

Hegemonic Competition with Carrots and Sticks

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Motivation

Great Power competition, not terrorism, is now the primary focus of U.S. national security.

- U.S. Secretary of Defense Mattis, 2018

China



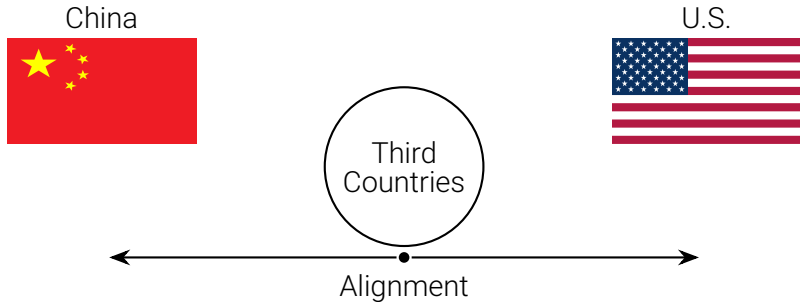
U.S.



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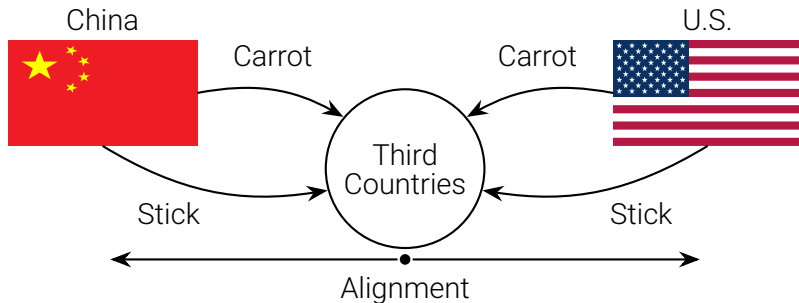
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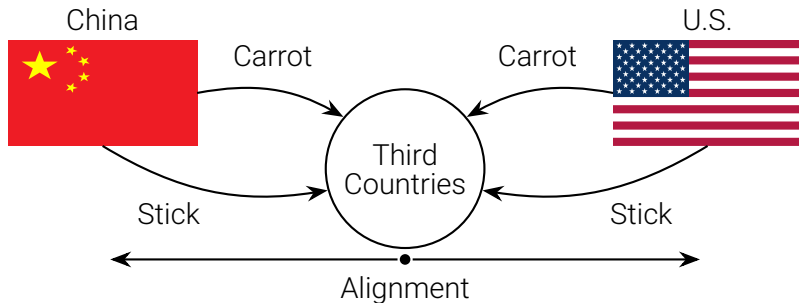


Hegemons move alignment with carrots (e.g., direct payments) and sticks (e.g., trade threats)

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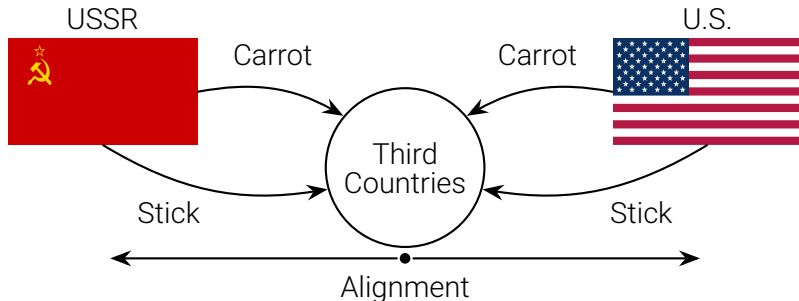
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How effective are these tools? How do they interact?

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Today: Theory + Evidence from Cold War, Application to U.S.–China Competition

This Paper

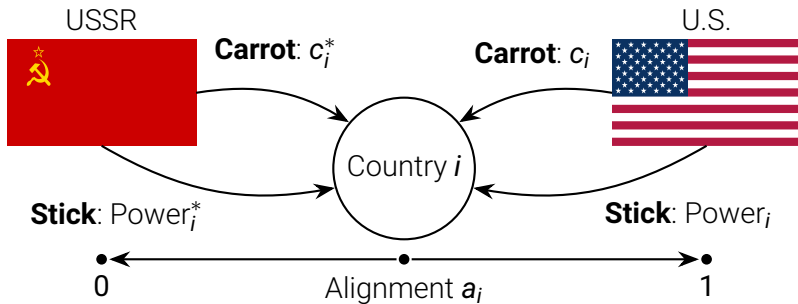
- ① Model with payments (carrot) and trade threats (stick) to move alignment
- ② Measure carrots, sticks and alignment using newly constructed Cold War data
- ③ Estimate effect of carrots and sticks on geopolitical alignment using IV
 - Doubling U.S. aid moves neutral country by .025 SD: 1% of political distance to NATO
- ④ Application to USAID Shutdown
 - China mostly decreases aid
 - Modest realignment, allies move more than adversaries

Contribution to the Literature

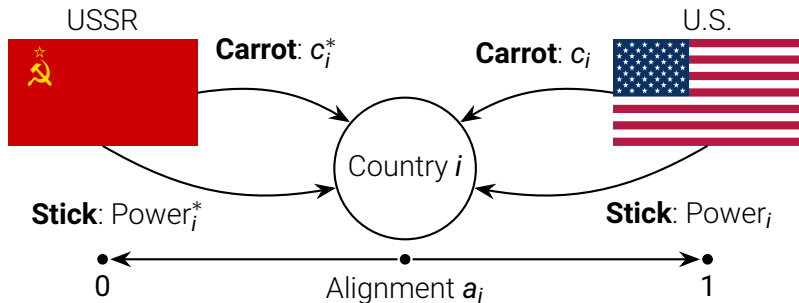
- **Geoeconomics** Martin et al. (2008); Kleinman et al. (2024); Thoenig (2024); Becko and O'Connor (2025); Becko et al. (2025); Broner et al. (2025); Camboni and Porcellacchia (2025); Clayton et al. (2025a,b,c,d); Federle et al. (2025); Flynn et al. (2025); Liu and Yang (2025); Mattoo et al. (2025); Mayer et al. (2025)
 - IR: Hirschman (1945); Baldwin (1971); Waltz (1979); Baldwin (1985); Walt (1987)
- Quantitative evidence on tools of geoeconomics
- Hegemonic competition, in theory and in data
- **Official Capital Flows / Aid** Meernik et al. (1998); Alesina and Dollar (2000); Kuziemko and Werker (2006); Dreher et al. (2008); Alfaro et al. (2014); Nunn and Qian (2014); Qian (2015); Horn et al. (2020); Dreher et al. (2022); Dimant et al. (2024)
- Connect to geoeconomics, bring in tools from lobbying literature
- **Economics of the Cold War** Berger et al. (2013); Campos et al. (2024); Giorcelli and Li (2025); Gopinath et al. (2025)
- Impact of geoeconomic competition on the non-aligned

A Model of International Economics and Geopolitics

Model Setup



Model Setup



- ① Hegemons make payments c_i and threats (with damage Power_i) to countries $i \in \mathcal{I}$
 - Maximize weighted sum of alignment $\sum a_i v_i$ less carrot and sanction cost [See](#)
- ② Countries choose alignment taking into account both
 - Balance costs of deviating from bliss point π_i against economic gains and losses [See](#)

Equilibrium Intuition [Equations](#)

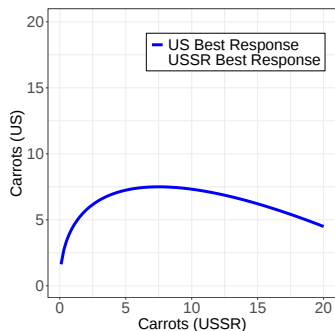
- Unique subgame-perfect Nash EQ – best responses of hegemon, countries:
 - Sticks: Optimal threat depends on difference in coercive power of hegemon [Picture](#)

Equilibrium Intuition

Equations

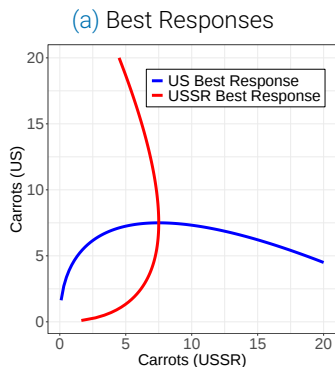
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 - Carrots: Choose payments so that they are mutually best responses

(a) Best Responses



Equilibrium Intuition Equations

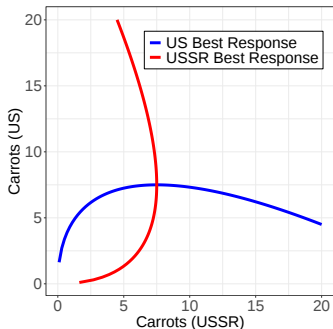
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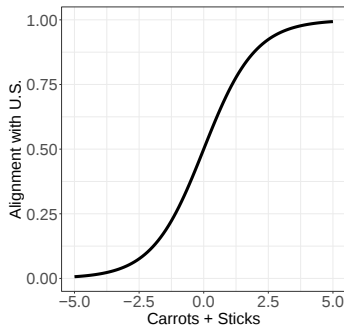
Equilibrium Intuition Equations

- Unique subgame-perfect Nash EQ – best responses of hegemons, countries:
 - Sticks: Optimal threat depends on difference in coercive power of hegemons Picture
 - Carrots: Choose payments so that they are mutually best responses
 - Country reaction given by $\log\left(\frac{a_i}{1-a_i}\right) = \pi_i + \beta \log c_i - \beta^* \log c_i^* + \text{Power}_i - \text{Power}_i^*$

(a) Best Responses



(b) Alignment



Historical Context and Data

The Geoeconomics of the Cold War

- Hegemonic competition dominated world politics for more than 30 years [Details: History](#)
 - Alignment of neutral countries crucial part of competition [USSR](#) [U.S.](#)
- Foreign economic + military aid and trade leverage are key tools of geoeconomics
 - Practitioners: CIA (1964) IR: Baldwin (1985)



Aswan Dam (Egypt 1960-70)

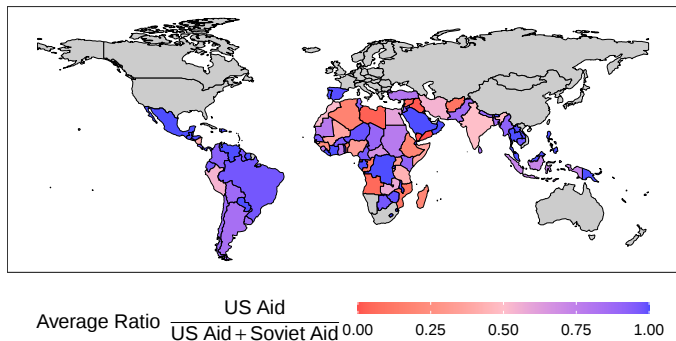
Measurement – Carrots

- Soviet economic + military loans & grants to non-aligned from declassified CIA data

COMMUNIST COUNTRY	DATE EXTENDED	PROJECTS	MILLION CURRENT US \$
EGYPT			
USSR	1957 JUL	CREDIT -- OIL DRILLING EQUIPMENT	8.6
	1958 JAN	LINE OF CREDIT GEOLOGICAL RESEARCH AND MINING THREE AIRFIELDS IN MINING AREAS (\$0.4 MILLION)	175.0
	1958 DEC	CREDIT -- ASWAN DAM, FIRST STAGE	100.0
	1960 FEB	CREDIT -- ASWAN DAM, SECOND STAGE (2100 MW)	216.0(C)
	1964 MAY	GRANT -- EXPERIMENTAL FARM	0.3

- U.S. foreign loans, grants and military assistance from the Greenbook [Time Series](#)

Competitive Landscape - Carrots



Variable	N (Countries)	Mean	SD	Median	Q10	Q90
US (% Recipient GDP)	117	1.55	4.13	0.75	0.01	2.70
Soviet (% Recipient GDP)	117	0.93	2.25	0.04	0.00	2.34
Total (% Recipient GDP)	117	2.47	4.77	1.02	0.02	7.09

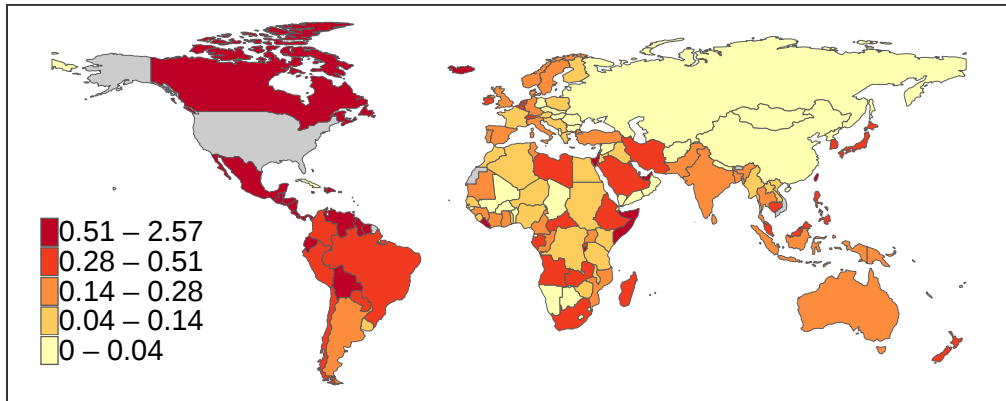
Measurement – Sticks

- What is the economic punishment I can inflict on you?
- Calculate welfare losses from hegemon sanctions in Armington (1969) model
 - Calibrate using historical trade data and trade elasticity $\sigma = 5$
- Baseline measure: Consumption losses under full import and export tariffs
 - Use model to obtain consumption under tariffs $\dot{C}_{i,t}(\bar{\tau})$

$$\text{Power}_{i,t} = 1 - \frac{\dot{C}_{i,t}(\bar{\tau})}{C_{i,t}^{\text{init}}} \quad \text{'Size of the Stick'}$$

- Extends recent power measures to the past [Correlations](#)
(Clayton et al., 2025c; Liu and Yang, 2025)

U.S. Power (1970)



U.S. Power (% Loss in Real Consumption under Full U.S. Sanctions)

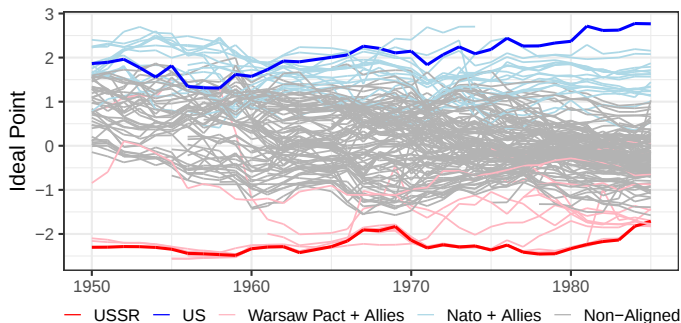
- Soviet Power concentrated in Central Asia & Middle East, smaller than U.S. [See](#)

Measurement – Alignment

- Project Ideal Point measure $\theta_{i,t}$ from U.N. voting onto unit line (Bailey et al., 2017)

$$a_{i,t} = \frac{\theta_{i,t} - \theta_{USSR,t}}{\theta_{US,t} - \theta_{USSR,t}}$$

- Ideal Point extracts unidimensional latent alignment out of UNGA voting
- In Paper: Qualitative and quantitative validation Qualitative Quantitative



The Effects of Carrots and Sticks

From Theory to Empirics

Country reaction function:

$$\log\left(\frac{a_i}{1-a_i}\right) = \pi_i + \beta \log c_i - \beta^* \log c_i^* + \text{Power}_i - \text{Power}_i^*$$

From Theory to Empirics

Country reaction function:

$$\log\left(\frac{a_i}{1-a_i}\right) = \boxed{\pi_i} + \beta \log c_i - \beta^* \log c_i^* + \text{Power}_i - \text{Power}_i^*$$

→ Unobserved and time-varying

From Theory to Empirics

Country reaction function:

$$\log\left(\frac{a_i}{1-a_i}\right) = \boxed{\pi_i} + \beta \log c_i - \beta^* \log c_i^* + \text{Power}_i - \text{Power}_i^*$$

We estimate:

$$\log\left(\frac{a_{i,t}}{1-a_{i,t}}\right) = \beta \log(c_{i,t}) + \beta^* \log(c_{i,t}^*) + \phi(\text{Power}_{i,t} - \text{Power}_{i,t}^*) + \gamma_t + \alpha_i + \gamma \mathbf{X}_{i,t} + \varepsilon_{i,t}$$

- Controls: Country, year, region-decade f.e., log pop, GDP per capita
 - Standardize all variables for the regressions [Summary Stats](#)

Carrots and Sticks Predict Alignment

	Log Odds Ratio: Support for US-led order			
US Carrot	0.34*** (0.04)	0.24*** (0.04)	0.10* (0.05)	0.09** (0.04)
USSR Carrot	-0.39*** (0.04)	-0.34*** (0.04)	-0.12*** (0.03)	-0.13*** (0.03)
Δ Power	0.07* (0.04)	0.10*** (0.03)	0.06 (0.04)	0.05 (0.03)
N	2641	2641	2641	2587
R ²	0.27	0.51	0.76	0.81
Year FE		✓	✓	✓
Country FE			✓	✓
Controls				✓

Standard errors clustered by country.

Instruments: Carrots

- To identify model parameters, need shock to geopolitical importance v_i
- Shift-share instrument using differential exposure to budget fluctuations (Nakamura & Steinsson (2014), Nunn & Qian (2014), Dimant et al (2024))

$$Z_{i,t} = \underbrace{\frac{\sum_{t' < t} c_{i,t'}}{\sum_{t' < t, j \in r(i)} c_{j,t'}}}_{\text{Average share of Flow to region } r \text{ of country } i} \times \underbrace{\left(\sum_{j \in r(i)} c_{j,t} - c_{i,t} \right)}_{\text{Flow to Region excl Country in } t}$$

- Identification: Shifts are exogenous to preferences of country i
 - In practice: Shifts related to hegemon budget processes, regional priorities
 - ‘You come here speaking of Latin America, but this is not important. Nothing important can come from the South’ (Kissinger, 1969) [Shifts Latam](#)
 - Shifts do not respond to alignment of region, coups etc [See](#)

Instruments: Sticks

- From 1955-1990 costs of moving goods by air falls by by factor of almost ten
- Predict trade between country i and j in year t with time-varying gravity equation (Feyrer, 2019; Kleinman et al., 2024; Tabellini and Magistretti, 2024)

$$Y_{ijt} = \chi_{it} + \varphi_{jt} + \psi_{ij} + \beta_{q(t)}^{\text{air}} \log(\text{air distance}_{i,j}) + \beta_{q(t)}^{\text{sea}} \log(\text{sea distance}_{i,j}) + \varepsilon_{ijt}$$

- Estimate trade model again to get predicted power [See](#)
- Identification: Changing effective air and sea distances affect alignment only trade

Causal Effects of Carrots and Sticks on Alignment

	OLS	IV US Carrot	IV USSR Carrot	IV Power	IV All
US Carrot	0.09** (0.04)	0.15* (0.09)	0.09** (0.04)	0.07 (0.05)	0.16* (0.08)
USSR Carrot	-0.13*** (0.03)	-0.12*** (0.03)	-0.16** (0.06)	-0.16*** (0.03)	-0.19*** (0.07)
Δ Power	0.05 (0.03)	0.04 (0.03)	0.04 (0.03)	0.12* (0.07)	0.12* (0.06)
KP-F		100.74	209.25	9.30	27.99
F-Stat (US Carrot)		100.74			94.86
F-Stat (USSR Carrot)			209.25		180.16
F-Stat (Power)				9.30	19.19
N	2587	2587	2587	1935	1935
Controls + FE	✓	✓	✓	✓	✓

Standard errors clustered by country.

[Event Study](#)
[+ Controls \(FDI, CIA Intervention...\)](#)
[Spillovers](#)
[IV Power Separately](#)
[Alt. Specifications](#)
[Weak-IV Robust CI](#)
[Dynamics](#)

Buying Alignment is Expensive

- Doubling U.S. aid to a neutral country means ...
 - ... moving a country by 2.5% of a SD (p50 to p51)
 - ... raising the odds of boycotting the 1980 Moscow Olympics by 5.5%
 - ... moving a country by 2% of the Pinochet Coup in Chile 1973
 - ... moving a country by 1% of the geopolitical distance to NATO
- Alternatively, increase power by 5% of Mexico's dependence Iso-Power Curve
 - Raising Power to Latin American levels moves countries by 15% of a SD
 - In terms of costs, payments more expensive than threats

Consequences of a USAID Shutdown

The Consequences of a USAID Shutdown

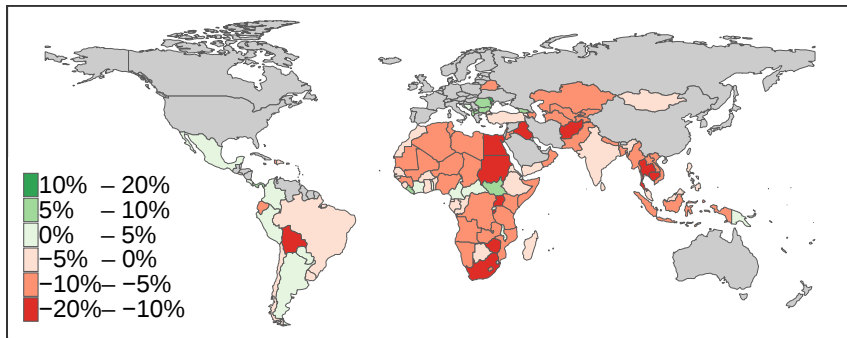
- Foreign aid and trade remain key tools in the U.S. – China competition (Dreher et al., 2022; Clayton et al., 2025a)
- Measure carrots and sticks in the present
 - **Sticks:** Model of international trade [See](#)
 - **Carrots:** U.S. Greenbook and AidData (Baseline: ODA only) [See](#)
 - **Alignment:** U.N. Voting [See](#)
 - Calibrate effectiveness of carrots and sticks using reduced-form estimates
- Evaluate USAID shutdown using model given base-period 2015–19 [Steps in Detail](#)
 - 1 Predict Chinese reaction holding $\pi_i, \mathbf{v}_i^*$ and Power fixed
 - 2 Predict reaction of country alignment given all changes in carrots

China Reacts Mostly by Retreating

- Ex ante, two competing forces
 - China can achieve same level of alignment with lower payments
 - Absence of competitor allows China draw countries into its sphere of influence

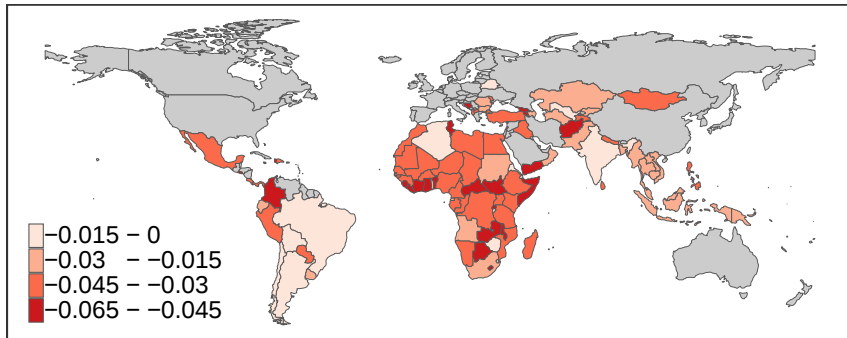
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Chinese Reaction (%)

The World Realigns Away from the U.S.



Change in Alignment with U.S. (0-1)

- Average country moves by 0.03: 15% of distance between France and Turkey
- Initial allies of U.S. move the most [See](#)
- Increasing power can offset loss of alignment in Latin America, not elsewhere [See](#)

Conclusion

- Hegemon perspective: Geoeconomic tools work, but are expensive
- Small country perspective: Competition can be good

U.S.-China:

- Rise of China in global trade generates influence beyond its foreign aid program
- When one hegemon pulls back, do not expect the other to jump in

Thanks for your Attention!

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Appendix

Choices and Payoffs: Small Country

- Each country chooses geopolitical alignment $\mathbf{a}_i \in [0, 1]$ on unit line
 - Bliss point absent coercion is $\pi_i \in (0, 1)$, costs $\varphi(\mathbf{a}_i, \pi_i)$ of deviation
- Choose alignment $\mathbf{a}_i$ to maximize utility given carrots $\mathbf{c}$ and trade threats τ

$$U(\mathbf{a}_i; \pi_i, \mathbf{c}_i, \mathbf{c}_i^*, \tau_i, \tau_i^*) = \underbrace{\varphi(\mathbf{a}_i, \pi_i)}_{\text{Political Cost}} + u(\mathbf{C}_i(\mathbf{c}_i, \mathbf{c}_i^*, \tau_i, \tau_i^*))$$

- Define the consumption loss under full import and export sanctions as

$$\text{Power}_i = \frac{u(\mathbf{C}_i(\text{status quo})) - u(\mathbf{C}_i(\text{U.S. Sanction}))}{u(\mathbf{C}_i(\text{status quo}))} \quad \text{'Size of the Stick'}$$

'A has power over B to the extent that he can get B to do something that B would not otherwise do'
(Dahl, 1957)

Contest over Small Countries

- **Assumption:** Contest function as in Kang (2016), Bonadio et al. (2024)

$$f(\pi_i, c_i, c_i^*) = \frac{\exp(\tilde{\pi}_i + \beta \log(c_i))}{\exp(\tilde{\pi}_i + \beta \log(c_i^*)) + \exp(\beta^* \log(c_i^*))}$$

$$\text{where } \tilde{\pi}_i = \log \left(\frac{\pi_i}{1 - \pi_i} \right)$$

and political costs are given by

$$\varphi(a_i - f(\pi_i, c_i^*, c_i)) = -|\tilde{a}_i - \tilde{f}(\pi_i, c_i, c_i^*)|$$

- Microfoundation: U.S. and Soviet payments shift the payoffs in logit-decision problem
- Alternative: U.S. or Soviet carrots yield support to a group within the regime

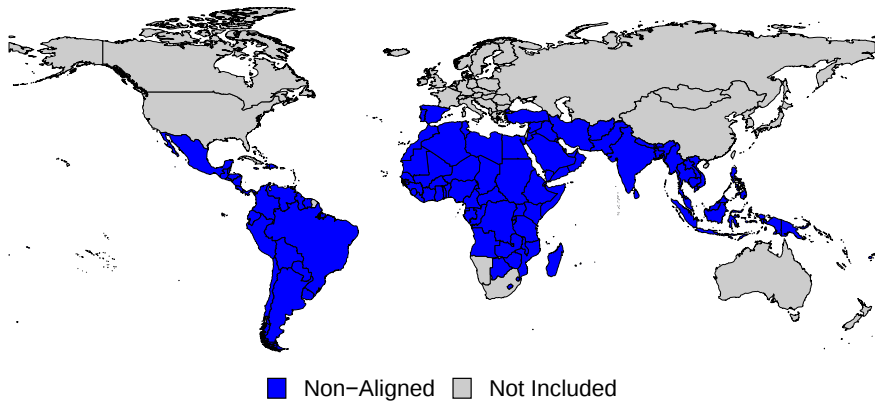
Choices and Payoffs: Hegemons

- Each hegemon chooses sanction strategy τ and carrots $\mathbf{c}$ (differs by country)
 - Threats punish countries once they exceed a value $\mathbf{a}_i$
- Given vectors of geopolitical importance $\mathbf{v}$ and $\mathbf{v}^*$, hegemon payoffs are

$$U(\mathbf{a}, \mathbf{c}, \tau) = \sum_i \left(\underbrace{\mathbf{a}_i \mathbf{v}_i}_{\text{Political Gain}} - \underbrace{\mathbf{c}_i}_{\text{Cost of carrots}} \right) + \underbrace{C(\tau)}_{\text{Sanction Cost}}$$

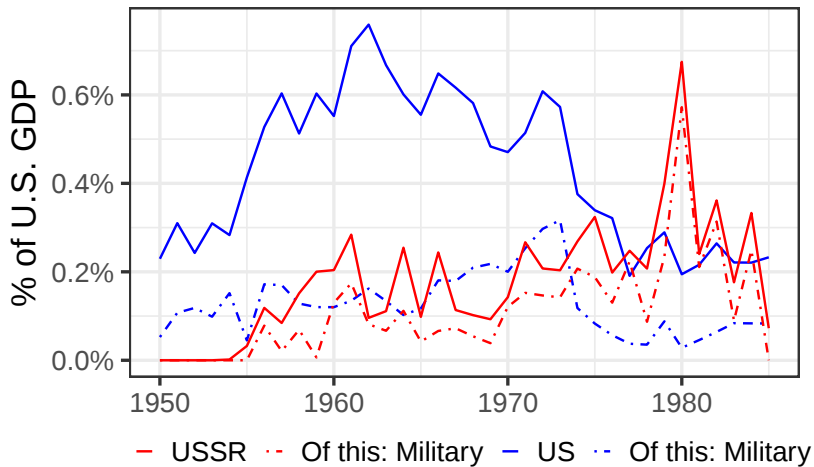
- The model reflects the notion of carrot in Baldwin (1971):
 - *Threats that succeed are not costly for the hegemon, but carrots are*
 - *Carrot is more flexible and allows for influence in places without economic ties*
 - GATT rules limit flexibility of trade agreements downward (sanctions fine by article XXI)

Map of Non-Aligned Countries



See

Flows to non-aligned countries as % of U.S. GDP



Regression Summary Stats

Variable	N	Mean	SD	Min	Max
Alignment (0-1)	2544	0.51	0.18	0.01	0.97
Alignment (Log Odds)	2544	0.05	0.95	-4.50	3.62
Soviet Power	2544	0.05	0.16	0.00	1.67
US Power	2544	0.33	0.32	0.00	1.82
Log US Flow	2544	15.97	4.00	6.91	22.62
Log USSR Flow	2544	11.36	5.37	6.91	22.59

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Main Regression - Military and Economic Aid

	Log Odds Ratio: Support for US-led order			
	(1)	(2)	(3)	(4)
U.S. Economic	0.20*** (0.04)	0.08 (0.05)	0.06 (0.04)	0.04 (0.04)
U.S. Military	0.16*** (0.05)	0.20*** (0.05)	0.13*** (0.04)	0.10*** (0.03)
USSR Economic	-0.17*** (0.04)	-0.16*** (0.04)	-0.12*** (0.03)	-0.10*** (0.03)
USSR Military	-0.25*** (0.03)	-0.20*** (0.03)	0.02 (0.04)	-0.04 (0.03)
N	2641	2641	2641	2587
Year FE		✓	✓	✓
Country FE			✓	✓
Controls				✓

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Proposition

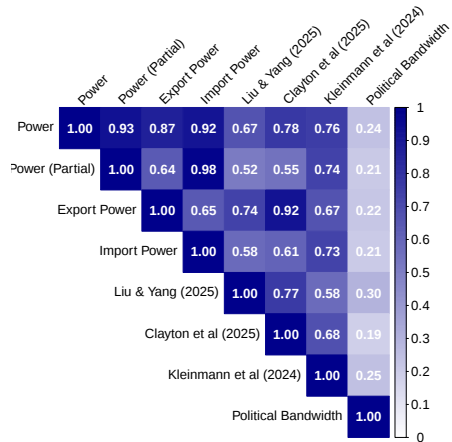
- The (unique) Equilibrium is characterized by

$$a_i = \frac{\exp(\tilde{\pi}_i + \text{Power}_i + \beta \log c_i)}{\exp(\text{Power}_i^* + \beta^* \log c_i^*) + \exp(\tilde{\pi}_i + \text{Power}_i + \beta \log c_i)} , ,$$
$$\frac{c_i}{\beta v_i} = \frac{\exp(\tilde{\pi}_i + \text{Power}_i^* + \beta^* \log c_i^* + \text{Power}_i + \beta \log c_i)}{(\exp(\text{Power}_i^* + \beta^* \log c_i^*) + \exp(\tilde{\pi}_i + \text{Power}_i + \beta \log c_i))^2}$$
$$\frac{c_i^*}{\beta^* v_i^*} = \frac{\exp(\tilde{\pi}_i + \text{Power}_i^* + \beta^* \log c_i^* + \text{Power}_i + \beta \log c_i)}{(\exp(\text{Power}_i^* + \beta^* \log c_i^*) + \exp(\tilde{\pi}_i + \text{Power}_i + \beta \log c_i))^2}$$

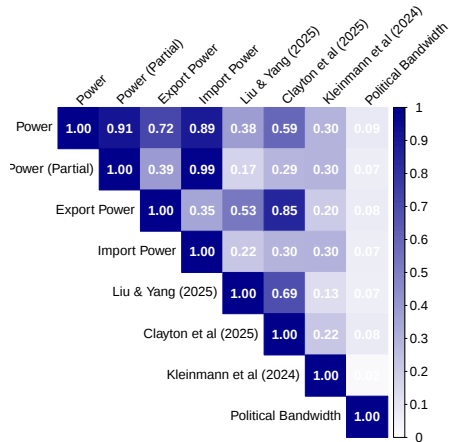
- The parameters of the can be estimated via

$$\log\left(\frac{a_i}{1 - a_i}\right) = \tilde{\pi}_i + \beta \log c_i - \beta^* \log c_i^* + \text{Power}_i - \text{Power}_i^* . [Go Back](#)$$

Comparison to Other Measures



(a) Correlations



(b) Correlation after dyad f.e.

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The Global Cold War

- Most recent instance of geoeconomic competition
 - Existential fear that loss of influence could spiral into war [USSR](#) [U.S.](#)
 - Non-aligned countries try to maintain neutrality [Background](#)
- Declassified data allows us to measure carrots and sticks
 - Foreign loans and grants and trade leverage were two key tools of geoeconomics (Singer (1972), Waltz (1979)) [Background: Carrots](#) [Background: Sticks](#)
 - Polarized nature of the cold war means alignment more clearly measured
- Sample: Non-aligned countries, 1955-1985
 - CIA classification of non-aligned countries

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The Global Cold War

- Fierce competition for the 'third world'
 - Existential fears that losing influence might spiral into war (domino theory)
 - Demonstration of ideological superiority
- Third countries prefer neutrality
 - Foundation of non-aligned movement in 1961 with most third world countries participating through the years

"I want all those nations who are present to-day—whether from West or from East—to understand our aim. We want to befriend all, and we want aid from everyone."

Jomo Kenyatta, Kenyan Independence Day speech in 1963



Carrots: Aid is Key Part of Global Competition

- Aid integral part of foreign policy strategy of the U.S. and Soviets
 - Discussed in presidential meetings
 - Large drop in aid after the cold war (Boschini and Olofsgård 2007)

Our new aid policy aims at strengthening the political and economic independence of developing countries [...] to repel Communist efforts to exploit such stress from within or without.

(Kennedy, 1962)

Historians stress that in cold war, aid mostly politically motivated



Sticks: Hegemons also use Trade Leverage

- Massive technological differences between the U.S., Soviet Union and the third world
 - Both control key natural resources and leaders in military technology
- Soviets threaten to cut military exports to countries, U.S. cuts exports of advanced technologies

Make the economy scream!

Nixon, 1970



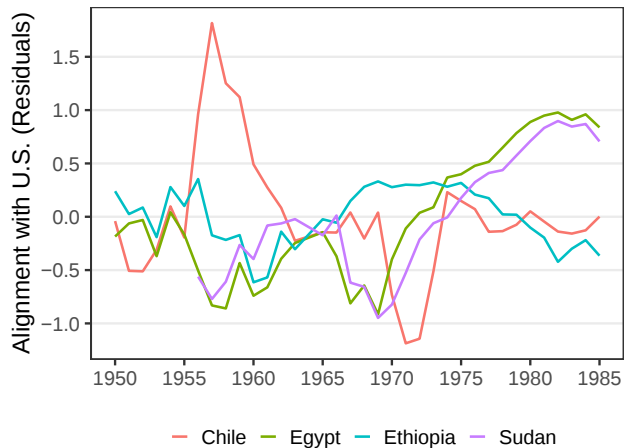
Quantitative Validation: UN Voting

$$Y_{i,t} = \beta \log \frac{a_{i,t}}{1 - a_{i,t}} + \alpha_i + \gamma_t + \varepsilon_{i,t} \quad (1)$$

Table: Validation of Alignment Measures

	Olympic Boycott 1980		Olympic Attendance 1984		No PRC Recognition	
	(1)	(2)	(3)	(4)	(5)	(6)
	OLS	Logit	OLS	Logit	OLS	Logit
Alignment	0.38*** (0.09)	1.8*** (0.56)	0.16** (0.07)	3.0*** (0.90)	0.13*** (0.03)	5.0*** (0.52)
Observations	111	111	118	118	2,641	2,641
Country					✓	✓
Year					✓	

Qualitative Validation



Chile:

- 1955-58: Ibáñez shift to the U.S.
- 1970: Allende "*Chilean way to socialism*"
- 1973: Pinochet Coup

Egypt:

- 1954: Nasser becomes president
- 1967: Six-Day War
- 1970: El-Sadat becomes president
- 1978: Camp-David Accords

Ethiopia:

- Early 1970's: Haile Selassie
- 1974: Mengistu Haile Mariam coup
- 1977-78: Ogaden War, Soviet support

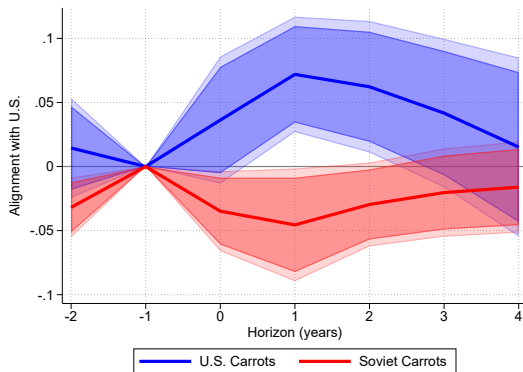
Per Capita Specification

	Log Odds Ratio: Support for US-led order			
US Carrot	0.27*** (0.04)	0.18*** (0.04)	0.10** (0.04)	0.09*** (0.04)
USSR Carrot	-0.38*** (0.04)	-0.33*** (0.04)	-0.11*** (0.03)	-0.12*** (0.03)
Δ Power	0.06 (0.04)	0.09** (0.03)	0.06 (0.04)	0.04 (0.03)
N	2592	2592	2592	2587
R ²	0.25	0.50	0.76	0.81
Year FE		✓	✓	✓
Country FE			✓	✓
Controls				✓

Standard errors clustered by country.

Effects are Short-Lived

$\tilde{a}_{i,t+h} = \phi \text{Power}_{i,t} + \beta_h \log(c_{i,t}) + \phi^* \text{Power}_{i,t}^* + \beta_h^* \log(c_{i,t}^*) + \gamma_t + \alpha_i + \gamma \mathbf{X}_{i,t} + \varepsilon_{i,t}$
+ control for lagged alignment



Objectives of the Soviets

For the future, the primary *Soviet objectives in the Third World* will continue to be:

- *To obtain political support from Third World entities* against the United States and the West or at least to weaken their ties to the West.
- *To promote the creation of Marxist regimes* closely allied with the USSR, and to protect those regimes, especially from internal opposition.
- *To gain, or deny to the West, access to naval and air facilities* that would be useful in promoting Moscow's foreign policy goals and that could be used in some crisis or wartime situation.

Source: The USSR and the Third World CIA (1984) [Go Back](#)

U.S. Objectives

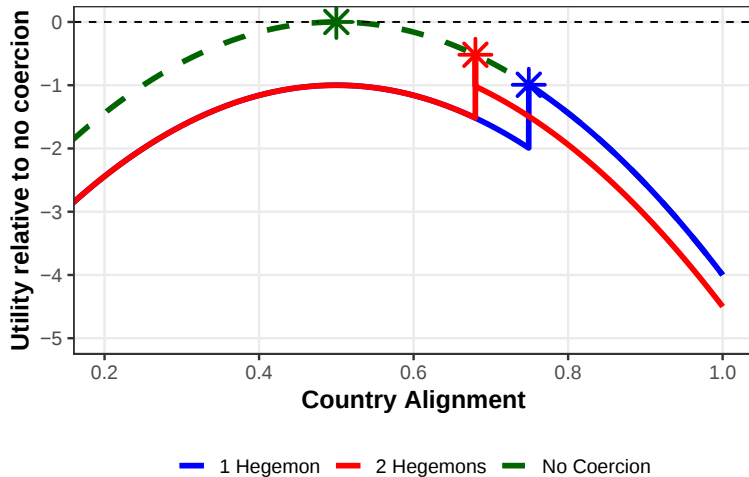
- 1. Existing foreign aid programs and concepts are largely unsatisfactory and unsuited for our needs and for the needs of the underdeveloped world as it enters the Sixties.*
- 2. The economic collapse of those free but less-developed nations which now stand poised between sustained growth and economic chaos would be disastrous to our national security, harmful to our comparative prosperity and offensive to our conscience.*

...

But in our time these new nations need help for a special reason. Without exception they are under Communist pressure.

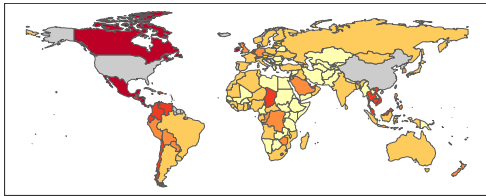
Source: Kennedy, 1961 [Go Back](#)

Sticks Only – Third Country



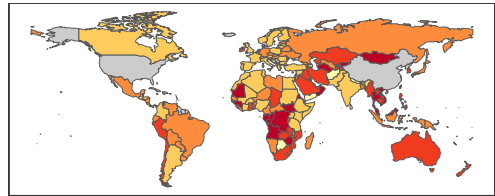
U.S. and Chinese Power

Figure: U.S. and Chinese Power, 2015-19



Power 0-0.1 0.1-0.25 0.25-0.5 0.5-1 >1

(a) U.S. Power

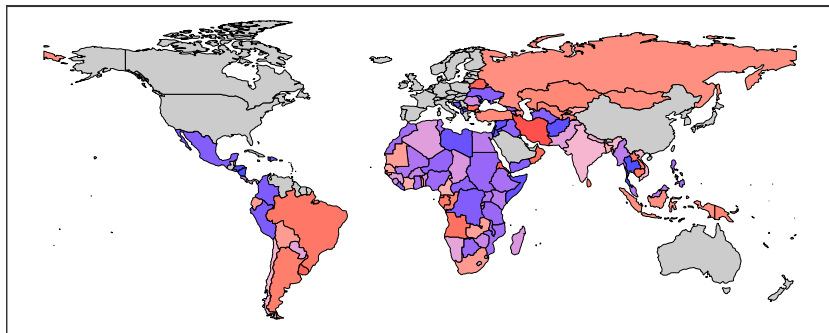


Power 0-0.1 0.1-0.25 0.25-0.5 0.5-1 >1

(b) Chinese Power

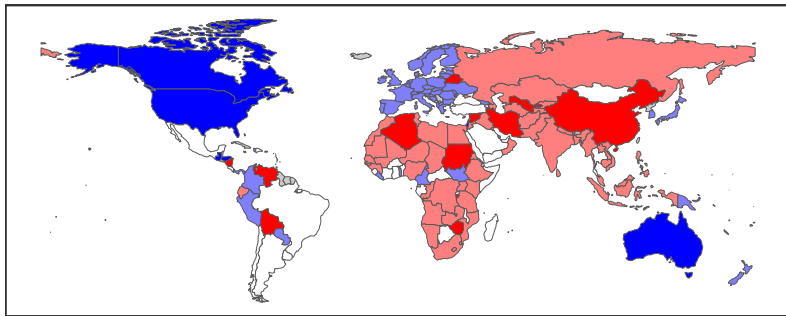
[Go Back](#)

U.S. and Chinese Carrots



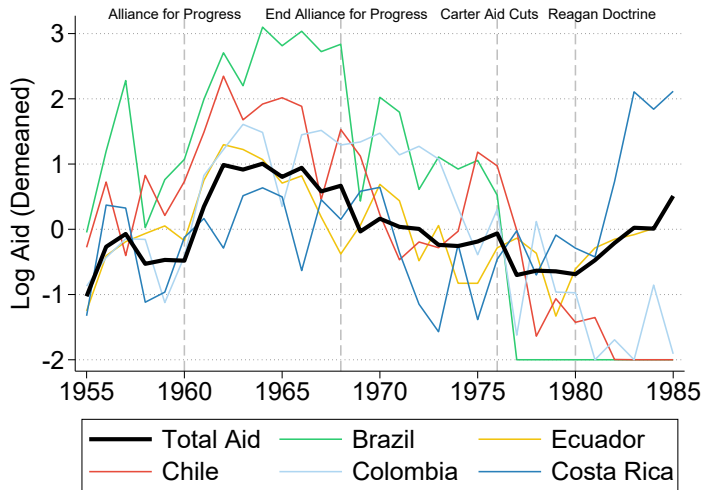
Ratio $\frac{\text{US Aid}}{\text{US Aid} + \text{Chinese Aid}}$ 0.00 0.25 0.50 0.75 1.00

Alignment in Modern Data

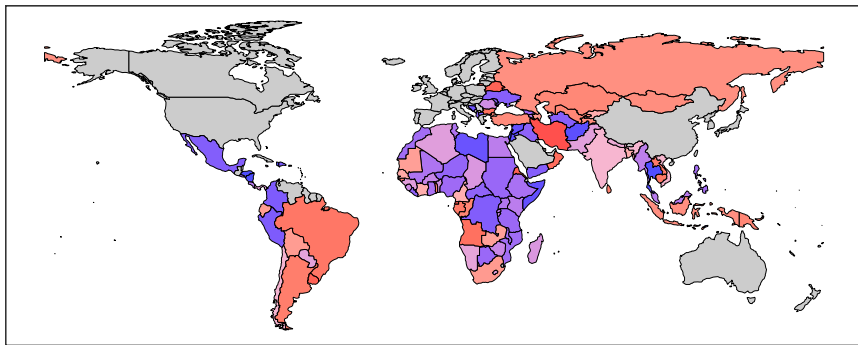


■ 0-0.2 ■ 0.2-0.4 □ 0.4-0.6 ■ 0.6-0.8 ■ 0.8-1 ■ NA

Shifts for Latin America



U.S. and Chinese Carrots



Ratio $\frac{\text{US Aid}}{\text{US Aid} + \text{Chinese Aid}}$ 0.00 0.25 0.50 0.75 1.00

Figure: Aid Ratio $\frac{C_{US}}{C_{USSR} + C_{US}}$

Details USAID Shutdown

- ① Recover country preferences π_i as residuals from

$$\log\left(\frac{a_i}{1-a_i}\right) = \pi_i + \phi \text{Power}_i + \beta \log c_i - \phi^* \text{Power}_i^* - \beta^* \log c_i^*$$

- ② Recover Chinese geopolitical priorities v_i^* from

$$v_i^* = \frac{1}{a_i(1-a_i)\beta^*} c_i^*$$

- ③ Recover implied Chinese Reaction from (given estimated β, ϕ from U.S.)

$$\frac{\exp(\tilde{\pi}_i + \phi^* \text{Power}_i^* + \beta^* \log c_i^* + \phi \text{Power}_i + \beta \log c_i)}{(\exp(\phi^* \text{Power}_i^* + \beta^* \log c_i^*) + \exp(\tilde{\pi}_i + \phi \text{Power}_i + \beta \log c_i))^2} = \frac{c_i^*}{\beta^* v_i^*}$$

- ④ Predict change in alignment plugging in change in c_i and c_i^* into (1)

Robustness – Weak IV Robust CI

	Log Odds Ratio: Support for US-led order				
	(1)	(2)	(3)	(4)	(5)
US Carrot	0.09** (0.04)	0.15* (0.09)	0.09** (0.04)	0.07 (0.05)	0.16* (0.08)
USSR Carrot	-0.13*** (0.03)	-0.12*** (0.03)	-0.16** (0.06)	-0.16*** (0.03)	-0.19*** (0.07)
Δ Power	0.05 (0.03)	0.04 (0.03)	0.04 (0.03)	0.12* (0.07)	0.12* (0.06)
KP-F		100.74	209.25	9.30	27.99
F-Stat (US Carrot)		100.74			94.86
F-Stat (USSR Carrot)			209.25		180.16
F-Stat (Power)				9.30	19.19
Weak-IV Robust CI		[.014, .287]	[-.249, -.062]	[.015, .265]	[.040, .284] [-.301, -.034] [.048, .247]
N	2587	2587	2587	1935	1935
Controls + FE	✓	✓	✓	✓	✓

Robustness – Variable Definitions

	(1) OLS	(2) OLS Sample	(3) IV Cluster Iso-Year	(4) IV Both Carrots	(5) IV IHS	(6) IV Log 10K	(7) IV Log 100	(8) IV Aid/Capita	(9) IV Wins	(10) IV Warsaw	(11) IV 3-year
US Carrot	0.09** (0.04)	0.08 (0.05)	0.16* (0.09)	0.16* (0.09)	0.15* (0.08)	0.18* (0.09)	0.14* (0.08)	0.14* (0.08)	0.15* (0.08)	0.16* (0.09)	0.17** (0.09)
USSR Carrot	-0.13*** (0.03)	-0.16*** (0.03)	-0.19*** (0.07)	-0.15** (0.06)	-0.20*** (0.07)	-0.18*** (0.07)	-0.20*** (0.07)	-0.19*** (0.07)	-0.19*** (0.06)	-0.25*** (0.07)	-0.31*** (0.09)
Δ Power	0.05 (0.03)	0.10** (0.04)	0.12* (0.06)	0.04 (0.03)	0.12* (0.06)	0.11* (0.06)	0.12* (0.07)	0.12* (0.06)	0.10* (0.06)	0.11* (0.06)	0.11* (0.06)
KP-F			17.73	44.42	28.26	26.07	27.98	31.27	26.87	24.53	19.05
F-Stat (US Carrot)			58.27	115.73	95.04	91.16	92.74	97.91	92.16	85.65	86.41
F-Stat (USSR Carrot)			185.32	232.07	183.71	165.58	190.58	149.19	179.35	325.21	84.08
F-Stat (Power)			19.61		18.67	21.53	17.57	25.48	30.36	17.75	17.79
N	2587	1935	1935	2587	1935	1935	1935	1935	1935	1935	1935
Controls + FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

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Robustness – Spillovers

$$\log \frac{a_{i,t}}{1 - a_{i,t}} = \dots + \underbrace{\beta_{\text{Spill}} \sum_{j \neq i} d_{i,j,t} \log(c_{j,t}) + \beta_{\text{Spill}}^* \sum_{j \neq i} d_{i,j,t} \log(c_{j,t}^*) + \phi_{\text{Spill}} \sum_{j \neq i} d_{i,j,t} (\text{Power}_{j,t} - \text{Power}_{j,t}^*)}_{\text{Trade-weighted carrots \& sticks in other countries}} + \varepsilon_{i,t}.$$

US Carrot	0.09** (0.04)	0.15* (0.09)	0.09** (0.04)	0.07 (0.05)	0.17** (0.08)
USSR Carrot	-0.13*** (0.03)	-0.12*** (0.03)	-0.15** (0.06)	-0.16*** (0.03)	-0.19*** (0.07)
Δ Power	0.05 (0.03)	0.04 (0.03)	0.04 (0.03)	0.12* (0.07)	0.11* (0.06)
U.S. Spillover	0.01 (0.03)	0.00 (0.03)	0.01 (0.03)	0.02 (0.04)	0.03 (0.04)
USSR Spillover	-0.01 (0.02)	-0.01 (0.02)	-0.01 (0.02)	-0.02 (0.03)	-0.02 (0.03)
Power Spillover	0.02 (0.03)	0.02 (0.03)	0.02 (0.03)	0.02 (0.04)	0.01 (0.04)
KP-F		99.21	209.06	9.24	27.91
F-Stat (US Carrot)		99.21			94.17
F-Stat (USSR Carrot)			209.06		174.42
F-Stat (Power)				9.24	14.20
N	2578	2578	2578	1935	1935
Controls + FE	✓	✓	✓	✓	✓

Robustness – Additional Controls

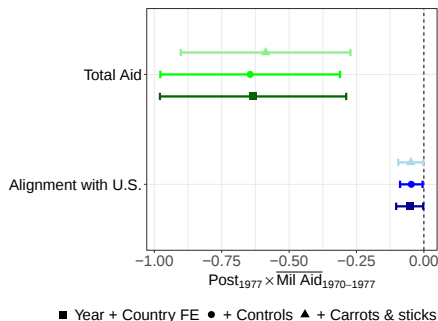
	(1) + U.S. FDI	(2) + CIA/KGB Intervention	(3) + GATT	(4) + IMF	(5) + WB	(6) + Other Comm.	(7) + Sanctions
US Carrot	0.16* (0.08)	0.18** (0.08)	0.15* (0.09)	0.16* (0.08)	0.16* (0.08)	0.19** (0.08)	0.15* (0.08)
USSR Carrot	-0.19*** (0.06)	-0.19*** (0.07)	-0.18*** (0.06)	-0.19*** (0.07)	-0.19*** (0.07)	-0.17** (0.07)	-0.20*** (0.07)
Δ Power	0.12* (0.06)	0.10 (0.06)	0.09 (0.06)	0.11* (0.06)	0.11* (0.06)	0.11* (0.06)	0.12* (0.07)
KP-F	30.31	27.85	28.69	28.14	29.38	28.48	28.56
F-Stat (US Carrot)	102.31	91.91	97.81	95.37	97.47	92.91	95.81
F-Stat (USSR Carrot)	179.66	163.15	183.01	185.20	183.07	163.02	177.39
F-Stat (Power)	19.22	19.12	21.03	18.82	21.02	19.40	18.93
N	1930	1933	1935	1935	1935	1935	1935
Controls + FE	✓	✓	✓	✓	✓	✓	✓

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Identification in an Event Study

- Estimate DiD Specification on Latin American countries

$$y_{i,t} = \alpha_i + \theta_t + \beta \overline{\text{Aid}}_{i,1970-76} \times (\text{Post } 1976(t)) + \gamma X_{i,t} + \varepsilon_{i,t}$$



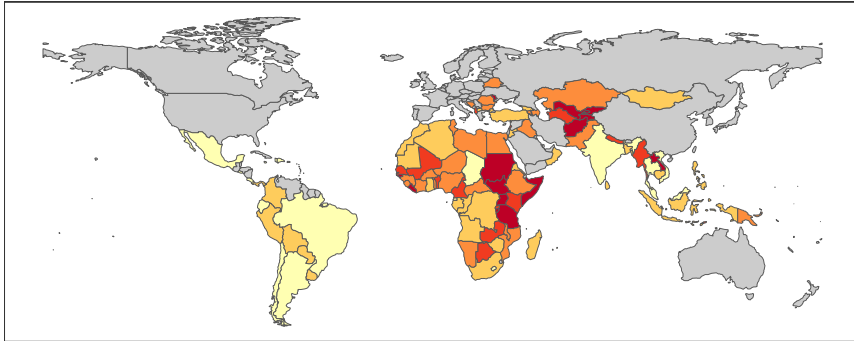
- Implied β is roughly twice of IV, Carter Aid cuts focused on military aid [Go Back](#)

Instrumenting U.S. and Soviet Power Separately

$$\log \frac{a_{i,t}}{1 - a_{i,t}} = \beta \log(c_{i,t}) + \beta^* \log(c_{i,t}^*) + \phi \text{Power}_{i,t} + \phi^* \text{Power}_{i,t}^* + \theta_t + \alpha_i + \gamma \mathbf{X}_{i,t} + \varepsilon_{i,t}$$

	Log Odds Ratio: Support for US-led order					
	(1)	(2)	(3)	(4)	(5)	(6)
US Carrot	0.09** (0.04)	0.16* (0.09)	0.09** (0.04)	0.08 (0.05)	0.08 (0.05)	0.16 (0.10)
USSR Carrot	-0.13*** (0.03)	-0.12*** (0.03)	-0.15** (0.06)	-0.16*** (0.03)	-0.16*** (0.04)	-0.19* (0.11)
US Power	0.03 (0.03)	0.03 (0.03)	0.03 (0.03)	0.10* (0.05)	0.09** (0.04)	0.10 (0.10)
USSR Power	-0.04** (0.02)	-0.04** (0.02)	-0.04** (0.02)	-0.04** (0.02)	-0.05 (0.43)	-0.07 (0.63)
KP-F		82.07	206.78	23.24	47.81	0.55
F-Stat (US Carrot)		82.07				30.77
F-Stat (USSR Carrot)			206.78			58.98
F-Stat (US Power)				23.24		17.90
F-Stat (USSR Power)					47.81	35.31
N	2587	2587	2587	1935	1935	1935
Controls + FE	✓	✓	✓	✓	✓	✓

Increasing Power offsets USAID shutdown in LatAm, not elsewhere



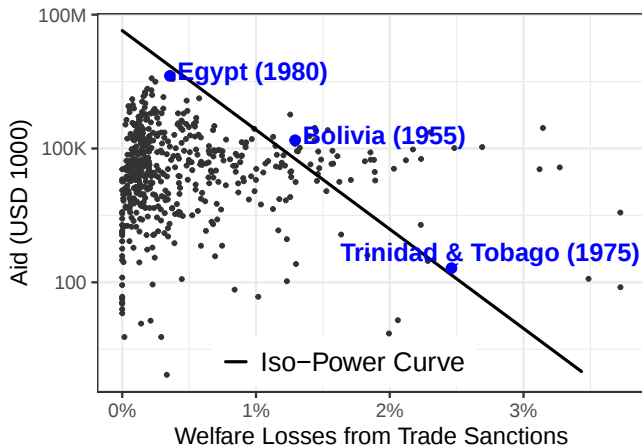
% Increase 0-250% 250-750% 750-1500% 1500-2500% >2500%

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Iso-Power Curve for U.S.

A level of influence $\bar{\mathcal{A}}$, can be achieved using combinations of Power, $\mathbf{c}$ such that

$$\bar{\mathcal{A}} = \phi \text{Power} + \beta \log \mathbf{c}.$$



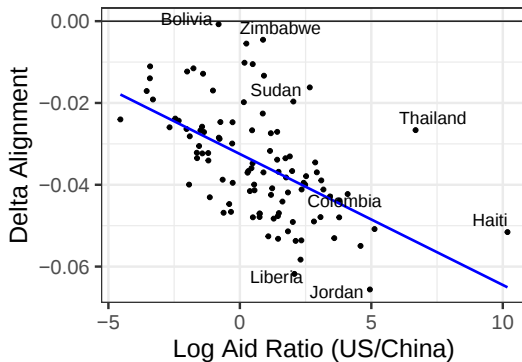
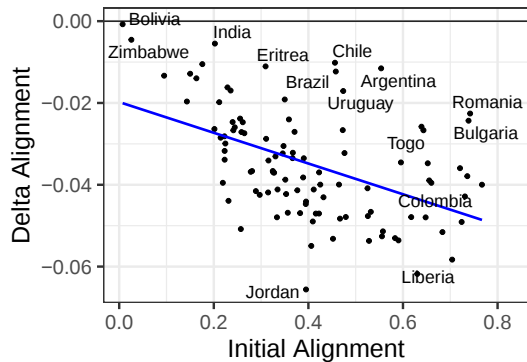
Predicting Shifts

$$\text{Shift}_{r,t} = \beta \mathbf{X}_{r,t-1} + \alpha_r + \gamma_t + \varepsilon_{r,t}. \quad (2)$$

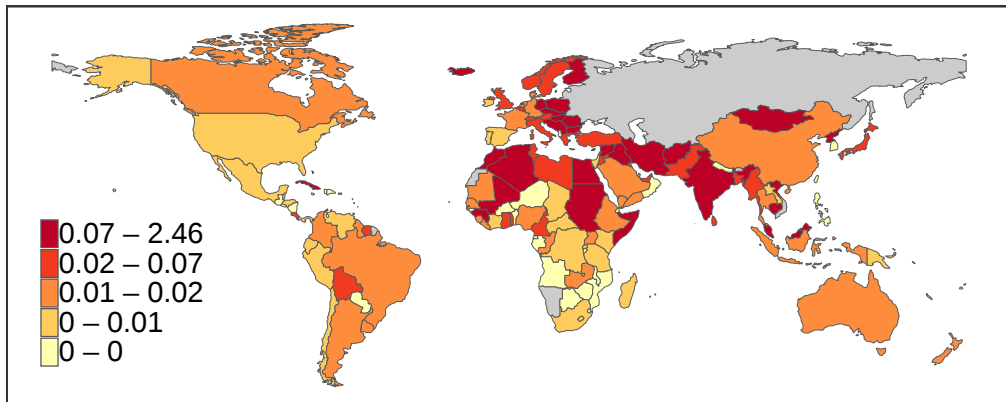
Right-Hand Side Variable	U.S. Shift		Soviet Shift	
	Coefficient	p-value	Coefficient	p-value
Lag Regional Alignment	-0.08	0.81	0.38	0.36
Lag Polity Score	0.08	0.74	-0.40	0.41
Lag CIA Intervention	0.39	0.52	0.74	0.61
Lag KGB Intervention	-0.31	0.84	-0.43	0.93
Lag New Leader	-0.05	0.85	-0.18	0.51
Lag Coups	-0.33	0.22	-0.37	0.50
Lag Conflict	0.09	0.68	0.26	0.32

Which Countries Move?

Figure: Correlates of Changing Alignment



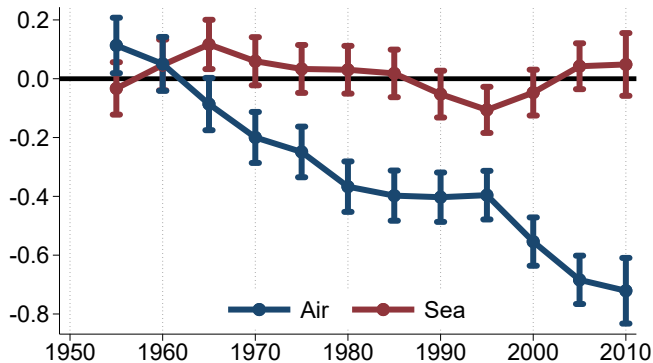
Soviet Power (1970)



Soviet Power (% Loss in Real Consumption under Full Soviet Sanctions)

Coefficients on Air and Sea-Distance

$$Y_{ijt} = \chi_{it} + \varphi_{jt} + \psi_{ij} + \beta_{q(t)}^{\text{air}} \log(\text{air distance}_{i,j}) + \beta_{q(t)}^{\text{sea}} \log(\text{sea distance}_{i,j}) + \varepsilon_{ijt}$$



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