

A Theory of Economic Coercion and Fragmentation

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Economic Coercion, Security, and Fragmentation

- ▶ **Geoeconomics:** Hegemonic countries use their economic strength from existing financial and trade relationships to achieve geopolitical and economic goals
- ▶ Recent policy emphasis on **Economic Security**, but risk of fragmentation
- ▶ Fundamental questions:
 - ▶ How should countries protect themselves from hegemonic influence?
 - ▶ Trade off between economic security and gains from trade
 - ▶ Optimal anti-coercion policy: role and scope for government intervention
 - ▶ Measuring coercive power, which sectors are strategic

Key Ingredients and Mechanisms

- ▶ Key ingredients:
 - ▶ A collection of countries: Global production network
 - ▶ Coercion: Threats of exclusion from hegemon controlled inputs
 - ▶ Anti-coercion: ex-ante policies to shield economy from hegemonic influence
- ▶ Key mechanism:
 - ▶ Increasing returns to scale and specialization are source of *both* gains from trade and hegemonic power by making other technologies poor substitutes for dominant ones
- ▶ Hegemon induces hyper-globalization centered on its economy: maximizes power
- ▶ Countries' anti-coercion policies create a fragmentation doom-loop
- ▶ The importance of finance as a tool of hegemonic coercion

Literature

- ▶ **International Political Economy:** Kindleberger (1973), Keohane and Nye (1977), Gilpin (1981), Keohane (1984), Baldwin (1985), Blackwill and Harris (2016), Drezner (2003), Farrell and Newman (2019), Parks et al. (2022)
- ▶ **Geoeconomics:** Clayton, Maggiori, and Schreger (2023), Thoenig (2023), Becko and O'Connor (2024), Broner, Martin, Meyer, and Trebesch (2024), Fernandez-Villaverde et al. (2024), Liu and Yang (2024), Kooi (2024), Pflueger and Yared (2024)
- ▶ **Industrial Policy and Trade Theory:** Hirschman (1945,59), Bagwell and Staiger (1999), Maggi (2016), Martin, Mayer, and Thoenig (2008, 2012), Thoenig (2023) Baqaee and Farhi (2022, Bartelme, Costinot, Donaldson and Rodriguez-Clare (2019), Antras and Miquel (2023), Perez, Ottonello, Witheridge (2023), Kleinman, Liu, Redding (2023)
- ▶ **Networks:** Gabaix (2011), Acemoglu, Carvalho, Ozdaglar and Tahbaz-Salehi (2012), Blanchard et al. (2016), Bigio and Lao (2020), Baqaee and Farhi (2019), Liu (2019), Elliott, Golub and Leduc (2022)

Model Set-Up

- ▶ N countries, a set $\mathcal{I}$ of productive sectors, a set $\mathcal{F}$ of local factors
- ▶ Each sector and factor are located in one country:
 - ▶ $\mathcal{I}_n$ is the set of sectors in country n
 - ▶ $\mathcal{F}_n$ is the set of local factors of country n
- ▶ Unit mass of firms in sector i produces a differentiated good y_i using:
 - ▶ Intermediate goods x_{ij} , where j is the source sector
 - ▶ Local factors of production ℓ_{if} , where f indexes factor
 - ▶ Production function $f_i(x_i, \ell_i, z)$
- ▶ Vector z of aggregate quantities, e.g. external economies of scale
- ▶ Each country n has a representative consumer and government

Representative Consumer of Country n

- ▶ Utility function: $U(C_n) + u_n(z)$, where C_n vector over each good C_{ni}

Simplifying assumption: U is identical across countries, homothetic

- ▶ Consumer owns domestic sectors and factor endowments $\bar{\ell}_f$ in their country

- ▶ Budget constraint:

$$\sum_{i \in \mathcal{I}} p_i C_{ni} \leq \sum_{i \in \mathcal{I}_n} \Pi_i + \sum_{f \in \mathcal{F}_n} p_f^\ell \bar{\ell}_f$$

Sector i profits Π_i , good price p_i , factor price p_f^ℓ

- ▶ Marshallian demand $C(p, w_n)$; Indirect utility $W(p, w_n) = U(C(p, w_n))$

- ▶ Market clearing: $\sum_{n=1}^N C_{nj} + \sum_{i \in \mathcal{I}} x_{ij} = y_j$; $\sum_{i \in \mathcal{I}_n} \ell_{if} = \bar{\ell}_f$

Timeline and Government Policy Tools

Beginning

Middle

End

Each government chooses:

- Policies on domestic firms
- Revenue neutral taxes $\tau_{n,ij}$

Hegemon government:

- Threatens foreign entities with loss of access to inputs it controls
- Demands costly actions:
 - Additional revenue-neutral taxes $\tau_{m,ij}$
 - Transfers T

Rest of the world entities decide:

- whether to accept hegemon's offer

**Production
and
Consumption**

Firm Participation Constraint

- ▶ **Participation constraint:** $V_i(\tau_{m,i}, \mathcal{J}_i) - T_i \geq V_i^o(\mathcal{J}_i^o)$
 - ▶ $\mathcal{J}_i$: all inputs; $\mathcal{J}_i^o$: inputs excluding those from the hegemon

- ▶ Firm i value if accept contract (excluding transfer):

$$V_i(\tau_{m,i}, \mathcal{J}_i)$$

- ▶ Firm i value if reject contract:

$$V_i^o(\mathcal{J}_i^o)$$

- ▶ **Hegemonic Power:** power to demand costly actions to foreign entities by threatening suspension of economic relationship with the hegemon

Firm Participation Constraint

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 - ▶ $\mathcal{J}_i$: all inputs; $\mathcal{J}_i^o$: inputs excluding those from the hegemon
- ▶ Firm i value if accept contract (excluding transfer):

$$V_i(\tau_{m,i}, \mathcal{J}_i) = \max_{x_i, \ell_i} \Pi_i(x_i, \ell_i, \mathcal{J}_i) - \sum_{j \in \mathcal{J}_i} (\tau_{m,ij} + \tau_{n,ij})(x_{ij} - x_{ij}^*) - \sum_{f \in \mathcal{F}_m} (\tau_{m,if}^{\ell} + \tau_{n,if}^{\ell})(\ell_{if} - \ell_{if}^*)$$

- ▶ Firm i value if reject contract:

$$V_i^o(\mathcal{J}_i^o) = \max_{x_i, \ell_i} \Pi_i(x_i, \ell_i, \mathcal{J}_i^o) - \sum_{j \in \mathcal{J}_i} \tau_{n,ij}(x_{ij} - x_{ij}^o) - \sum_{f \in \mathcal{F}_m} \tau_{n,if}^{\ell}(\ell_{if} - \ell_{if}^o)$$

- ▶ **Hegemonic Power:** power to demand costly actions to foreign entities by threatening suspension of economic relationship with the hegemon

Hegemon and Country n Maximization

Hegemon: offers feasible contract to maximize consumer welfare,

$$\mathcal{U}_m = W(p, w_m) + u_m(z), \quad w_m = \sum_{i \in \mathcal{I}_m} \Pi_i + \sum_{f \in \mathcal{F}_m} p_f^\ell \bar{\ell}_f + \sum_{i \in \mathcal{C}_m} T_i$$

subject to firms' participation constraints

Country n : Sets wedges to maximize consumer welfare,

$$\mathcal{U}_n = W(p, w_n) + u_n(z), \quad w_n = \sum_{i \in \mathcal{I}_n \setminus \mathcal{C}_m} \Pi_i + \sum_{i \in \mathcal{I}_n \cap \mathcal{C}_m} \left[V_i(\tau_m, \mathcal{J}_i) - T_i \right] + \sum_{f \in \mathcal{F}_m} p_f^\ell \bar{\ell}_f,$$

internalizing how hegemon's contract is affected by wedges chosen

Simplified Environment

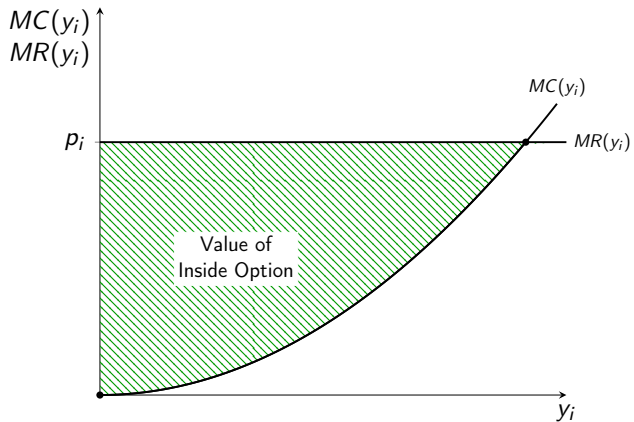
In slides today:

- ▶ Constant prices (consumers have linear utility)
- ▶ No direct geopolitical preferences in government objective function ($u_n(z) = 0$)

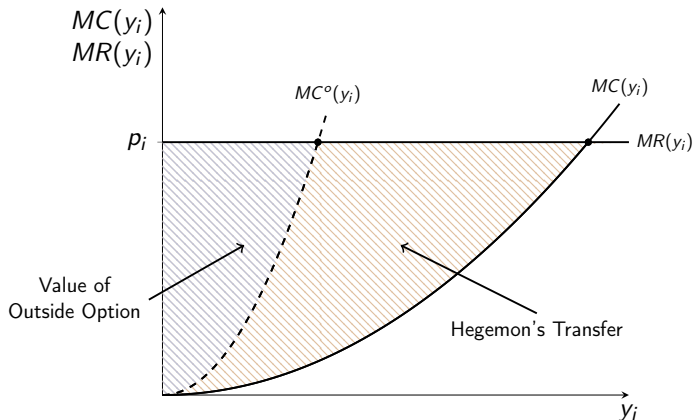
More in the paper:

- ▶ Endogenous Prices $\Rightarrow$ ToT manipulation incentive
- ▶ Direct geopolitical preferences in government objective function ($u_n(z)$)

Hegemon's Power-Building Motives



Hegemon's Power-Building Motives



- ▶ Hegemon cares about difference in value between inside and outside option
- ▶ Targeted entity cares about level of outside option
- ▶ Hegemon builds power by manipulating the equilibrium

Hegemon's Government Optimal Coercion Policy

Proposition

The hegemon imposes on a foreign firm $i \in \mathcal{C}_m$, a wedge on input j given by

$$\tau_{m,ij} = - \overbrace{\frac{1}{1+\eta_i} \sum_{k \in \mathcal{C}_m} \left(1 + \eta_k\right) \left[\left(\frac{\partial \Pi_k}{\partial z} - \frac{\partial \Pi_k^o}{\partial z} \right) \frac{dz}{dx_{ij}} \right]}^{\text{Building Foreign Power}} - \overbrace{\frac{1}{1+\eta_i} \sum_{k \in \mathcal{I}_m} \frac{\partial \Pi_k}{\partial z} \frac{dz}{dx_{ij}}}^{\text{Domestic Profits}}$$

+ an adjustment for private distortions

$$\frac{d\mathbf{x}_i}{dx_{ij}} = \frac{\partial \mathbf{x}_i}{\partial z} \frac{dz}{dx_{ij}} \text{ where } \mathbf{x}_i = (x_i, \ell_i)$$

η_k : is the Lagrange multiplier on k 's participation constraint [► Prices](#)

Government of Country n Optimal Anti-Coercion Policy

Proposition

The optimal wedges imposed by country n 's government on its domestic sectors satisfy

$$\tau_n \frac{d\mathbf{x}_n^o}{d\tau_n} = - \underbrace{\sum_{i \in \mathcal{I}_n} \frac{\partial \Pi_i^o}{\partial z}}_{\text{Domestic Profits}} \times \left[\underbrace{\Psi^z \frac{\partial x}{\partial \tau_n}}_{\text{Standard Intervention}} + \underbrace{\Psi^z \frac{\partial x}{\partial \tau_m} \frac{d\tau_m}{d\tau_n}}_{\text{Anti-Coercion}} \right]$$

Binding PC $\Rightarrow$ government values *outside option* of firms that contract with hegemon

Anti-Coercion: Maximize outside option, shift equilibrium via hegemon's policies

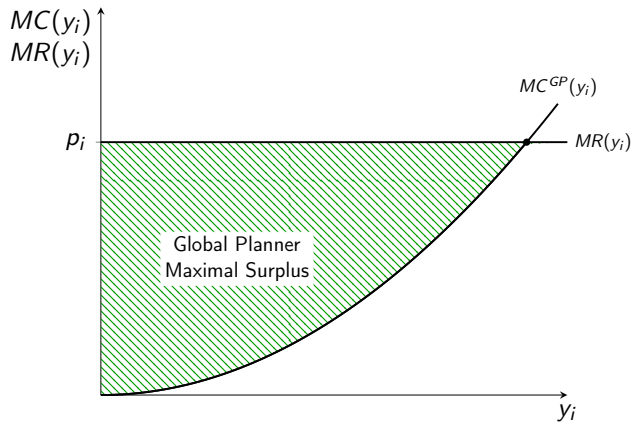
$\mathbf{x}_n^o$: input, factor usage at outside option

$\Psi^z = (\mathbb{I} - \frac{\partial \mathbf{x}}{\partial z})^{-1}$: Externality-based Leontief inverse

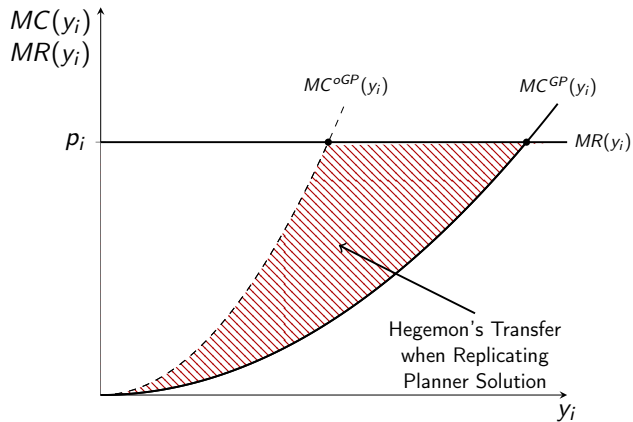
$$\frac{d\mathbf{x}_n^o}{d\tau_n} = \frac{\partial \mathbf{x}_n^o}{\partial \tau_n} + \frac{\partial \mathbf{x}_n^o}{\partial z} \frac{dz}{d\tau_n}$$

► Coercing Governments

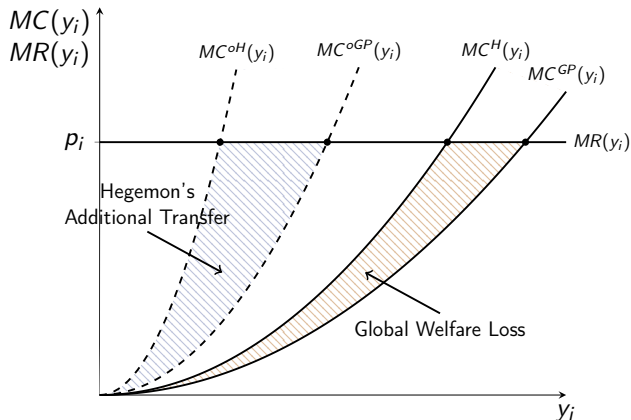
Welfare Consequences of Hegemonic Coercion



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Welfare Consequences of Hegemonic Coercion

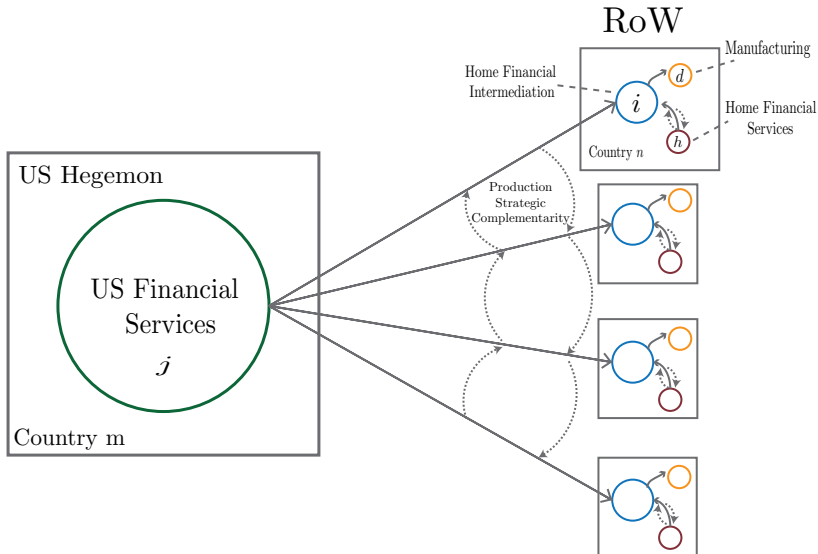


- ▶ Hegemon adds value by correcting global externalities: foster integration
- ▶ Destroys value by generating hyper-integration to increase its power
- ▶ Anti-coercion increases country outside option, but destroys global value

Finance as a Tool of Hegemonic Coercion

- ▶ Financial system has large strategic complementarities: US system is dominant
- ▶ Finance is one of the most used tools in sanctions and pressure by the US:
 - ▶ Financial sanctions on Russia
 - ▶ Pressure on SWIFT to disconnect targeted entities
 - ▶ Pressure on EU banks not to finance trade with Iran
 - ▶ Pressure on HSBC to reveal Huawei's transactions
- ▶ Often demand a foreign entity to stop or alter activities that are legal in its jurisdiction (e.g. secondary sanctions)
- ▶ US offers a stark choice: stop the activity or lose your business with the US
- ▶ Signs of Fragmentation: countries are reacting by building their own systems to shield themselves from influence, e.g. China, India, Russia

Application to Financial System: Sketch of Environment



Production, Financial Services, and Strategic Complementarities

- ▶ Hegemon m (US) has financial service sector (Hegemon System): $f_j(\ell_{jm}) = \ell_{jm}$
- ▶ Each foreign country has a Home Alternative: $f_h(\ell_{hn}) = \ell_{hn}$
- ▶ Each foreign country has a financial intermediation sector with CES production:

$$f_i(x_{ijn}, x_{ihn}, z) = \left(A_j(z)x_{ijn}^\sigma + A_{ih}(z)x_{ihn}^\sigma \right)^{\beta/\sigma}$$

- ▶ Global strategic complementarity in Hegemon System: $A_j(z) = \frac{1}{N} \sum_{n=1}^N \bar{A}_j z_{ijn}^{\xi_j \sigma}$
- ▶ Local strategic complementarity in Home Alternative: $A_{ih}(z) = \bar{A}_h z_{ihn}^{\xi_h \sigma}$
- ▶ Within country Hegemon and Home are substitutes, across countries Hegemon is a complement: $0 < \beta < \sigma$; $(1 + \xi_j)(1 - \frac{\beta}{\sigma}) \leq 1$

Production, Financial Services, and Strategic Complementarities

- ▶ Each country has manufacturing sector d producing using local factor
- ▶ To operate at scale $p_n^\ell \ell_{dn}$, has to purchase intermediary services $p_i x_{di} = \gamma p_n^\ell \ell_{dn}$
- ▶ Manufacturer profits is

$$p_d \ell_{dn}^\beta - (1 + \gamma) p_n^\ell \ell_{dn}$$

Note similarity with finance as Cobb-Douglas input

Hegemon's Optimal Use of Power

- ▶ Hegemon subsidizes use of Hegemon System by foreign intermediaries to make it attractive on the inside option:

$$\tau_{m,ijn} = -\frac{\xi_j}{1 + \xi_j} \left(p_j + \tau_{n,ijn} \right)$$

- ▶ Hegemon taxes Home Alternative to make outside option worse

$$\tau_{m,inh} = \frac{\xi_h}{1 + \xi_h} \left(\frac{x_{inh}^o}{x_{inh}^*} - 1 \right) \left(p_h + \tau_{n,inh} \right)$$

- ▶ **Hegemonic hyper-globalization:** Hegemon wants to get the world hooked on its inputs to make the withdrawals more costly.

Uncoordinated Anti-Coercion and Fragmentation

Economic Security: government shapes domestic economy ex-ante to minimize the ex-post influence that the hegemon has over the country

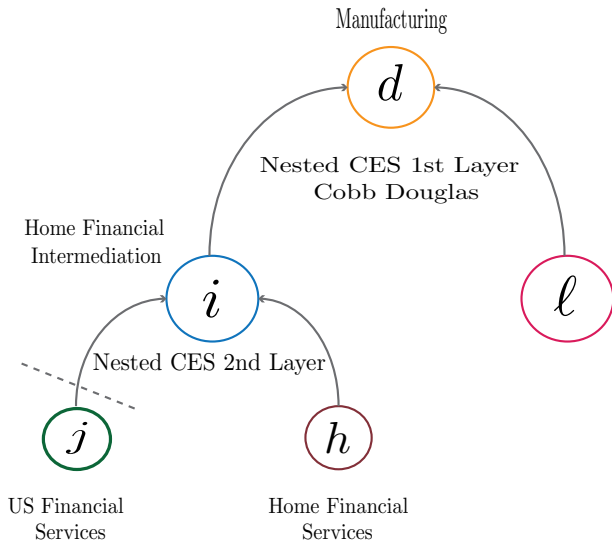
- ▶ Optimal anti-coercion policy of country n

$$\tau_{n,ijn} \rightarrow \infty$$

$$\tau_{n,inh} = -\frac{\xi_h}{1 + \xi_h} p_h$$

- ▶ Country n maximizes its outside option.
- ▶ **Fragmentation doom loop:** each country fragmenting increases incentives for others to do so
- ▶ In this extreme example: induces full fragmentation. In general: reduce reliance on sectors the hegemon controls and that are difficult to substitute away from ex-post

Representing Production as Nested CES



Measuring Geoeconomic Power: Representative CES Firm

1. Finance and Manufacturing

$$f_i(x_i) = A_i \left(\alpha_{iF} x_{iF}^{\frac{\varrho-1}{\varrho}} + \alpha_{iM} x_{iM}^{\frac{\varrho-1}{\varrho}} \right)^{\frac{\beta \varrho}{\varrho-1}}$$

2. Industries within Finance and Manufacturing

$$x_{iG} = \left(\sum_{J \in J_G} \alpha_{iJ} x_{iJ}^{\frac{\rho_G-1}{\rho_G}} \right)^{\frac{\rho_G}{\rho_G-1}}, \quad G \in \{F, M\}$$

3. Within an industry Domestic and Rest of the World variety

$$x_{iJ} = \left(\alpha_{iJi} x_{iJi}^{\frac{\varsigma_J-1}{\varsigma_J}} + \alpha_{iJR} x_{iJR}^{\frac{\varsigma_J-1}{\varsigma_J}} \right)^{\frac{\varsigma_J}{\varsigma_J-1}}$$

4. Within Foreign variety

$$x_{iJR} = \left(\sum_{n \neq i} \alpha_{iJn} x_{iJn}^{\frac{\sigma_J-1}{\sigma_J}} \right)^{\frac{\sigma_J}{\sigma_J-1}}$$

Measuring Geoeconomic Power

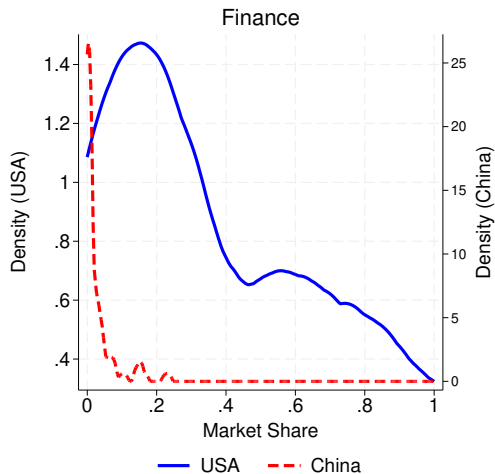
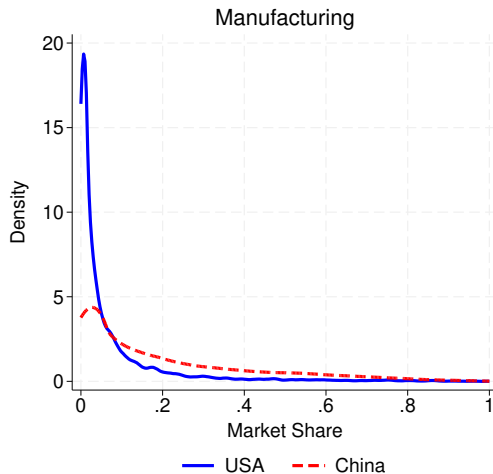
Loss from losing access to Hegemon's inputs $\Delta \log V_i(\mathcal{J}_i)$:

$$\frac{\beta}{1-\beta} \frac{1}{1-\varrho} \log \left(\sum_{G \in \{M, F\}} \Omega_{iG} \left(\sum_{J \in \mathcal{J}_G} \Omega_{iGJ} \left(1 - \Omega_{iJR} + \Omega_{iJR} \left(1 - \omega_{iJR_m} \right)^{\frac{\varsigma_J - 1}{\sigma_J - 1}} \right)^{\frac{\rho_G - 1}{\varsigma_J - 1}} \right)^{\frac{\varrho - 1}{\rho_G - 1}} \right)$$

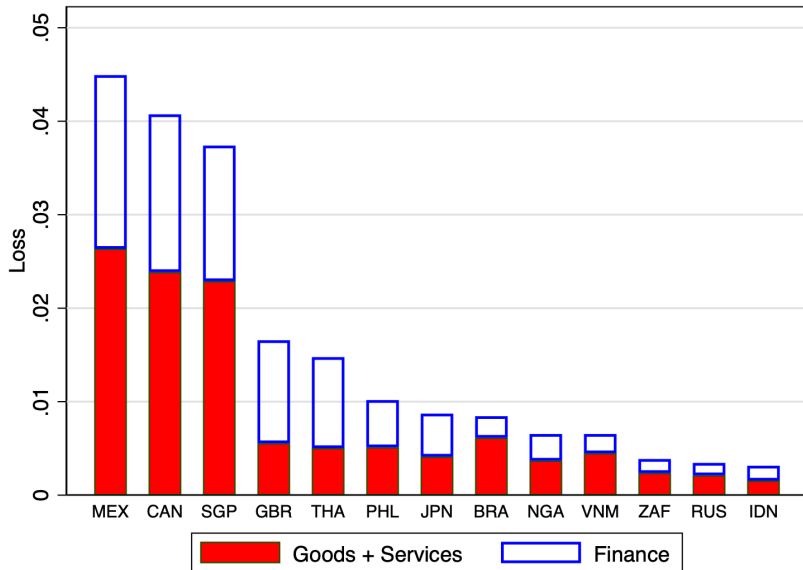
- ▶ Expenditures shares measured using OECD Input Output Tables:
 - ▶ Ω_{iG} : share on sector (Financial Services, Manufactured Goods)
 - ▶ Ω_{iGJ} : share of sectoral spending on industry J
 - ▶ Ω_{iJR} : share of industry spending J on foreign inputs
 - ▶ ω_{iJR_m} : share of foreign inputs controlled by Hegemon
- ▶ Elasticities σ_J : Fontagne et al (2022) for goods, Pellegrino et al (2021) for finance, OECD (2017) for services and alternative finance
- ▶ Baseline Calibration: Cobb-Douglas nests ($\rho_G = \varrho = 1$, $\varsigma_J = \sigma_J$), then amplification
 - ▶ Amplification Channels

The Global Concentration in US Finance

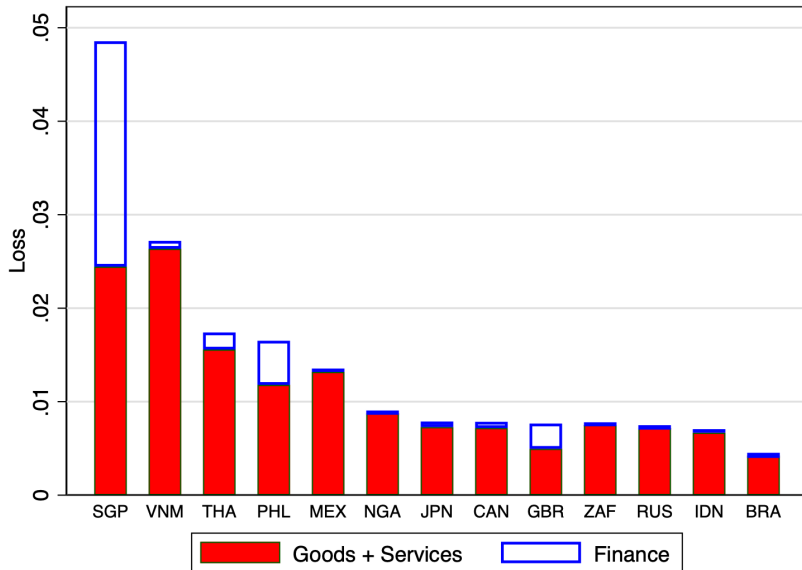
ω_{iJR_m} : for each foreign country the fraction of financial services imports coming from the USA



US Power Comes from Finance



Chinese Power Comes from Manufacturing



Assessing Fragmentation: Structural Gravity and Geoeconomic Alignment

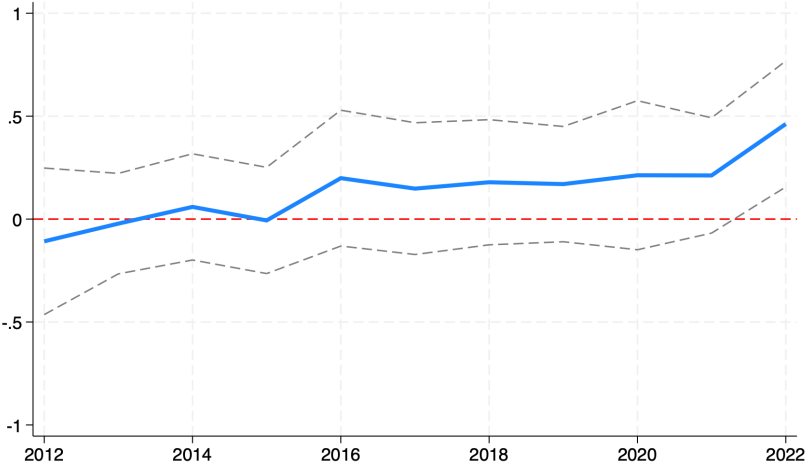
Purchases x_{iJn} by firm i of the industry- J goods produced in country n' satisfy a gravity equation. When countries have geopolitical utility spillovers:

$$\log x_{iJn'} \approx \gamma_{iJ} + \gamma_{Jn'} + \sigma_J \log \alpha_{iJn'} + \underbrace{\theta \sigma_J \epsilon_J \zeta_{nn'}}_{\log(1+t_{n,iJn'})}$$

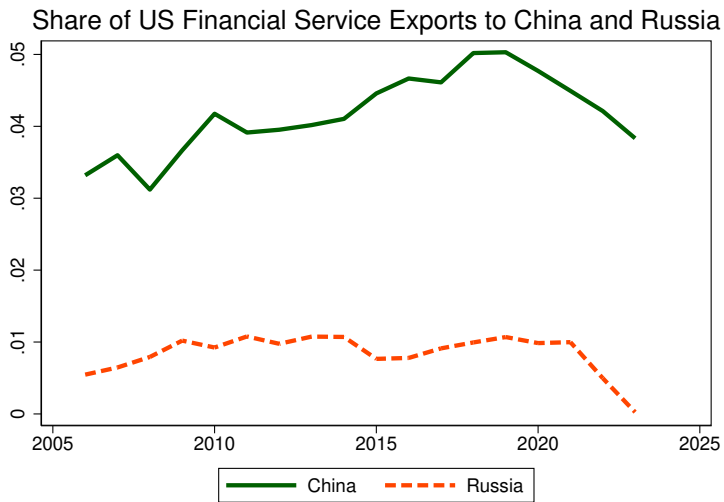
More in paper:

- ▶ Estimate gravity to show geopolitical consideration increased in 2022
- ▶ Geopolitics affected more trade in industries in which it less expensive to distort away from politically not aligned countries
- ▶ Extend framework to potentially identify where hegemon exerts pressure

Time Variation in Geopolitical Weight in Goods Trade



Early Signs of Financial Fragmentation



Conclusion

- ▶ Many countries pursuing new Economic Security policies
- ▶ A simple model to shape and assess these policies
- ▶ Mechanisms that lead to gains from integration can lead to interdependent global systems that become instruments of economic coercion
- ▶ Hegemons generate hyper-globalization in their favor
- ▶ Countries pursuing anti-coercion over-fragment the global economy
- ▶ Finance as a crucial strategic industry

Positive Effects of Anti-Coercion on Fragmentation

Proposition

Suppose that all countries apart from n have adopted symmetric domestic policies. Then accounting for the hegemon's endogenous response:

- 1. An increase in the country n tax on the hegemon's good j lowers every country's use of j and raises every country's use of h , that is:*

$$\frac{\partial z_{rj}}{\partial \tau_{n,ijn}^x} \leq 0, \quad \frac{\partial z_{rh}}{\partial \tau_{n,ijn}^x} \geq 0 \quad \forall r = 1, \dots, N$$

- 2. For $0 \leq \xi_h \leq \bar{\xi}_h$ (defined in the proof), an increase in the country n subsidy on the home alternative h lowers every country's use of j and raises every country's use of h , that is:*

$$\frac{\partial z_{rj}}{\partial (-\tau_{n,inh}^x)} \leq 0, \quad \frac{\partial z_{rh}}{\partial (-\tau_{n,inh}^x)} \geq 0 \quad \forall r = 1, \dots, N$$

Hegemonic Power, Anti-Coercion, and Welfare

Proposition

Let $N \rightarrow \infty$. The following welfare rankings hold:

- 1. The noncooperative outcome without a hegemon Pareto dominates the outcome with optimal anticercion and a hegemon.*
- 2. Let $\xi_h = 0$. Then, the hegemon's outcome without anticoercion implements the global planner's efficient allocation and so increases total surplus. However, every country $n \neq m$ is worse off than in the noncooperative outcome without a hegemon.*

Hegemon's Government Optimal Coercion Policy

Proposition

With endogenous prices and no externalities, hegemon's optimal wedge on a foreign firm is:

$$\tau_{m,ij} = -\frac{1}{1 + \frac{\partial W_m}{\partial w_m} \eta_i} \left(\overbrace{\sum_{k \in \mathcal{C}_m} \left(1 + \frac{1}{\frac{\partial W_m}{\partial w_m}} \eta_k \right) \left(\frac{\partial \Pi_k}{\partial P} - \frac{\partial \Pi_k^o}{\partial P} \right) \frac{dP}{dx_{ij}}}^{\text{Building Foreign Power}} + \overbrace{X_m \frac{dP}{dx_{ij}}}^{\text{Terms-of-Trade}} \right)$$

+ an adjustment for private distortions

$$\frac{dx_i}{dx_{ij}} = \frac{\partial x_i}{\partial z} \frac{dz}{dx_{ij}} \text{ where } \mathbf{x}_i = (x_i, \ell_i)$$

η_k : is the Lagrange multiplier on k 's participation constraint

X_m : vector of hegemon exports [▶ Back](#)

Extension: Bargaining Weights and Punishment Leakage

- ▶ Reduced-form bargaining weight $\mu \in [0, 1]$
 - ▶ Example: probability of leakage of punishments, i.e., possibility the firm will be able to evade the punishment and retain access to the hegemon-controlled inputs
- ▶ Firm i participation constraint: $V_i(\Gamma_i) \geq \mu V_i^o(\mathcal{J}_i^o) + (1 - \mu)V_i(\mathcal{J}_i)$
- ▶ Equivalent to baseline model with modified outside option:
$$\mathcal{V}_i^o(\mathcal{J}_i^o) = V_i^o(\mathcal{J}_i^o) + (1 - \mu)(V_i(\mathcal{J}_i) - V_i^o(\mathcal{J}_i^o))$$
- ▶ Hegemon still values gap between inside and outside option
- ▶ Country n places outsized weight on outside option relative to gains from integration

Extension: Coercing Governments

- ▶ Extend to allow hegemon to coerce both firms and governments
- ▶ In Middle, government n chooses diplomatic action $a_n \in \mathbb{R}$
 - ▶ UN voting, diplomatic recognition, human rights positions, conflict, etc.
- ▶ Country n separable utility $\psi_n(a)$ from all countries' diplomatic actions
- ▶ Hegemon demands country n undertake action a_n^* . Threatens punishment $\mathcal{P}_n^g = \{\mathcal{J}_i^g\}$ which restrict firm i input use to $\mathcal{J}_i^g$
- ▶ Government Participation constraint: $\mathcal{U}_n^* + \psi_n(a^*) \geq \mathcal{U}_n^o(\mathcal{P}_n^g) + \sup_{a_n} \psi_n(a_n, a_{-n}^*)$

Extension: Coercing Governments, Optimal Coercion

Proposition

1. The hegemon imposes on a foreign firm $i \in \mathcal{C}_m$, a wedge on input j given by

$$\tau_{m,ij} = -\frac{1}{1+\eta_i} \left[\overbrace{\sum_{k \neq m} \phi_k \left(\frac{d\mathcal{U}_k^*}{dx_{ij}} - \frac{d\mathcal{U}_k^o}{dx_{ij}} \right)}^{\text{Building Power (Governments)}} + \overbrace{\sum_{k \in \mathcal{C}_m} \left(1 + \eta_k \right) \left[\left(\frac{\partial \Pi_k}{\partial z} - \frac{\partial \Pi_k^o}{\partial z} \right) \frac{dz}{dx_{ij}} \right]}^{\text{Building Power (Firms)}} \right. \\ \left. - \frac{1}{1+\eta_i} \underbrace{\sum_{k \in \mathcal{I}_m} \frac{\partial \Pi_k}{\partial z} \frac{dz}{dx_{ij}}}_{\text{Domestic z-Externalities}} \right]$$

2. The hegemon demands a diplomatic action a_n of government n given by

$$0 = \frac{\partial \psi_m(a^*)}{\partial a_n^*} + \phi_n \frac{\partial \psi_n(a^*)}{\partial a_n^*} + \sum_{k \notin \{n,m\}} \phi_k \left(\frac{\partial \psi_k(a^*)}{\partial a_n^*} - \frac{\partial \psi_k(a_k^o, a_{-k}^*)}{\partial a_n^*} \right)$$

Extension: Coercing Governments, Optimal Anti-Coercion

Proposition

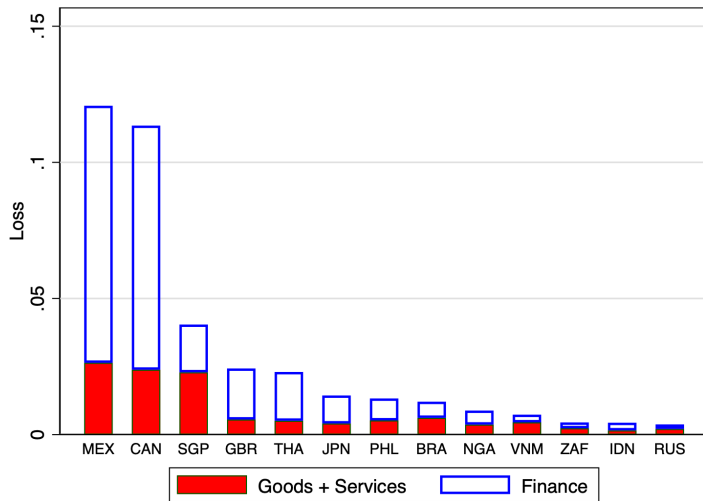
The optimal domestic policy of country n satisfies

$$\tau_n \frac{dx_n^o}{d\tau_n} = - \left[\sum_{i \in \mathcal{I}_n} \frac{\partial \Pi_i^o}{\partial z} + \frac{\partial u_n}{\partial z} \right] \frac{dz}{d\tau_n} - x_n^o \frac{dP}{d\tau_n} - \frac{\partial \psi_n(a^*)}{\partial a^*} \frac{da^*}{d\tau_n}$$

Anti-coercion maximizes outside option, diplomatic actions

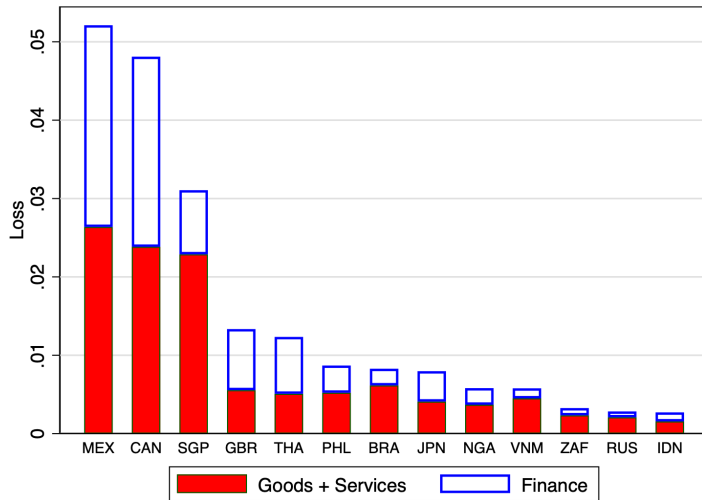
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US Power: Amplification Channels

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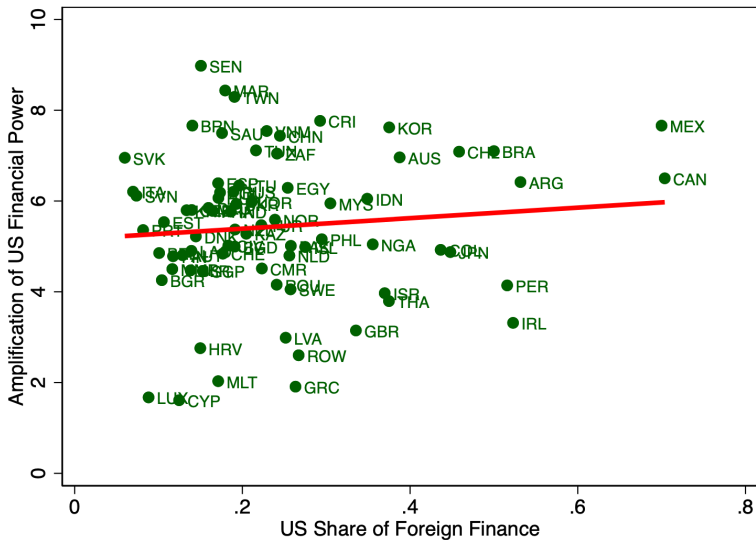
► $\sigma_{FIN} = 1.3$, $\varsigma_{FIN} = 1$, $\varrho = 0.5$

US Power: Amplification Channels, More Substitutable Finance [▶ Back](#)

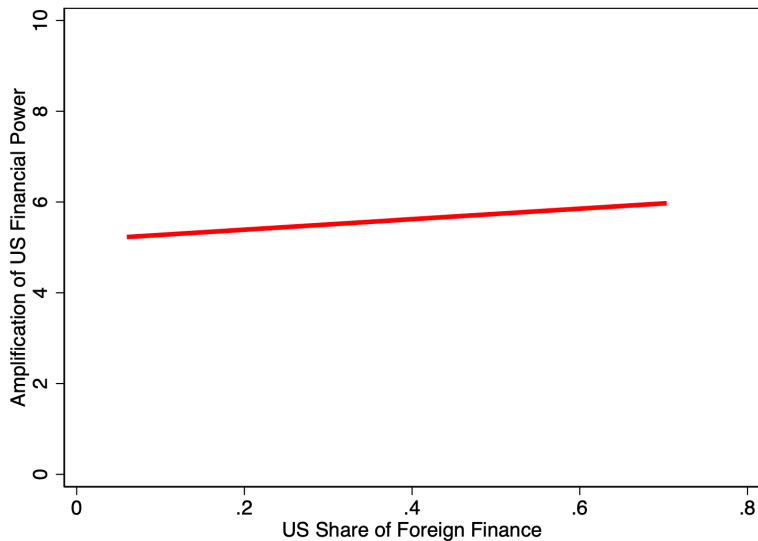


► $\sigma_{FIN} = 1.6$, $\varsigma_{FIN} = 1$, $\varrho = 0.5$

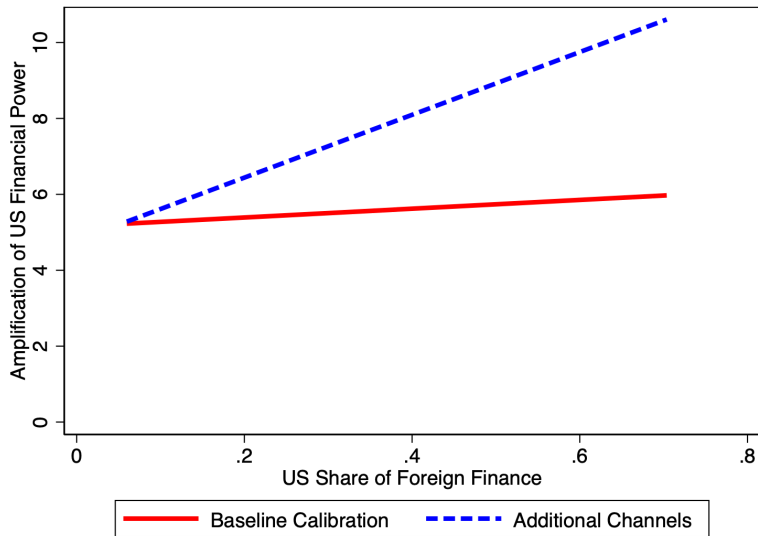
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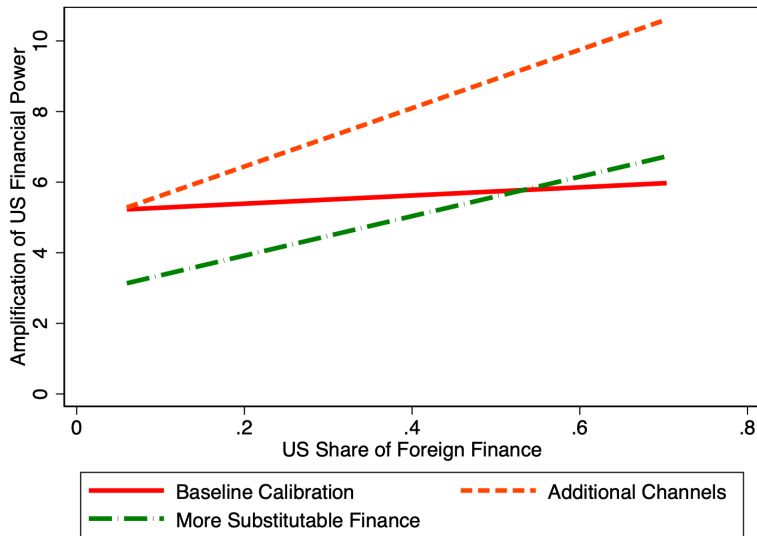
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Time-Variation in Weight on Geopolitical Alignment θ_t [▶ Back](#)

	(1) 2013	(2) 2016	(3) 2019	(4) 2022
UN Agreement	-0.0220 (0.122)	0.199 (0.165)	0.170 (0.140)	0.462*** (0.153)
Log(Distance)	-0.813*** (0.0261)	-0.766*** (0.0249)	-0.770*** (0.0259)	-0.744*** (0.0279)
Contiguity	0.576*** (0.0541)	0.574*** (0.0544)	0.539*** (0.0544)	0.550*** (0.0630)
Exporter $\times$ Industry FE	Yes	Yes	Yes	Yes
Importer $\times$ Industry FE	Yes	Yes	Yes	Yes
Observations	968,934	1,084,394	1,130,290	1,074,208