

# Social Network Analysis: political network

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# This chapter coverage

## American politics

- Political behavior: opinion, voting, and protest
- Political elites among themselves
- Political elites and donors
- Policy networks

## Networks in international relations

- Powers in international relations network
- Network diffusion processes
- World network of nations and cities

# Political sciences

Who will govern the state – US presidential race?

Individual participation in political processes: voting volunteerism, and revolution

International relations: how state interact with each other, war or trade relations

All those are network processes and can be studied with social network analysis to give a great understanding of the political processes

# Individual political attitudes and opinions

Contagious effects from friends, families, coworkers, classmates on individual's political view and behaviors

- College students who have many political discussions with their roommates are more likely to vote or participate in civic associations

Politically heterogeneous social networks increases individuals political interests and activities

# voting

## SOCIAL NETWORK IN ACTION: NETWORKING AND VOTING

Bond et al. (2012) used Facebook as a venue to conduct their experiments, randomly assigning millions of users into three different groups: (1) the social message group, (2) the information message group, and (3) the control group. On November 2, 2010, the day of the U.S. congressional elections, members in the social message group saw in their “News Feed” a message encouraging them to vote, with a link to help them find their local polling station, a clickable button reading “I Voted,” a counter showing how many other Facebook users had previously reported voting, and up to six randomly selected “profile pictures” of friends who had already clicked the “I Voted” button. The information message group saw the same post but was not told which of their friends had already clicked the “I Voted” button. The control group did not receive any special message in their “News Feed.” The Facebook users in the social message group were more likely to claim to have voted and to seek political information (i.e., about the location of the polling station). The social message thus produced many more votes: It directly encouraged an additional 60,000 Facebook users who received it to vote. But by posting information about their political behavior, those users then induced an additional 280,000 friends to go vote as well. The finding of the indirect effects of voting confirms existing studies (Nickerson, 2008), which claimed that each act of voting on average generates three votes as the behavior spreads through the network. It is not clear whether this is a case of online political mobilization, though: The study speculates it works mainly through strong ties, which exist offline but have an online representation.

# pretesting

Online social movement

Twitter revolution

Arab Spring

Occupy Wall Street

How can government control such movement?

- Shutting down the internet?
- Strict censorship on online activities – China
- Real name registration before any online posting
- Banning any tech company who refuses to “cooperate” with the government




# Political elites among themselves

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- Senators and house representatives (politicians) do form network
  - Personal friendship network
  - Co-sponsoring network
  - Personal feeling sometimes
  - get on top of political agendas
- They reciprocate favors
  - You voted for my bill last time,
  - I will do so for yours

## SOCIAL NETWORK IN ACTION: PERSONAL ENMITY INTERFERES WITH POLITICAL ASSOCIATION

Social network analysis not only reveals personal affinity but also personal enmity. For instance, despite close ideological and geographical affiliations, New Jersey Democratic senators Frank Lautenberg and Bob Torricelli have a long-term personal feud, which erupted in one closed-door meeting in 1999 as both inflicted verbal insults on each other. Thus, the two senators rarely co-sponsor each other's bills.



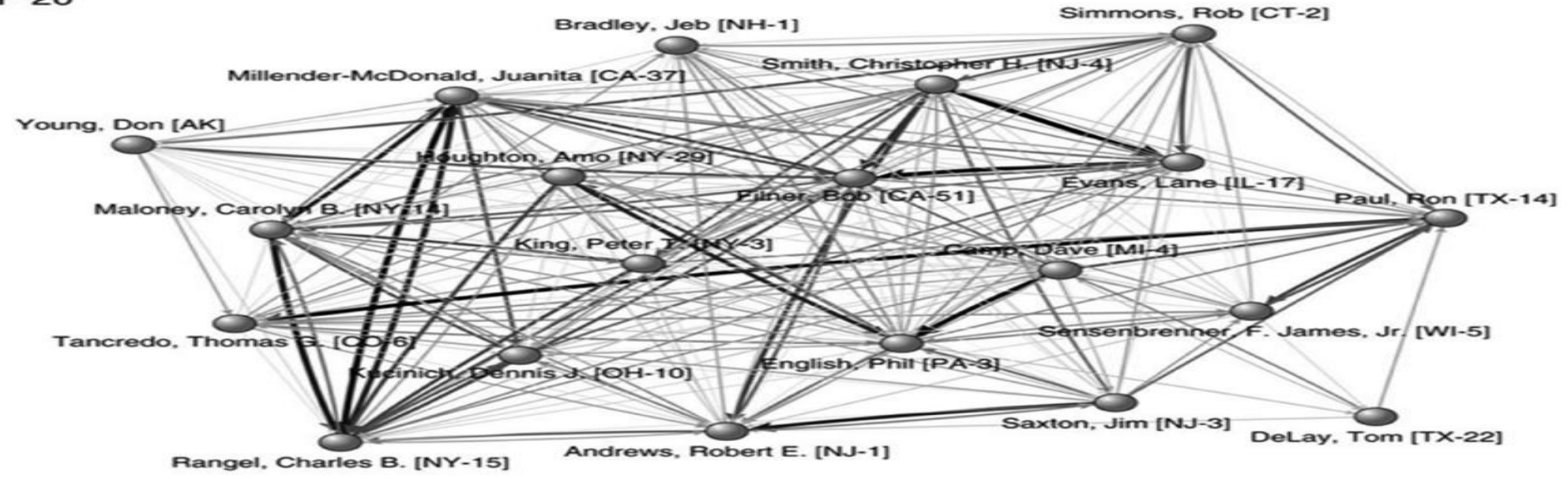
# Does social networking pay off?

- Yes
  - Centers in co-sponsoring network of house representative are three times more likely to pass the bills than are the peripheral ones
  - That number in Senate is seven
  - Best connected politicians in House collect 10 more votes than their peripheral counterparts,
  - That number in Senate is 16
- 

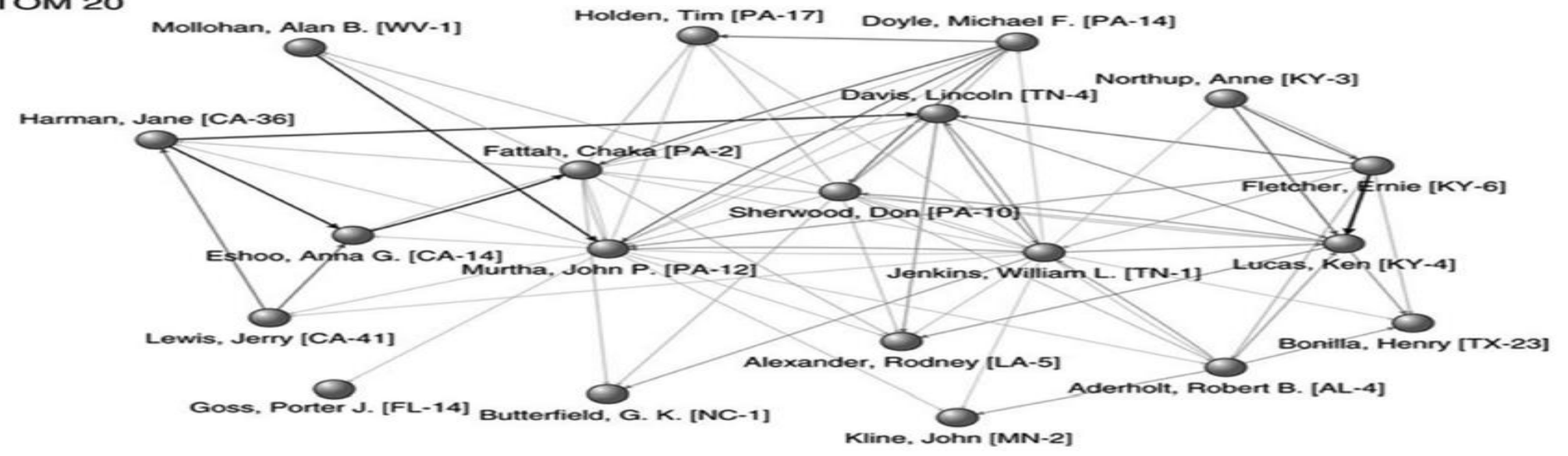


**FIGURE 8.2 • Most and Least Connected Legislators in the 108th House**

**TOP 20**

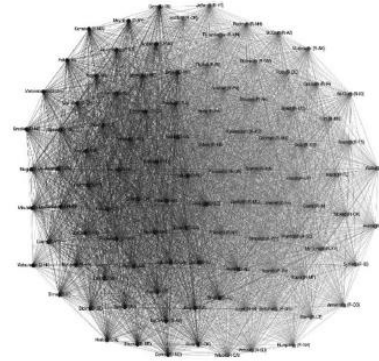


**BOTTOM 20**

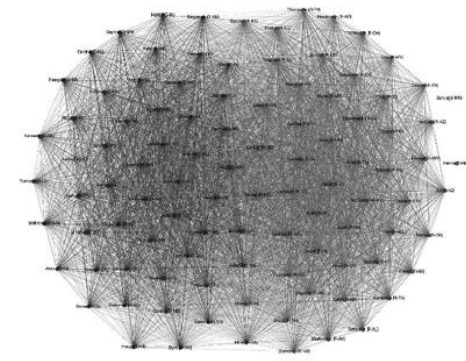


# Social environment and politicians network

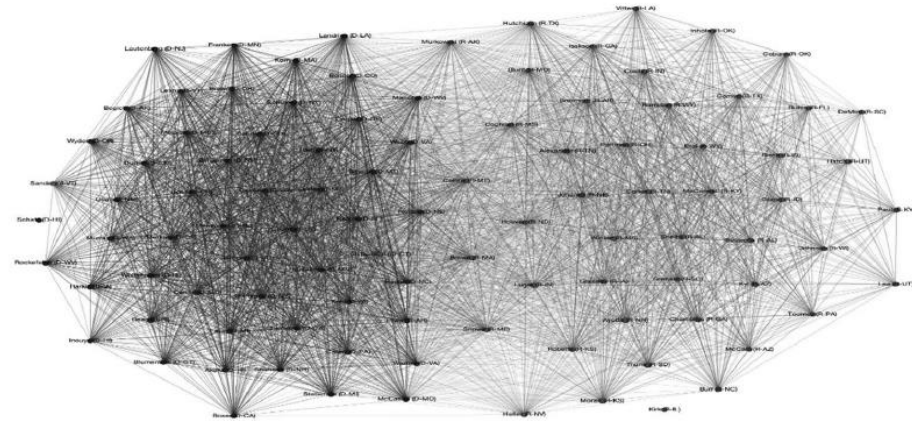
**FIGURE 8.3** • Social Network of Co-voting Between Congresspersons Across Four Decades



(a) 101st Congress, 1989 Session



(b) 107th Congress, 2002 Session



(c) 112th Congress, the 2011 Session

Note: Adapted from Lucioni, R. (2013, December 7). Political polarisation: United States of amoeba. *Economists*. Retrieved from <http://www.renzolucioni.com/articles/senate-voting-relationships/>

# Legislative productivity

Legislative productivity: number of important bills passed

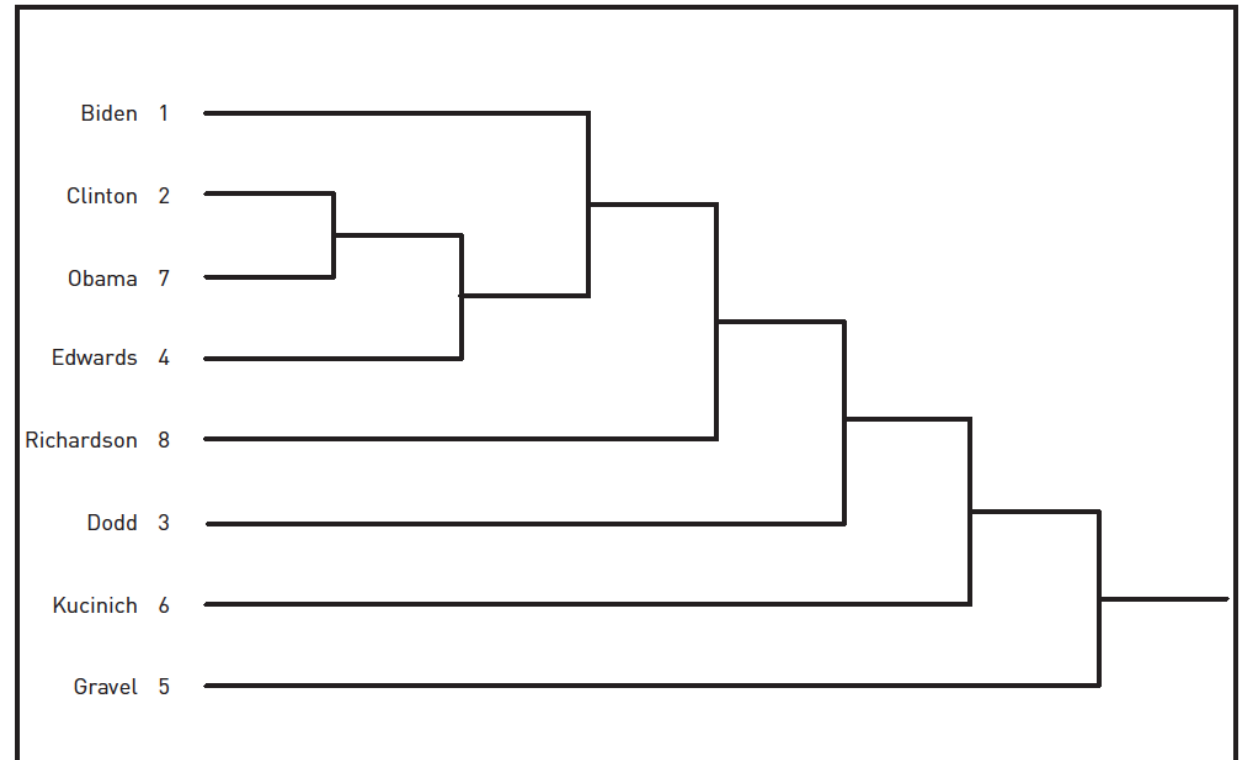
well-connected, co-sponsorship network increases legislative productivity (communication, collaboration, trust)

Comparative politics (how things going in China?)

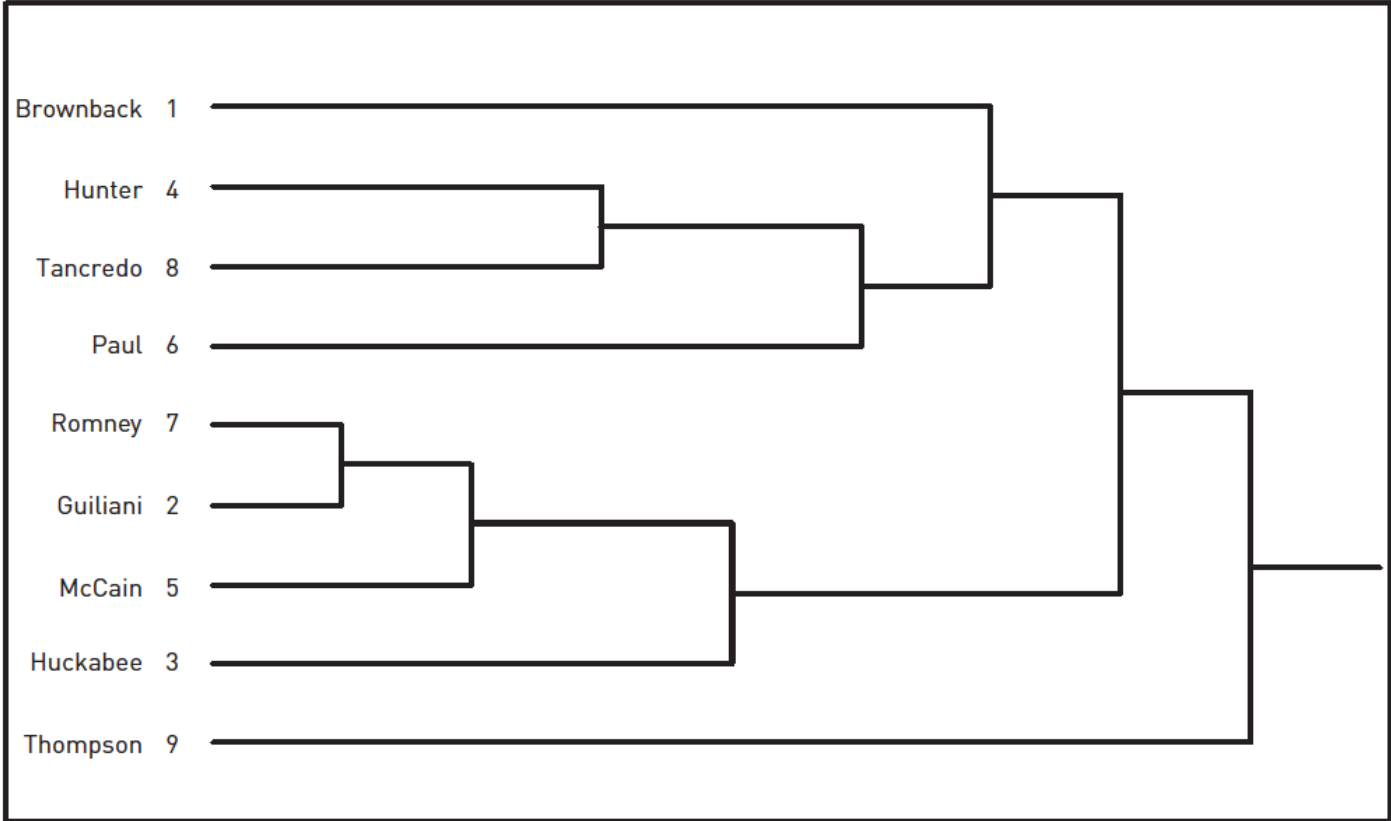
# Donor network: the Democratic side 2007

- Co-sponsor of presidential candidates

**FIGURE 8.4** • Dendrogram of Democratic Party (above) and Republican Party (below) Presidential Candidates in their Shared Donor Network 2007



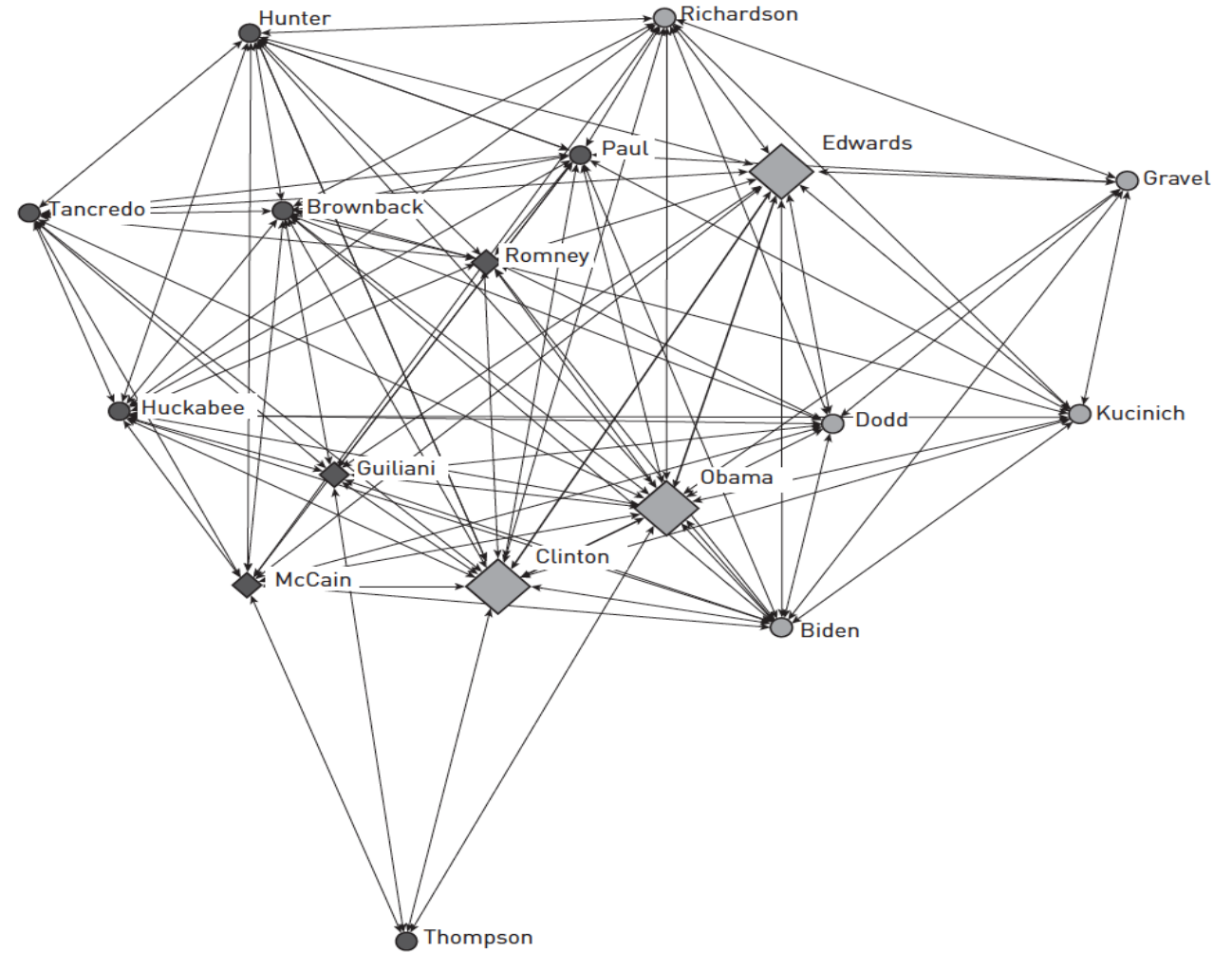
Donor co-sponsorship network:  
Republican side 2007



Note: Adapted from p. 79 of Dowdle, A., Limbocker, S., Yang, S., Stewart, P. A., & Sebold, K. (2013). *The Invisible hands of political parties in presidential elections: Party activists and political aggregation from 2004 to*

General  
election

**FIGURE 8.5** ● MDS Solution to the 2007  
Presidential Candidate Shared Donor Network

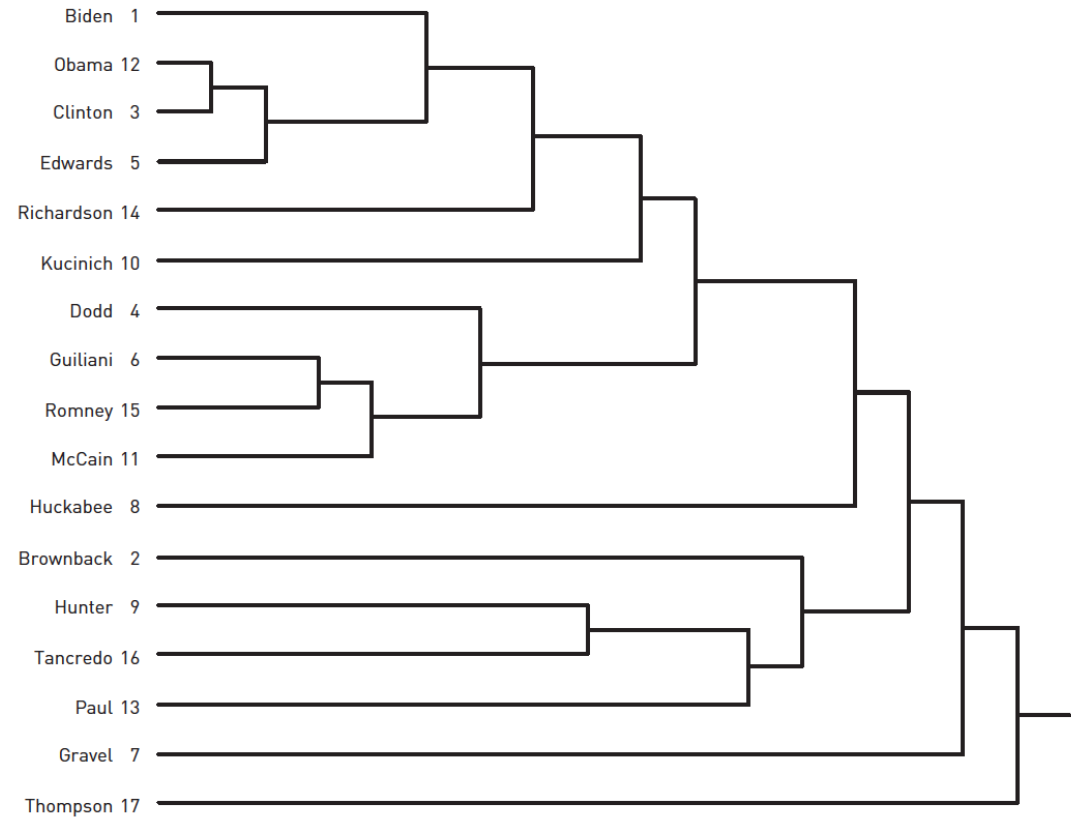


Note: Adapted from p. 78 of Dowdle, A., Limbocker, S., Yang, S., Stewart, P. A., & Sebold, K. (2013). *The Invisible hands of political parties in presidential elections: Party activists and political aggregation from 2004 to 2012*. New York, NY: Palgrave MacMillan.



# Troubles for Republicans 2007

**FIGURE 8.6** ● Agglomerative Hierarchical Dendrogram of the 2007 Shared Donor Matrix Between Democratic Party and Republican Party Presidential Nominees



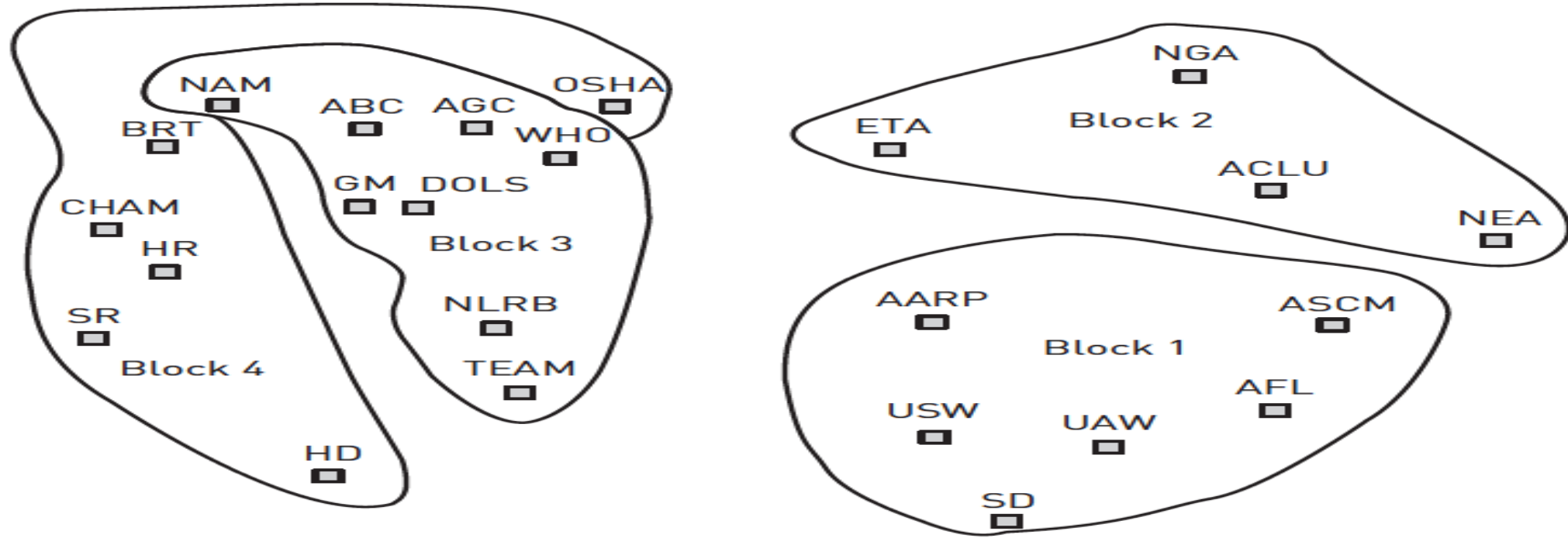
Note: Adapted from p. 78 of Dowdle, A., Limbocker, S., Yang, S., Stewart, P. A., & Sebold, K. (2013). *The Invisible hands of political parties in presidential elections: Party activists and political aggregation from 2004 to 2012*. New York, NY: Palgrave MacMillan.

# Policy network

public policy-making outcomes (Knoke, 2011). According to David Knoke (2011), the following four features are typical for policy networks: (1) Their connections are short-lived and formed for specific narrow goals; (2) partners in the coalition change depending on the specific issue; (3) organizations that lobby together succeed more often than the soloists; and (4) broad cleavages can emerge within some policy domains.



**FIGURE 8.7** ● **MDS with Blocks in U.S. National Labor Policy Domain**  
 (stress = 0.20)



AFL: American Federation of Labor  
 ASCM: American Federation of State, County, And Municipal Workers  
 TEAM: Teamster Union  
 UAW: United Auto Workers  
 USW: United Steel Workers  
 ABC: Association of Builders and Contractors  
 AGC: Association of General Contractors  
 BRT: Business Roundtable  
 CHAM: Chamber of Commerce of the U.S.  
 GM: General Motors  
 NAM: National Association of Manufacturers  
 NEA: National Education Association

AARP: American Association of Retired Persons  
 ACLU: American Civil Liberties Union  
 UGA: National Governors Association  
 DOLS: Department of Labor Secretary  
 ETA: Education & Training Administration  
 OSHA: Occupational Safety & Health Administration  
 NLRB: National Labor Relations Board  
 WHO: White House Office  
 HR: House Labor Committee Republicans  
 HD: House Labor Committee Democrats  
 SR: Senate Labor Committee Republicans  
 SD: Senate Labor Committee Democrats

Note: Adapted from p. 91 of Knoke, D., & Yang, S. (2008). *Social network analysis*. Thousand Oaks, CA: Sage.

# International relations: power

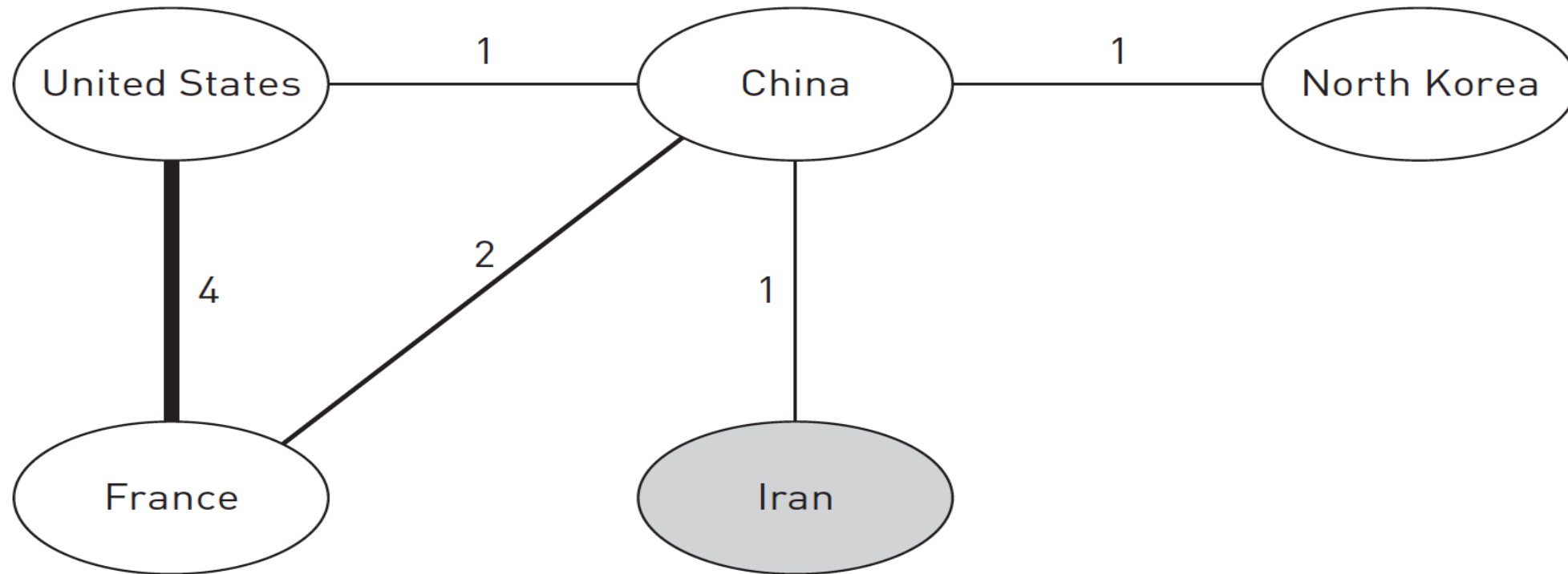
- Power by being part of it

## SOCIAL NETWORK IN ACTION: WHY CHINA WANTS TO BE PART OF THE WTO

China's successful bid to become a member of the World Trade Organization (WTO) in 2001 is a good case in point. Although China had to make some concessions (reduce tariff and open market further), the WTO membership benefits China by integrating it with the world economy and establishing deep economic ties with major economies such as the European Union and the United States.

# Power by not being part of it

**FIGURE 8.8** ● Network of Five Nations in Co-affiliation in IGOs



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Note: Adapted from p. 564 of Hafner-Burton, E. M., Kahler, M. & Montgomery, A. H. (2009). Network analysis for international relations. *International Organization*, 63, 559–592.

# Isolated power

## SOCIAL NETWORK IN ACTION: WHY CENTRAL ACTORS HAVE TO CARE ABOUT THE MARGINAL NODES

From Hirschman (1970), we know about the power of threatening to exit or leave either from a marginalized employee at work organization or from isolated countries in the world network of nations. This is because the existence of those structures, either work organizations or world systems, depends on the participation of their components. Although those marginal/isolated actors in a network have little to lose from their departure, it is up to those central activists of the network to reengage the marginal ones.

# International network formation

- Facing common external threats

## SOCIAL NETWORK IN ACTION: FORMATION OF WARSAW PACT

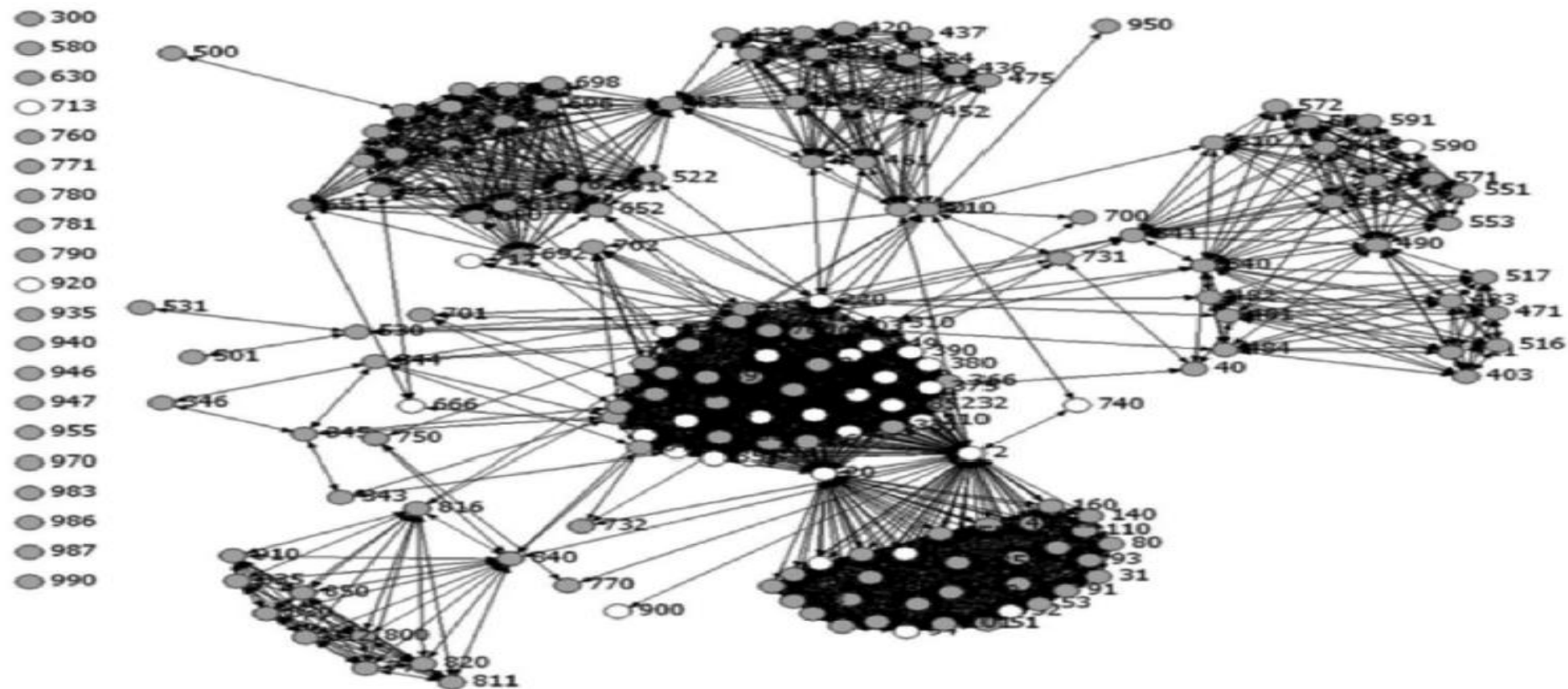
A good case in point indicating that “nondemocratic states prefer to ally themselves against common enemies” would be the Warsaw Pact, which comprised eight communist states led by the Soviet Union. It was formed as a direct response to the North Atlantic Treaty Organization’s (NATO’s) inclusion of Western Germany in 1954. Both Eastern Germany and Soviet Union were so wary about the inclusion that they felt compelled to form an alliance to counteract NATO’s move.





# Homophily effects: political regimes among countries

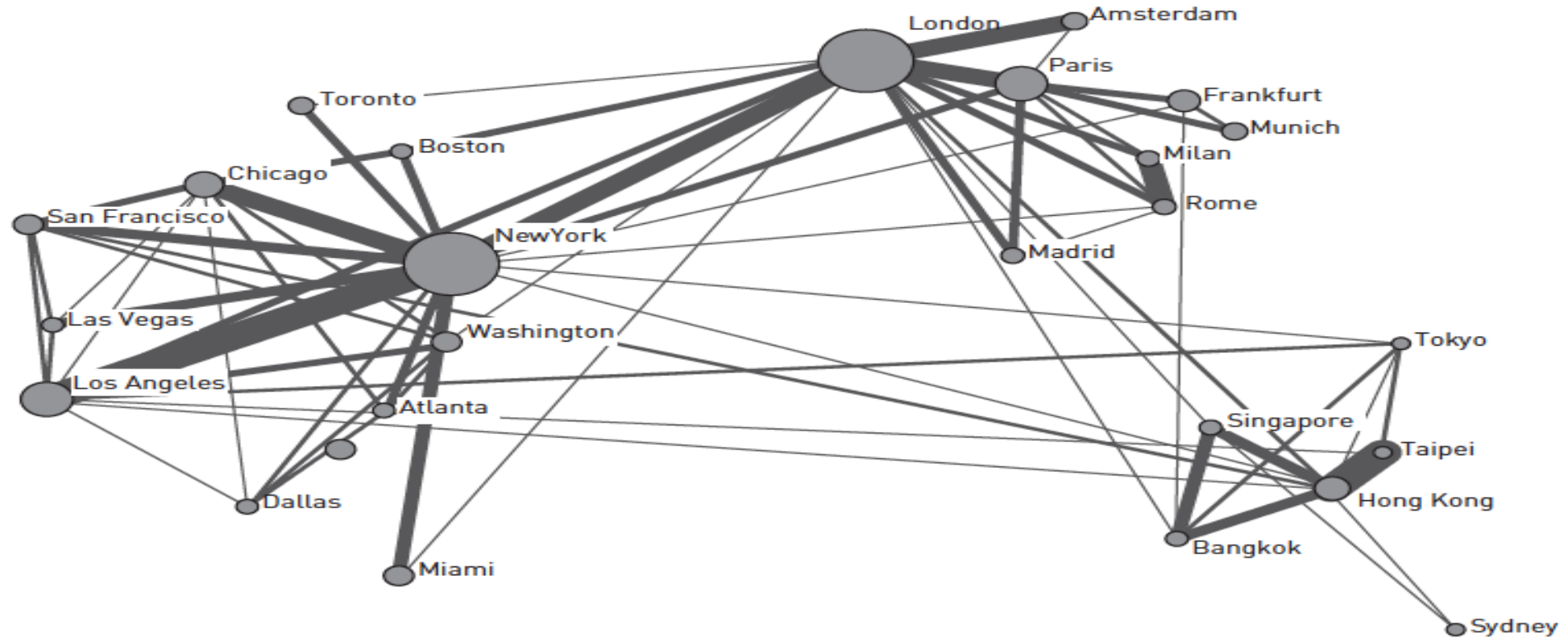
**FIGURE 8.10** ● Alliance Network 2002—Illustration of Homophily Effect



Notes: White circle = democracy; gray circle = nondemocracy. Adapted from p. 350 of Maoz, Z. (2012). Preferential attachment, homophily, and the structure of international networks, 1816–2003. *Conflict Management and Peace Science*, 29(3), 341–369.

# International cities

**FIGURE 8.11** ● Inter-city Passenger Flow in the MIDT Database



Notes: Only the 30 most important cities in terms of total volume of passengers and links with 500,000 passengers are shown. Adapted from p. 2384 of Derudder, B., & Witlox, F. (2005). An appraisal of the use of airline data in assessing the world city network: A research note on data. *Urban Studies*, 42(13), 2371–2388.