

Dependence Networks and the Diffusion of Democracy

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How and to what extent do states influence the level of democracy in other states?

What We Know

“Democratization cannot be seen exclusively as a result of functionally similar processes unfolding independently within each country.” (Gleditsch and Ward 2006)

Many studies show that key predictors of democracy are:

Percentage of nearby democracies

Percentage of global democracies

Two Problems

- 1-Studies have focused on geographic proximity without investigating other possibilities, despite recent theories highlighting other diffusion mechanisms
- 2-Studies focused on international influences on democracy have slighted domestic factors and vice versa

Why should foreign states matter?

Governments depend not only on their own society for resources but also on other states for aid, trade, recognition, foreign policy goals, and security

Domestic nongovernmental groups also at times depend on foreign states

Governments face difficult domestic problems and look to others for possible answers

Dependence

Value that actors place on the goods they can obtain through an exchange relation, taking into account their alternative sources of those goods

“Need fulfillment that would be costly to forgo” (Baldwin)

Dependence Network

For any given state, a dependence network is a set of partner states with whom it regularly engages in exchanges of valued goods.

Measurement:

- Trade partners
- Alliance partners
- International Organization (IO) partners

All partners are weighted by their material capabilities to capture dependence rather than just connections

Why Dependence Networks Matter

- Many states offer rewards or punishments (explicit, implicit or anticipated) for getting the “right” domestic institutions
- Frequent contact allows powerful states to create or influence domestic actors in other states
- Governments facing domestic difficulties are likely to learn from states with whom they have frequent contact (“availability” heuristic)

Key Independent Variables

Security Network: Average *Polity* score of all Alliance Partners, weighted by partner's security capabilities

Trade Network: Average *Polity* score of all Trade Partners, weighted by volume of trade

IO Network: Average *Polity* score of all partners in significant IOs, weighted by number of shared memberships and by partner's GDP

(all one-year lags)

Identity Variables

Civilization Network: Average *Polity* score of all countries in same “civilization” (Huntington 1996)

Colonization Network: Average *Polity* score of all countries colonized by same country

Language Network: Average *Polity* score of all countries that share a primary language

(all one-year lags)

[Regional Diffusion]

Dependent Variable

Polity Score (-10 to +10)

Fixed effects model estimates changes of this variable within a country

Cold War effect: Break models into two time periods: 1972-1990 and 1991-2001

International Control Variables

Regional Diffusion: Average *Polity* score in region using “Gravity Model” -- inverse weighting by distance (one-year lag)

Global Diffusion: Average *Polity* score of all states (one-year lag)

Domestic Control Variables

GDP/capita (logged)

Short-term Inflation (logged, 1 year lag)

Long-term Inflation (logged, 10 year avg)

Short-term Growth GDP/capita (1 year lag)

Long-term Growth GDP/capita (10 year avg)

State Failure

Polity Score (1 year lag)

Table 1: Influences on Democracy, 1972-1990

Independent Variables	Arellano Robust Fixed Effects		
	Coefficient	s.e.	p-value
<i>Dependence Network Variables</i>			
Security Network (1 year lag)	0.441	(0.595)	0.460
Trade Network (1 year lag)	0.023	(0.023)	0.311
IO Network (1 year lag)	0.847	(0.283)	0.003
<i>Identity Network Variables</i>			
Civilization Network (1 year lag)	0.095	(0.122)	0.436
Colonization Network (1 year lag)	-0.002	(0.159)	0.990
Language Network (1 year lag)	0.117	(0.123)	0.342

Table 1: Influences on Democracy, 1972-1990

Independent Variables	Arellano Robust Fixed Effects		
	Coefficient	s.e.	p-value
<i>Economic Development Variable</i>			
GDP/capita (logged)	0.386	(0.571)	0.501
<i>Economic Performance Variables</i>			
Short-term Inflation (logged, 1 year lag)	0.021	(0.028)	0.450
Long-term Inflation (logged, 10 year avg)	-0.009	(0.089)	0.916
Short-term Growth GDP/capita (1 year lag)	-0.515	(0.480)	0.286
Long-term Growth GDP/capita (10 year avg)	0.729	(1.310)	0.579
<i>Political Variable</i>			
State Failure	-0.164	(0.139)	0.234

Table 1: Influences on Democracy, 1972-1990

Independent Variables	Arellano Robust Fixed Effects		
	Coefficient	s.e.	p-value
<i>Geographic Diffusion Variables</i>			
Regional Diffusion (1 year lag)	0.092	(0.047)	0.054
Global Diffusion (1 year lag)	-0.428	(0.229)	0.065
<i>Persistence Variable</i>			
Polity Score (1 year lag)	0.760	(0.025)	0.000
R ² (with fixed effects)	0.65	(0.95)	
N (# of countries)	1878	116	

Table 2: Influences on Democracy, 1991-2001

Independent Variables	Arellano Robust Fixed Effects		
	Coefficient	s.e.	p-value
<i>Dependence Network Variables</i>			
Security Network (1 year lag)	0.086	(0.194)	0.658
Trade Network (1 year lag)	0.178	(0.088)	0.045
IO Network (1 year lag)	-0.048	(0.508)	0.925
<i>Identity Network Variables</i>			
Civilization Network (1 year lag)	0.081	(0.129)	0.532
Colonization Network (1 year lag)	-0.027	(0.106)	0.797
Language Network (1 year lag)	-0.122	(0.138)	0.378

Table 2: Influences on Democracy, 1991-2001

Independent Variables	Arellano Robust Fixed Effects		
	Coefficient	s.e.	p-value
<i>Economic Development Variable</i>			
GDP/capita (logged)	-0.031	(0.116)	0.792
<i>Economic Performance Variables</i>			
Short-term Inflation (logged, 1 year lag)	-0.019	(0.038)	0.621
Long-term Inflation (logged, 10 year avg)	-0.149	(0.115)	0.198
Short-term Growth GDP/capita (1 year lag)	0.071	(1.202)	0.953
Long-term Growth GDP/capita (10 year avg)	3.769	(2.154)	0.082
<i>Political Variable</i>			
State Failure	-0.289	(0.166)	0.084

Table 2: Influences on Democracy, 1991-2001

Independent Variables	Arellano Robust Fixed Effects		
	Coefficient	s.e.	p-value
<i>Geographic Diffusion Variables</i>			
Regional Diffusion (1 year lag)	-0.046	(0.058)	0.426
Global Diffusion (1 year lag)	0.126	(0.130)	0.333
<i>Persistence Variable</i>			
Polity Score (1 year lag)	0.605	(0.040)	0.000
R ² (with fixed effects)	0.48	(0.95)	
N (# of countries)	1428	141	

Table 3: Predicted Changes in Polity Score, 1972-1990

Independent Variable (+ 2 s.d.)	Predicted Change in Polity Score	95% Confidence Interval of Change
Security Network	+0.13	(-0.21, 0.46)
Trade Network	+0.15	(-0.14, 0.44)
IO Network	+0.61	(0.21, 1.01)
Civilization Network	+0.22	(-0.33, 0.77)
Colonization Network	-0.00	(-0.76, 0.17)
Language Network	+0.29	(-0.30, 0.88)
Regional Diffusion	+0.31	(-0.00, 0.63)
Global Diffusion	-0.44	(-0.90, 0.02)

Table 3: Predicted Changes in Polity Score, 1972-1990

Independent Variable (+ 2 s.d.)	Predicted Change in Polity Score	95% Confidence Interval of Change
GDP/capita	+0.11	(-0.20, 0.42)
Short-term Inflation	+0.06	(-0.09, 0.21)
Long-term Inflation	-0.01	(-0.28, 0.25)
Short-term Growth	-0.08	(-0.23, 0.07)
Long-term Growth	+0.04	(-0.10, 0.18)
State Failure	-0.20	(-0.52, 0.13)

Table 4: Predicted Changes in Polity Score, 1991-2001

Independent Variable (+ 2 s.d.)	Predicted Change in Polity Score	95% Confidence Interval of Change
Security Network	+0.01	(-0.03, 0.05)
Trade Network	+0.29	(0.01, 0.58)
IO Network	-0.01	(-0.24, 0.22)
Civilization Network	+0.16	(-0.33, 0.65)
Colonization Network	-0.04	(-0.33, 0.26)
Language Network	-0.20	(-0.65, 0.24)
Regional Diffusion	-0.11	(-0.38, 0.16)
Global Diffusion	+0.15	(-0.15, 0.46)

Table 4: Predicted Changes in Polity Score, 1991-2001

Independent Variable (+ 2 s.d.)	Predicted Change in Polity Score	95% Confidence Interval of Change
GDP/capita	-0.02	(-0.15, 0.11)
Short-term Inflation	-0.06	(-0.30, 0.18)
Long-term Inflation	-0.17	(-0.43, 0.09)
Short-term Growth	+0.01	(-0.23, 0.25)
Long-term Growth	+0.20	(-0.02, 0.43)
State Failure	-0.30	(-0.65, 0.04)

Conclusion

States are influenced by their network partners, even in issues like domestic political institutions (and even when controlling for fixed effects and a lagged DV)

This influence is more consistent across time than geographic diffusion and is of about the same substantive importance

IO partners mattered more during the Cold War; trade partners matter after the Cold War

Domestic economic factors don't matter

Robustness

Other lags: 2-year lags qualitatively similar, longer lags effects disappear

Random Coefficient Model results:

1972-1990: IO, region, state failure

1991-2001: trade, civilization, state failure

(Adding religion variables no effect)