Does a democratic government attract more foreign direct investment?

Evidence from a machine learning approach

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MACSS Project Proposal
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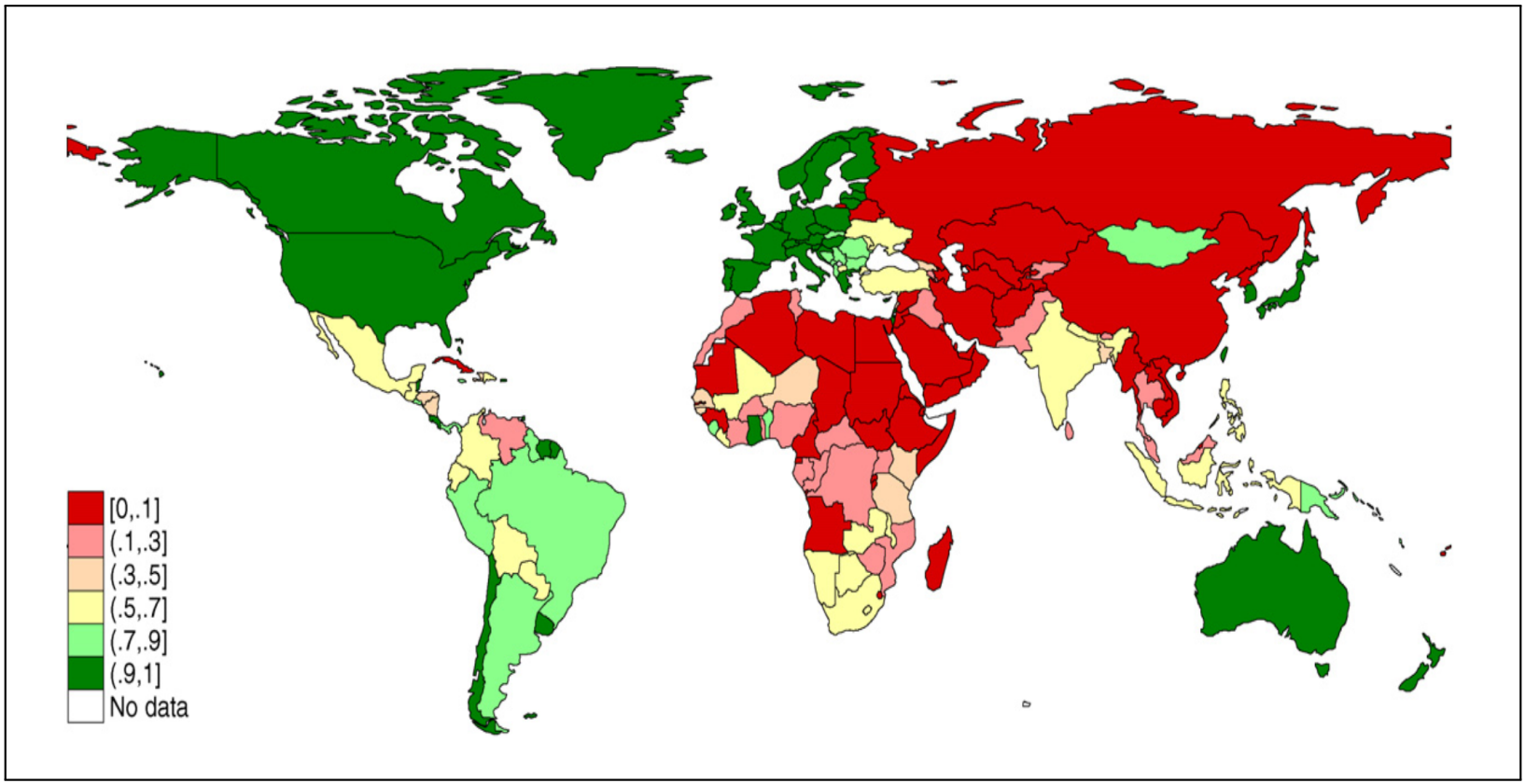
Motivation



Democracy in the world: Adapted from Gründler and Krieger (2016)

Introduction: Theory

- Li and Resnick (2003) build their theory on the logic of why firms invest abroad and derive a theory suggesting that democratic institutions affect FDI inflows both positively and negatively.
  - Positive: Property rights protection;
  - Negative: Monopolistic or oligopolistic position; Fiscal and financial incentives to foreign capital.

Introduction: Empirics

- Positive: Busse (2003), Jensen (2003), Jensen (2006), Jakobsen and de Soysa (2006), Guerin and Manzocchi (2009), Farazmand and Moradi (2015)
- Negative: Li and Resnick (2003)
- No significant effect: Alesina and Dollar (2000), Büthe and Milner (2008), Kazemi and Azman-Saini (2017)
- Asiedu and Lien (2011): natural resource
- Mathur and Singh (2013): corruption

Why controversial? (Contribution)

- Composition of existing democracy indicators
- Amplified by the specification of estimation techniques

Data and Variables

- Data source
  - World Development Indicators (WDI)
  - Economist Intelligence Unit (EIU)
  - Polity IV score (Marshall et al., 2014)
  - Gründler and Krieger (2016)

Variable	Description	Representation
FDI	Net FDI Inflow	FDI Level
Democracy	Democracy Index	Democracy Level
Trade	(Exports + Imports)/GDP	Openness
Inflation	Inflation Rate	Economic Situation
Fixed Capital	Gross Fixed Capital Formation / GDP	Infrastructure
GDP/Population	GDP Per Capita	Domestic Income
Natural Resource	(Fuel + Ore)/Merchandize Exports	Natural Resources

Democracy Measurement: SVM Approach

The democratization index $D_{i,t} \in \mathcal{D} \subseteq \mathbb{R}$ of country i in period t can be expressed as a function of the extent to which the country-year satisfies the selected conditions, i.e.

$$D_{i,t} = \mathfrak{F}\left(x_{i,t}^{1}, \ldots, x_{i,t}^{m}\right) \quad \forall(i,t)$$

Democracy Measurement: SVM Approach (Algorithm)

- Select variables as conditions.
- Select a subset of country-years $\mathcal{L} \subset \mathcal{F}$ consisting of elements that can unambiguously be categorized as either highly democratic or highly autocratic.
- Utilize random generator to select t_{demo} and t_{auto} of $\mathcal{L}$ and consolidates them into the training set T_ζ.
- Conduct a SV regression based on the observations in T_ζ. This will yield a nonlinear function $\mathfrak{F}_{T_\zeta} : \mathcal{X} \subset \mathbb{R}^m \rightarrow [0, 1]$.
- Use the function to assign a degree of democratization $D_{it} \in [0, 1]$ to all country-years included in my sample $\mathcal{F}$.

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Estimation Strategy and Potential Result

- "Difference" GMM (Arellano and Bover, 1995)
- "System" GMM (Blundell and Bond, 1998)
- Baseline model

$$y_{it} = \rho y_{it-1} + \lambda D_{it} + \beta \mathbf{X}_{it} + \theta_i + \epsilon_{it}$$

where y_{it} is the log of net FDI inflow in country i at 5-year period t, D_{it} is the democracy index, and $\mathbf{X}_{it}$ includes the covariates of the regression.

- The expected result should be a positive effect of democratization on FDI inflow.