Risky business: Political stability along the Belt and Road

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Westminster Development Policy Network Virtual Seminar

October 7, 2020

Outline

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Motivation and Contribution

Two particularly dominant Chinese strategic narratives that have emerged under President Xi Jinping:

- Belt and Road Initiative (BRI)
- New Type of Great Power Relations

These policies are part of a shift towards an outward focused Chinese state

Motivation and Contribution

- The academic literature discussing the BRI is growing rapidly but lacks studies based on rigorous empirical economic modelling
- Exceptions include Herrero and Xu (2017) and a group of studies emerging from the World Bank e.g. De Soyres et al. (2018)

Important gaps remain: understanding the link between political stability, political alignment, BRI and trade.

Motivation and Contribution

- Research exploring the impact of politics on trade is fairly recent and growing rapidly
- The focus in much of this literature is on the impact of worsening political relations
- In a Chinese context, the modelling literature tends to focus on the negative consequences of diverging political views; e.g. 'Dalai Lama effect'
- In this paper, we contribute to this body of literature by exploring the impact of positive political changes that may be generated as a result of Chinese involvement in BRI countries

Motivation and Contribution

We examine two questions:

- How do potential changes in the political environment, derived from the BRI, impact on trade and welfare?
- How do the trade and welfare impacts of reductions in trade costs compare to impact of changes in the political environment?

Motivation and Contribution

Modelling approach

Structural model of global trade by Anderson et al. (2018)

- Amended to reflect...
  - political preferences in consumption
  - production process that depend on stable institutions that protect property rights and political stability
  - incorporating political factors into trade costs
- We generate welfare effects of the BRI in general equilibrium analysis
- We construct a number of scenarios that permit us to compare the welfare gains across each of these dimensions

Outline

Structural model: theory

Structural gravity is represented by

$$X_{ij} = \frac{Y_i E_j}{Y_w} \left(\frac{\tau_{ij}}{\Omega_i P_j} \right)^{(1-\sigma)} \tag{1}$$

- X_{ij} is export from country i to country j
- $Y_i = \sum_j X_{ij}$ is total value added of country i
- $E_j = \sum_i X_{ij}$ is total expenditure in country j
- σ is elasticity of substitution across varieties
- $Y_w = \sum Y_i$ is world output

Multilateral resistance terms

Ω and P are multilateral resistance terms (MRT). They capture all relevant global trade factors, that influence trade of countries i and j.

- Outward MRT:

$$\Omega_i^{(1-\sigma)} = \sum_j \frac{E_j}{Y_w} \left(\frac{\tau_{ij}}{P_j} \right)^{(1-\sigma)} \tag{2}$$

- Inward MRT:

$$P_i^{(1-\sigma)} = \sum_i \frac{Y_i}{Y_w} \left(\frac{\tau_{ij}}{\Omega_j} \right)^{(1-\sigma)} \tag{3}$$

Trade costs

Our bilateral trade costs are given by

$$\tau_{ij}^{1-\sigma} = \exp(\gamma_{dist} \ln(dist_{ij}) + \gamma_{pa_{ij}} pa_{ij} + Z_{ij}\gamma_Z) + e_{ij} \qquad (4)$$

- $dist_{ij}$ is distance
- pa_ij is a bilateral political affinity of nations measure
- Z captures all additional information about bilateral trade: common language, common border, etc

Welfare effect

Welfare impact of a counterfactual scenario relative to the baseline is computed according to

$$\hat{W} = 100\% \times (\hat{P}_i / \hat{P}_i' - 1) \tag{5}$$

We also compute the full general equilibrium (GE) effect of each scenario, following the algorithm suggested by Anderson et al. (2018).

Identifying the key model parameters

- Production function estimation to estimate effect of political stability on productivity

$$Q_i = A_i K_i^{\alpha_K} L_i^{\alpha_L} \epsilon_i \tag{6}$$

$$\ln A_i = a_0 + a_1 hc_i + a_2 ps_i + u_i \tag{7}$$

- Gravity model to estimate effect of military alliance and political affinity on trade

$$X_{ij} = \exp(\gamma_{dist} \ln(dist_{ij}) + \gamma_{ma} ma_{ij} + \gamma_{pa} pa_{ij} + Z_{ij}\gamma_Z + \xi_i + \eta_j) + e_{ij} \tag{8}$$

- Matching techniques to estimate how trade agreements influence political affinity

$$IPD_{ijt} = \gamma RTA_{ijt} + D_{it} + D_{jt} + D_{ij} + \eta_{ijt} \tag{9}$$

Algorithm of counterfactual analysis with structural gravity

1. Estimate the model by PPML, using actual data
2. Recover inward and outward multilateral resistance terms and compute welfare indices
3. Modify trade policy variables according to the scenario assumptions, keeping everything else constant
4. Estimate the model by PPML with new policy variables, keeping everything else constant
5. Recover counterfactual inward and outward multilateral resistance terms and compute new welfare indices and new trade flows
6. Compare the baseline and counterfactual variables

Data

- 160 countries for the period 1960-2018
- External trade data: IMF Direction of Trade Statistics
- Internal trade data: World Bank data (national accounts and balance of payments) and OECD estimates (share of services in GDP and value added in exports)
- Political stability data: World Bank governance indicators
- Formal bilateral political relationships data: Ideal points difference (Bailey et al., 2017)
- Formal defense alliances data: Correlates of War (COW) (Gibler, 2009).
- GDP data: World Development Indicators
- Trade policy and trade costs data: CEPII
- Capital, labor, and productivity data: Penn World Tables 9.1

Policy Scenarios

Table 1: Counterfactual scenarios

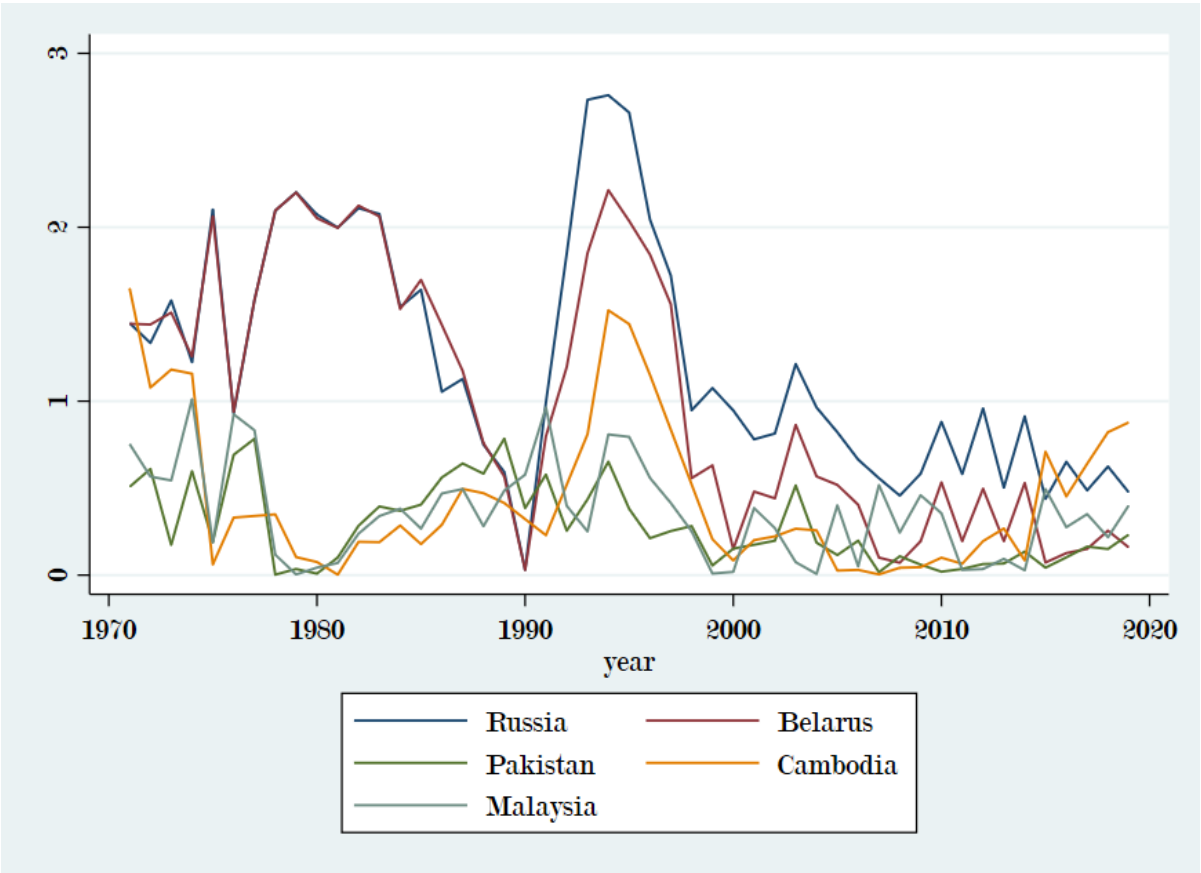
Scenario	Brief Description
BRI	Trade cost reductions of 15%
DEF	Forming a military alliance
PA	Strengthened political affinity
PS	Higher political stability

DEF: Forming a military alliance

- Alliances can be embedded within regional trade agreements
- The BRI may include the signing of new formal alliances, potentially as part of a formal bilateral trade/investment agreement
- Informal alliances may be agreed and not be made public

PA: Strengthened political affinity

Figure 1: UN voting alignment: ideal points estimates for selected countries, distances from China



Notes: Absolute distance between country 1 and country 2 ideal point estimates

PS: Higher political stability

Table 2: Average level of political stability in 2014 by region

Region	Average political stability in 2014
East Asia & Pacific	0.472
Europe & Central Asia	0.443
Latin America & Caribbean	0.244
Middle East & North Africa	-0.891
North America	0.891
South Asia	-0.752
Sub-Saharan Africa	-0.662

Source: World Bank Governance Indicators, 2014

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Results

Table 3: Change in export to China, percent by regions

	BRI	DA	PA	PS	Average
East Asia & Pacific	0.16	0.32	0.06	1.29	0.46
Europe & Central Asia	2.65	6.60	0.93	1.58	2.94
Latin America & Caribbean	-4.03	-9.63	-1.45	0.00	-3.78
Middle East & North Africa	3.64	8.98	1.29	4.63	4.64
North America	-4.09	-9.76	-1.47	0.00	-3.83
South Asia	6.16	14.73	2.20	9.21	8.08
Sub-Saharan Africa	-3.76	-9.01	-1.35	0.00	-3.53
Total	0.10	0.32	0.03	2.38	0.71

Results

Some observations

- For a number of countries, the results for the political stability scenario are very small, or even zero, as they already have a stability rating equal, or exceeding, the European and Central Asian average
- The performance of the countries under the umbrella of the Cooperation between China and Central and Eastern European Countries (CEEC) group is particularly strong across the BRI, DA and PA scenarios
- The increase in exports for India, Vietnam, Philippines and Lao is among the most moderate out of the BRI countries

Results

Table 4: Average change in welfare, percent by regions

	Conditional GE				Full GE			
	BRI	DA	PA	PS	BRI	DA	PA	PS
China	1.59	3.55	0.36	0	1.81	4.11	0.45	-0.49
East Asia & Pacific	0.42	0.93	0.1	0.35	0.63	1.42	0.16	1.13
Europe & Central Asia	0.36	0.79	0.08	0.4	0.57	1.27	0.14	1.4
Latin America & Caribbean	0.14	0.3	0.03	0	0.34	0.77	0.09	-0.22
Middle East & North Africa	0.36	0.79	0.08	1.24	0.57	1.28	0.14	4.12
North America	0.17	0.36	0.04	0	0.37	0.84	0.09	-0.09
South Asia	0.83	1.82	0.19	2.37	1.04	2.33	0.26	8.82
Sub-Saharan Africa	0.08	0.17	0.02	0	0.29	0.64	0.07	-0.05
Total	0.28	0.61	0.07	0.39	0.49	1.09	0.12	1.29

Our full general equilibrium results produce stronger effects, since there is positive feedback from lower trade costs to price changes as well as gains in incomes and expenditures across all countries

Outline

Conclusion

Findings

Based on our full general equilibrium results:

- Military alliances between BRI countries and China are expected to have the most positive effect on welfare, with particularly positive effects on China and South Asia
- Improved political stability across BRI countries is expected to have the most beneficial impact on South Asia.

Conclusion

- It is important to look beyond economic gains derived from trade cost reductions
- Politically aligning countries participating in the BRI and providing security to the countries where China invest in transport and infrastructure has the potential to deliver significant benefits

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