Domestic Policy Convergence and Networks in IPE

A Network Analysis Approach

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Outline

1. The Debate
2. A Network View of Convergence
3. Empirical View of Convergence
4. Explaining Convergence
   - Notions of Network Positions
   - Modeling Relational/Network Data
5. Findings
6. Conclusion and Discussion
Convergence: a process wherein distinctive domestic institutions and economic policies fade away over time, giving away to common economic structures whose efficiency and universality produce super strength in the market (Berger & Dore 1996).

Divergence, on the other hand, refers to persistent and maybe increasing diversity of national policies and institutions among which the efficiency-mandated minimalism is only one of the many varieties.
Two questions to Answer

- Whether and to what extent countries have been converging to a neo-liberal stereotype?

Various aspects of economic liberalization:

- small government: government spending & taxation
- stable monetary policies: central bank independence and fixed exchange rate → stable and low inflation
- privatization and deregulation
Two questions to Answer

- Whether and to what extent countries have been converging to a neo-liberal stereotype?
  
  Various aspects of economic liberalization:
  
  - small government: government spending & taxation
  - stable monetary policies: central bank independence and fixed exchange rate $\Rightarrow$ stable and low inflation
  - privatization and deregulation

- What explains the convergence-divergence phenomena?
  
  - Technology-dictated: Marxist
  - Economic Forces of Globalization: trade, financial, and information flows
Convergence in the context of Globalization

- The key question becomes: whether and how forces of economic globalization take over domestic forces in the processes of national policy- and institution- making.

- Policy Implications: in a world of more and more globalized economies, few policy and institutional choices are as fundamental as those that influence or even determine how a national economy can/should engage, or rather resist, the forces of economic globalization.

- Challenge to Political Economy Research: A conceptual challenge to traditional models which largely assume that the most important political processes to model are internal to each national polity. How to incorporate globalization variables?
A familiar model:

\[ Y = X\beta + \frac{\text{Export}_i + \text{Import}_i}{\text{GDP}_i} + \epsilon_i \] (1)

- global market as an empty box
- economic forces of globalization simplified as level of trade exposure
Another More Realistic View

China and India’s Export Networks, 2000
How to Capture Network Structures?

- $W$ in Spatial Models

$$Y = X\beta + \rho Wy + \epsilon$$  (2)

$\rho$ is the spatial coefficient, $W$ the connectivity matrix, $\rho Wy$ together is the spatial lag. Excellent works have been done: e.g., Franzese & Hays 2005, Beck, Gleditsch & Beardsley 2006.

- Model networks directly: network and relational data analysis — the focus of this research.
Mechanisms of Globalization-induced Convergence

- A race to the “bottom”:
  - collective action problem among competitors: the incentive to liberalize increases when key competitors have already, or are believed to, liberalize their markets.

- competitors not defined by overall exposure to the global market:

  There is no reason to believe that A’s level of exposure to world markets per se is responsible for policy liberalization or deregulation, especially if few other countries with whom A competes have themselves done so. — Simmons, Dobbin, & Garrett 2006.

- competitors defined by the ways countries compete in the global market (Simmons & Elkins 2004), such as:
  - markets to sell
  - inflow of investments
Hypotheses: similarity in network positions

- From a network perspective, countries that compete for the same
  - export markets
  - sources of investment

are connected to the rest of the networks in the same or similar ways ⇒ they share similar network positions — a concept often captured by structural equivalence in network positions (Burt 1987 & 1992).
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- Hypothesis One: similarity in network positions induces nodal
  similarity in terms of domestic economic policies and institutions
  by peer competitive pressure.
Hypotheses: proximity in network positions

- Another mechanism of convergence: learning and emulation facilitated by network proximity

- Hypothesis Two: the more proximate the national economies in networks, the more “similar” they are as proximity (cohesion) facilitates communication, policy learning, imitation, therefore diffusion.

- Similarity/equivalence and closeness/proximity have to be defined with regard to specific networks in the system:
  - trade
  - portfolio investments
  - IGO networks
  - geography
Convergence in a Multi-dimensional Policy Space

- Build a multi-dimensional policy space:

Each dimension characterizes one domestic economic policy, then we can locate any country \( i \) in this space: vector \( P_i = [p^i_1, p^i_2, ..., p^i_n] \) summarizes \( i \)'s domestic economic policy profile, \( n \) refers to the number of dimensions.

- Convergence as a negative function of Distance:

Distance between any two countries \( i \) and \( j \) can be calculated in the multi-dimensional policy space, \( d(P^i, P^j) \): Euclidean.
## Dimensions of Domestic Economic Policies

- **Size of government:**
  - Government consumption
  - Transfers and subsidies
  - Government enterprises and investment
  - Top marginal tax rate

- **Access to sound money:**
  - Money growth
  - Standard inflation variability
  - Recent inflation rate
  - Freedom to own foreign currency bank accounts

- **Regulation of:**
  - Credit
  - Labor
  - Business
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Findings
Conclusion

Size of Government

(a) 1990

(b) 1995
Monetary Policies

(a) 1990

(b) 1995
Regulations

(a) 1990

(b) 1995

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Overall Policy Profiles

(a) 1990

(b) 1995
Position Similarity and Proximity

- Structural equivalence to capture position similarity — compete for same foreign markets and financial inflows:
  - Pearson correlation between country $i$’s and $j$’s sector-level bilateral exports to all other countries
  - Structural equivalence in trade and portfolio investment networks

- The volume of dyadic interactions is taken as the indicator of network proximity: trade and IGO networks.
Figure: *Triadic Relationship*

![Triadic Relationship Diagram](image)

Third-order dependence: knowing the relation between $i$ and $j$ as well as the one between $j$ and $k$ tells us something about the relationship between $i$ and $k$. 
Latent Variable Model for Network Data Analysis

- A conceptualization of a somehow “unobserved” or latent “social space” (Hoff, Raftery, and Handcock 2002):

In some social network data, the probability of a relational tie between two individuals may increase as the characteristics of the individuals become more similar. A subset of individuals in the population with a large number of social ties between them may be indicative of group of individuals who have nearby positions in this space of characteristics, or “social space.” Note if some of the characteristics are unobserved, then a probability measure over these unobserved characteristics induces a model in which the presence of two individuals is dependent on the presence of other ties.

- Generalized-Bilinear-Mixed-Effects model (Hoff 2003): conditional latent positions, we assume independence of the observations.
Latent Variable Model for Network Data Analysis

\[ y_{i,j} = \beta_d' x_{i,j} + \beta_s' x_i + \beta_r' x_j + a_i + b_j + \gamma_{i,j} + z_i' z_j, \]  

- \( \beta_d' x_{i,j} = d \in \text{dyadic effects} \)
- \( \beta_s' x_i = s \in \text{sender effects} \)
- \( \beta_r' x_j = r \in \text{receiver effects} \)
- \( a_i = \text{random effect of sender} \)
- \( b_j = \text{random effect of receiver} \)
- \( \gamma_{i,j} = \text{reciprocity} \)
- \( z_i' z_j = \text{cross-product of latent positions for sender and receiver} \)
Latent Variable Model for Network Data Analysis

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where:

- \( \beta_d x_{i,j} = d \) ∈ dyadic effects
- \( \beta_s x_i = s \) ∈ sender effects
- \( \beta_r x_j = r \) ∈ receiver effects
- \( a_i \) = random effect of sender
- \( b_j \) = random effect of receiver
- \( \gamma_{i,j} \) = reciprocity
- \( z_i' z_j \) = cross-product of latent positions for sender and receiver

We use a reduced model:

\[ y_{i,j} = \beta_d' x_{i,j} + a_i + z_i' z_j + \epsilon_{i,j} \]
Latent Positions

Figure: Latent space positions of countries in 2001.
Findings Recap

- Descriptive:
  - overall pattern of policy convergence to a neo-liberal profile
  - the extent of convergence varies across different policy areas and different countries
  - some Eastern European countries and newly industrialized countries have experienced the highest level of convergence
  - while wealthy OECD countries’ changed relatively little
  - the clustering of countries has happened: most evident in monetary policies
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- **Explanatory:**
  - proximity in IGO networks has the most consistent converging effect
  - network position similarity induces convergence through the network of transnational portfolio investment
  - trade has no consistent effects on convergence in domestic economic policies
only models pair-wise policy distance or similarity, but not the absolute measurement of economic policy outcomes

the time dimension of network analysis is problematic in the context of group level convergence

we have not incorporated domestic variables in our analysis, given their obvious importance

the latent space shows clear patterns of clustering of countries, implying possible networks that need to be explored in future analysis
Figure: *Wasserman-Faust Network: Three Types of Equivalences.*