

Section 8: Networks





What does Catan have in factor abundance?
What factors are scarce?

Factor Endowment	Inventory	(Amount)
Land	100,000	sq. km
Labor	25	workers
Capital	100	factories



Who has an **absolute advantage** in coal production?
Who has an **absolute advantage** in iPhone production?

Goods Production	Catan	Not Catan
Tons of coal/day	3	9
iPhones/day	15	1
Coal: iPhones		
iPhones: Coal		



Who has a **comparative advantage** in coal production?
Who has a **comparative advantage** in iPhone production?

Goods Production	Catan	Not Catan
Tons of coal/day	3	9
iPhones/day	15	1
Coal: iPhones	1/5	9
iPhones: Coal	5	1/9



Summary: Catan is **capital-rich** and has a comparative advantage in producing **iPhones**.

Round 1 of Trade Talks: Heckscher-Ohlin World

Suppose capitalists get a bonus \$10 for exporting more iPhones than coal and laborer's get a \$5 bonus in settlements that export more coal than iPhones. You get the bonus *even* if you don't work in that industry.

Who supports/opposes free trade in Catan?
Who supports/opposes free trade in Not Catan?



Summary: Catan is **capital-rich** and has a comparative advantage in producing **iPhones**.

Round 2 of Trade Talks: Ricardo Viner World

Suppose bonuses are conditional on industry. Laborers in coal get a bonus of \$10 if their settlement exports more coal and capitalists who make iPhones get a \$10 bonus if their settlement exports more iPhones.

Who supports/opposes free trade in Catan?
Who supports/opposes free trade in Not Catan?



Situation: Business is going great. Catan now wants a loan to build more factories, so it can sell more iPhones.

The Puzzle of Sovereign Debt

- States borrow money from foreign entities (states and firms)
- Question whether states will repay loans from foreigners
 - No world government to ensure it will happen!
- So why lend money to states given the risk of default?
 - Repeated interactions —> reputation and possibly network effects

Networks

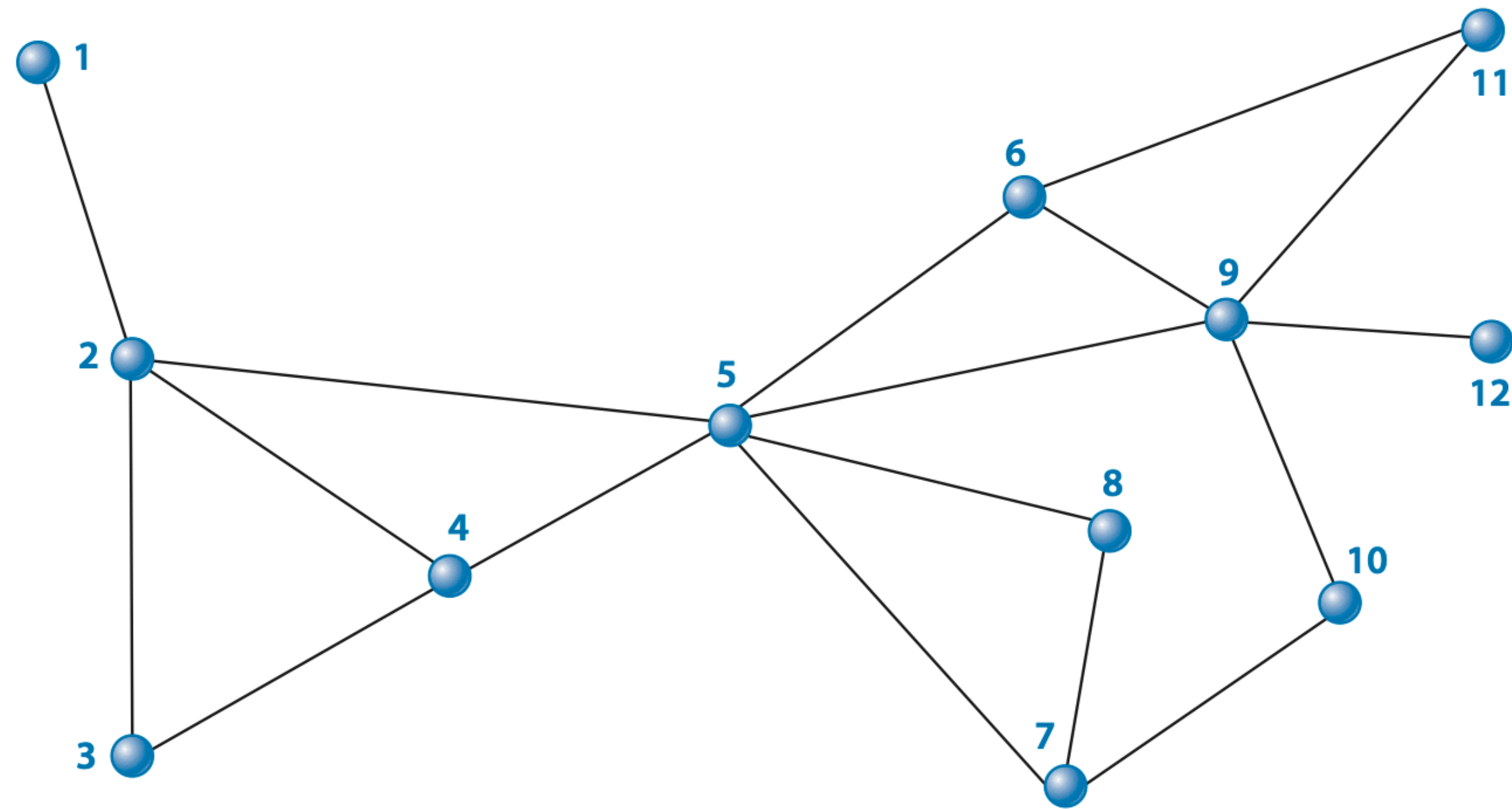


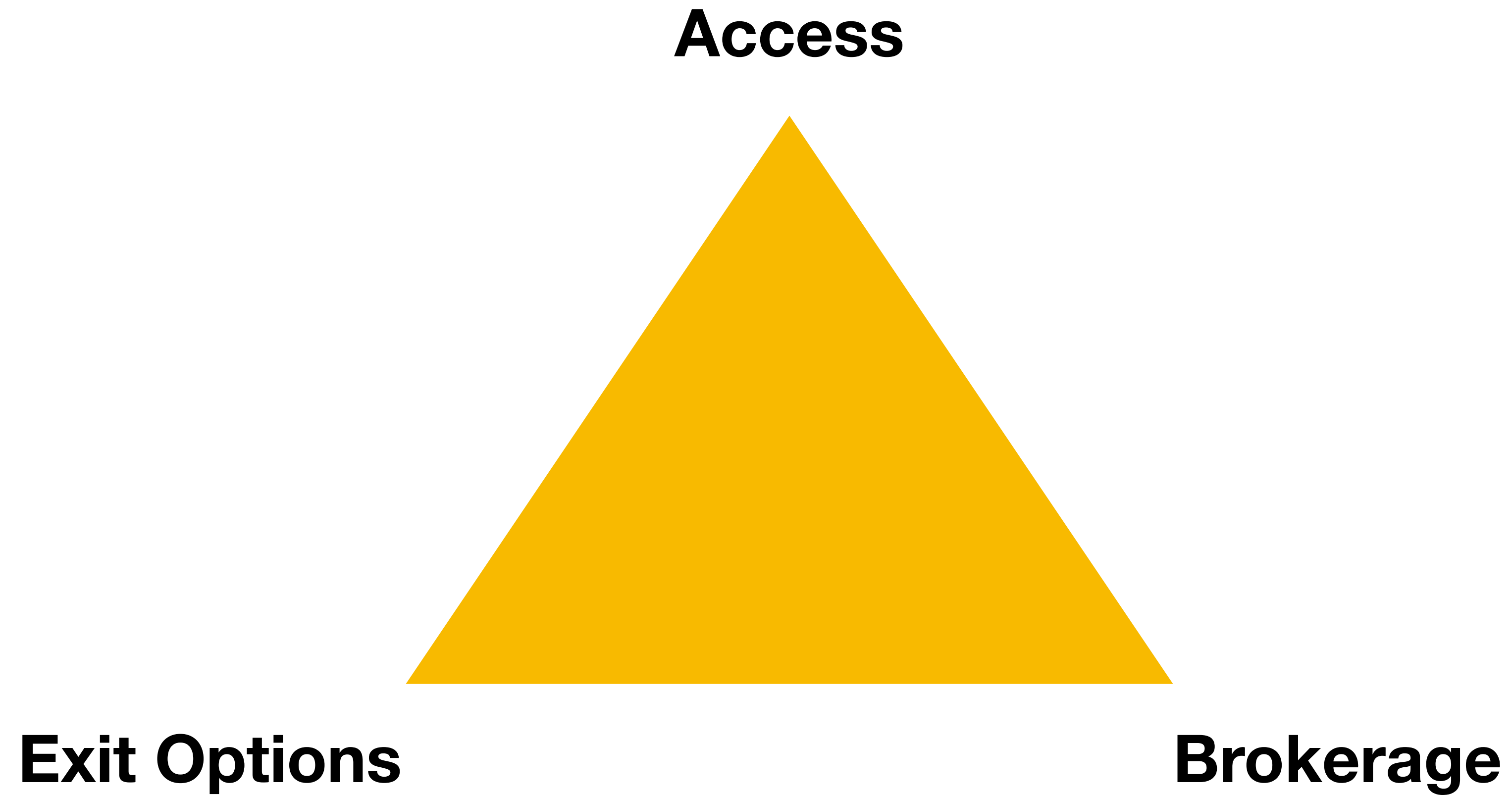
Figure 1

Example network with 12 nodes. The nodes and links could represent, for example, people and friendship, or people and shared club membership, or states and bilateral treaties. There are links between 17 pairs of the 12 actors in this network.

Derive a Sample International Network

Affiliation Matrix	IGO1	IGO2	IGO3	IGO4
United States	1	1	1	0
France	1	1	1	0
China	0	1	1	1
North Korea	0	0	0	1

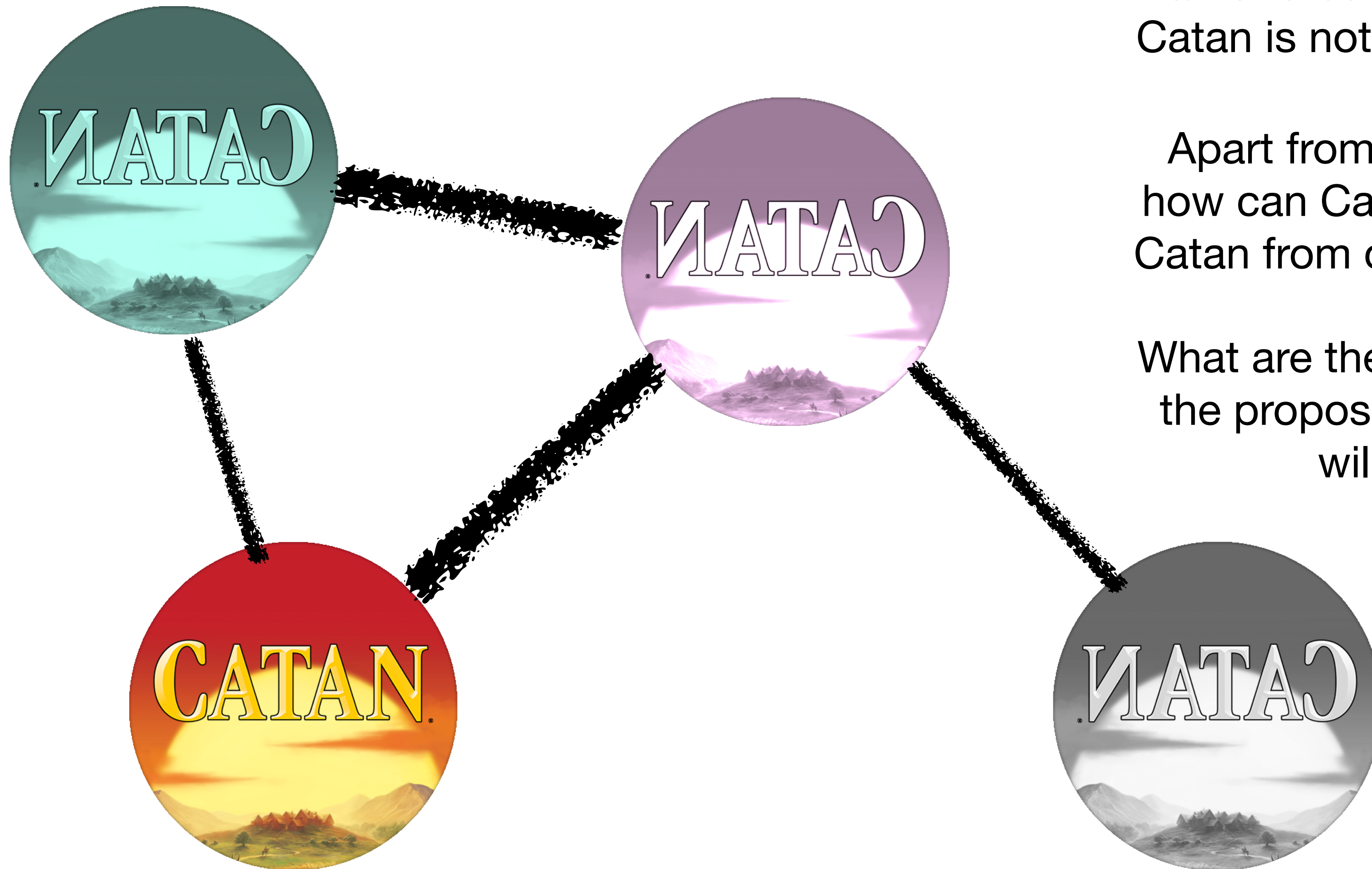
Sources of Power



Situation: Gray Not Catan has decided it wants to build nuclear weapons. Catan is not happy about that!

Apart from military options, how can Catan stop Gray Not Catan from developing nukes?

What are the pros and cons of the proposed strategy? And will it work?



This section was brought to you by Ambassador Katherine Tai.

- 19th U.S. Trade Representative (2021-present)
- Before this role, she was:
 - Chief Trade Counsel and Trade Subcommittee Staff Director for the House Ways and Means Committee
 - Chief Counsel for China Trade Enforcement in OUSTR
 - WTO litigator

