchy is higher than that of the elected politician. The former payoff, R, is constant and independent of the probability of being selected, whereas the latter depends on the probability of being elected.
- An increase in R raises incentives to be the representative under both systems, raising both θ^d and θ^p. But the higher R is, the higher the LHS relative to the RHS and the more likely that demarchy dominates elections (as the original rise in θ^p is mitigated by fall in probability of being elected.)
- *Complexity of policy issues:* A fall in mean expertise $\hat{\theta}$ captures a rise in policy issue complexity. The polity becomes less productive and average political investment cost lower. $F(\theta)$ rises for all $\theta \in (\underline{\theta}, \bar{\theta})$ thus probability of winnng elections falls, reducing θ^p. Rents an elected politician appropriates for any given μ and N fall reducing value of θ^p even more. Thus, a rise in complexity makes it more likely Demarchy dominates elections.

Comparison

- *Institutions:* If $\lim_{\theta \to \underline{\theta}} c(\theta)$> μNτ, entry cost is higher than additional funds the elected politician peculates and Demarchy dominates. The lower μ due to stronger institutions the lower the RHS of inequality (1) while LHS is independent of μ. Lower rents diminish incentive of citizens with high human capital to enter public life under elections so that the stronger the institutions the more likely Demarchy dominates.

If $\lim_{\theta \to \bar{\theta}} c(\theta)$< 1/N (R+μNτ)-R < 1/N (R+μNτ)-A$\bar{\theta}$, cost of entering politics is lower than expected net benefit, thus Electoral Democracy dominates.

- *Polity Size:* The lower the size of the polity N, the lower the RHS of inequality (1) while the LHS is independent of N. A lower N leads to lower rents thus diminishes incentive of citizens with high human capital to enter public life under elections, making it more likely that Demarchy dominates.

Calibration

- In principle, we could obtain data on politicians' salaries across countries. But very difficult to estimate perks, rent-seeking costs and strength of institutions across countries.

- Instead, our model could provide an index of "attractiveness" of being a politician using the equilibrium condition for θ^p under a linear cost function $c(\theta)=\gamma\theta$, $\gamma>-1$ if we had θ^p and F. Given these, the equilibrium condition that gives θ^p implicitly is:

$$\frac{R+\mu N\tau}{1+\gamma} = \frac{\theta^p}{\sum_{n=0}^{N-1} b(n\,|N-1,F(\theta^p))/1+n}$$

- We calibrate θ^p and F from existing data on income as follows:

Calibration

- Using Borel's law of large numbers, we have for large N that f(θ) approximates well the proportion of citizens with human capital and that $\overline{y}/N \approx \hat{\theta}$
- Assume human capital given by $\underline{\theta} + \theta$ where θ is distributed according to the pdf f(θ) given by the Pareto Log normal characterized by parameters (M, σ, λ).
- Normalize M so that $\hat{\theta}$=1.
- Assume realized income distribution for a country given by conditional pdf f(θ|θ> θ^p) where θ^p is interpreted as deviation from the min salary in mean income % terms.
- Calibrate parameters (θ^p, σ, λ) which under the above assumptions characterize f(θ|θ>θ^p) completely, to match data on the Gini index, Y_3 and Y_1/Y_5, where Y_i=1,...,5 is share of income held by the i^{th} poorest 20%.
- Parameters (θ^p, σ, λ) calibrated by minimizing the sum of squared deviations of the simulated Gini index, Y_3 and Y_1/Y_5 from their corresponding values in the data.
- Given Demarchy dominates elections if R(1-τ)>θ^p, a low θ^p is associated with economies where it is more likely that Demarchy dominates.
- Calibration results imply Demarchy is more likely to dominate elections when income inequality is high, e.g. in Brazil, Botswana, Argentina or the US, as compared to South Korea, Germany, the Netherlands, or Sweden.

Conclusions

- We consider the quality of policy decision-making in Electoral Democracies under imperfect info about what constitutes a good decision, and compared it to that in Demarchy where representatives are selected by lot from the demos.

- We found that an increase in complexity of the policy issue makes it more likely Demarchy dominates elections in terms of decision-making quality.

- We show that if the reward from public office is high enough, drawing a representative from the demos dominates elections in terms of the quality of policy decisions as it attracts citizens with higher human capital and better info.

- Finally, we calibrated our model and showed that Demarchy is more likely to dominate elections in terms of the quality of policy decisions in countries with high income inequality as compared to those with low inequality.

Extensions

- How do the differences between Demarchy and elections affect selection of advisors and hence info acquisition and the quality of policy decisions? As politicians may owe favors to some and typically value some groups more than others due to ideology or because their future success depends on them, an elected politician might be more likely to choose from a narrow pool of advisors.

- Extending to a setup where decisions are made collectively by a body comprised of many representatives. The more relevant question is whether a group of individuals that previously stayed away from politics going about their own business would do worse than a politician.

- Other desirable dimensions for politicians beyond competency: honesty.

- Pandering: representative choosing policy a=1 (conforming with the beliefs of the polity) when her private signal calls for a different action.

Extensions

- Allowing for the co-existence of upper and lower decision-making bodies and thus the possibility of co-existence of elected and randomly selected bodies deciding on different policy dimensions.

- To better understand and evaluate the comparison between Demarchy and elections one would need to account for the dynamic interaction between these and the endogenous quality of institutions that limit rents.

- Extending our theoretical model to a dynamic setup accounting for endogenous human capital versus political capital accumulation could enhance our understanding of how these systems compare in terms of the expected quality of policy decisions they induce.