

Pampered Bureaucracy and Trade Liberalization

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- ▶ The purpose of our paper is to explore the relationship between potential social conflict, trade liberalization and economic efficiency.
- ▶ First main result shows how a nation's elite can influence the size of the pampered bureaucracy to maintain social stability. This limits the emergence of a dynamic entrepreneurial middle class which would otherwise support the expropriation of the elite's wealth.

Thus, increasing the size of the pampered bureaucracy tends to reduce efficiency; it is an 'inefficient economic institution'.

Introduction cont.

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- ▶ In the second main result, if the country has a comparative advantage in primary products then trade liberalization tends to increase the elite's wealth and this increases the incentive for its expropriation, mandating an increase in the size of the pampered bureaucracy and hence potentially reducing economic efficiency.
- ▶ If on the other hand the country has a comparative advantage in manufactures then trade liberalization mandates a decrease in the size of the pampered bureaucracy which may contribute towards an increase in efficiency.

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- ▶ The prediction does not hold for developed countries.

Literature Review

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- ▶ Models of international trade with domestic social conflict:
- ▶ Segura-Cayuela (2006)
- ▶ Garfinkel, Skaperdas and Syropoulos (2008)

Econometric Results

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The first step is to develop an empirical analogue of our expression for the equilibrium size of the pampered bureaucracy.

We will adopt a standard approach of using trade exposure rather than prices to measure trade liberalization. Let O denote the level of trade exposure and let $C \in \{0, 1\}$ be an indicator which takes a value of 1 if the country's c.a. is in primary products and 0 if its c.a. is in manufactures.

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Trade theory predicts a monotonic relationship between openness and the relative price of manufactures, p , so that

$$\text{if } C = 0 \text{ then } \partial p / \partial O > 0;$$

$$\text{if } C = 1 \text{ then } \partial p / \partial O < 0.$$

From Theory to Estimation, cont...

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$$D \equiv A + B$$

where B is the pampered bureaucracy and A is 'structural government employment'.

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Our identifying restriction is

$$IR : \frac{\partial A^\pi}{\partial O} = \frac{\partial A^\mu}{\partial O};$$

that is, we assume the change in structural government employment in response to a change in openness is the same across sectors.

From Theory to Estimation, cont...

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From IR

$$\begin{aligned}\frac{\partial D^\pi}{\partial O} - \frac{\partial D^\mu}{\partial O} &= \frac{\partial A^\pi}{\partial O} - \frac{\partial A^\mu}{\partial O} + \frac{\partial B^\pi}{\partial O} - \frac{\partial B^\mu}{\partial O} \\ &= \frac{\partial B^\pi}{\partial O} - \frac{\partial B^\mu}{\partial O}.\end{aligned}$$

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Unobserved country-level heterogeneity poses a threat to model validity, so we implement a fixed-effects approach to deal with time-invariant country characteristics that simultaneously determine comparative advantage and size of the bureaucracy.

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To account for observed persistence in bureaucracy size, we include lags of the dependent variable on the RHS. To differentiate the effect of openness on the size of the bureaucracy across the two types of c.a. we interact openness with C_i . Thus we have our main estimating equation:

$$\Delta D_{i,t} = \alpha_0 + \sum_{\tau=1}^T \alpha_{\tau} \Delta D_{i,t-\tau} + \beta_1 \Delta O_{it} + \beta_2 \Delta O_{it} \times C_i + \gamma \Delta \mathbf{Z}_{it} + \Delta \varepsilon_{it},$$

Data and Summary Statistics

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Our measure of total government employment across countries and time, we use annual data for central government spending on wages and salaries (1972-2008 in millions of real US dollars) from the International Monetary Fund's Government Finance Statistics database.

Our measure of C_i comes from Balassa (1965) and is constructed World Bank trade flows:

$$RCA_{ikt} = \left(\frac{X_{ikt}}{X_{i\omega t}} \right) / \left(\frac{X_{nkt}}{X_{n\omega t}} \right)$$

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$$RCA_{ikt} = \left(\frac{X_{ikt}}{X_{i\omega t}} \right) / \left(\frac{X_{nkt}}{X_{n\omega t}} \right)$$

where X_{ikt} is country i 's exports of product category k to the r.o.w. at time t , $X_{i\omega t}$ is country i 's ttl to r.o.w. ω . X_{nkt} is ttl exports in product category k by other countries' (i.e. $j \neq i$) exports in product category k , and $X_{n\omega t}$ are total world exports in ω .

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Central government revenue from the IMF's Government Finance Statistics, in millions of US dollars (R_{it}).

Average Wages

Per-capita income in thousands of dollars (y_{it})

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A variable which equals one if a country obtained an IMF loan with conditionalities in the previous year (imf_{it}).

Data and Summary Statistics cntd...

Table 1. List of Countries

Albania	Dominica	Lesotho	Rwanda
Australia	Dominican Rep	Liberia	Senegal
Austria	Egypt	Lithuania	Seychelles
Azerbaijan	El Salvador	Luxembourg	Singapore
Barbados	Estonia	Madagascar	Slovak Rep
Belarus	Finland	Malaysia	Slovenia
Belgium	France	Maldives	South Africa
Benin	Gabon	Mali	Spain
Bhutan	Georgia	Malta	Sri Lanka
Bolivia	Germany	Mauritius	Sweden
Brazil	Greece	Mexico	Switzerland
Bulgaria	Guinea	Moldova	Tajikistan
Burundi	Haiti	Mongolia	Tanzania
Costa Rica	Honduras	Morocco	Thailand
Croatia	Hungary	Netherlands	Togo
Cyprus	Iceland	Nicaragua	Tunisia
Czech Rep	India	Niger	Turkey
Denmark	Indonesia	Norway	Ukraine
Congo, Rep	Ireland	Pakistan	UAE
Comoros	Israel	Paraguay	United Kingdom
Colombia	Italy	Peru	United States
Chile	Jamaica	Poland	Uruguay
Chad	Kazakhstan	Portugal	Vanuatu
Cameroon	Latvia	Romania	Zambia
Djibouti	Lebanon	Russia	Zimbabwe

Data and Summary Statistics cntd...

Table 2. Mean Country Characteristics, by Openness

	All Countries (1)	Low Openness (2)	High Openness (3)	P-value (2) vs. (3) (4)
Number of countries	100	59	41	–
Means				
B_{it}	508.96	535.73	474.16	0.176
Y_{it}	6284.0	6615.9	5852.7	0.060
R_{it}	798.96	1129.2	369.76	0.001
N_{it}	38665	63364	6571.1	0.000
y_{it}	4000.5	2280.7	6236	0.000
Proportions				
rca_p	0.670	0.733	0.602	0.000
imf_{it}	0.155	0.174	0.130	0.016
$post_S_{it}$	0.110	0.0301	0.213	0.000

Main Results

	(1) A/B	(2) B/B	(3) A/B	(4) B/B
Openness (t) × primary	0.138*** (0.040)	0.155*** (0.043)	0.069** (0.029)	0.091*** (0.018)
Openness (t)	-0.209 (0.177)	-0.063 (0.165)	-1.325*** (0.117)	-0.449*** (0.049)
GDP (t)	0.753*** (0.082)	0.546*** (0.070)	0.787*** (0.017)	0.561*** (0.020)
Government revenue (t)	0.009 (0.013)	0.018 (0.013)	0.006*** (0.002)	0.009*** (0.002)
Population (t)	-0.215 (0.146)	-0.051 (0.115)	0.633*** (0.052)	-0.010 (0.010)
Per-capita income (t)	0.453** (0.219)	-0.054 (0.058)	-0.103*** (0.030)	-0.004 (0.021)
Outstanding IMF loan (t)	-0.032 (0.032)	0.011 (0.052)	-0.089*** (0.008)	-0.007 (0.017)
Post-Soviet (t)	0.279*** (0.106)	0.368*** (0.119)	0.325*** (0.063)	0.410*** (0.04)
Observations	1345	1473	1254	1377
Number of id	94	100	89	95

Main Results

	(1) A/B	(2) B/B	(3) A/B	(4) B/B
Openness (t) × primary × developing	0.140*** (0.011)	0.175*** (0.013)	0.141** (0.058)	0.128** (0.057)
Openness (t) × primary × developed	0.093*** (0.010)	0.136*** (0.032)	0.003 (0.038)	0.029 (0.041)
Openness (t) × developing	0.015 (0.055)	-0.051 (0.035)	0.749 (0.515)	-0.234* (0.140)
Openness (t) × developed	-0.626*** (0.095)	-0.227*** (0.040)	-1.597*** (0.127)	-0.577*** (0.051)
GDP (t)	0.818*** (0.023)	0.597*** (0.031)	0.785*** (0.024)	0.559*** (0.021)
Government revenue (t)	0.011*** (0.001)	0.012*** (0.002)	0.012*** (0.002)	0.011*** (0.002)
Population (t)	-0.326*** (0.0408)	-0.060 (0.043)	-0.061 (0.043)	0.015 (0.033)
Per-capita income (t)	0.477*** (0.067)	-0.075*** (0.022)	0.560*** (0.062)	-0.0133 (0.010)
Outstanding IMF loan (t)	-0.0488** (0.019)	0.015 (0.017)	-0.065*** (0.008)	-0.025 (0.021)
Post-Soviet (t)	0.358*** (0.057)	0.360*** (0.036)	0.064 (0.072)	0.283*** (0.056)
Observations	1321	1448	1254	1377
Number of id	93	99	89	95

Main Results

	A/B
Openness (t) × primary × developing	0.245** (0.114)
Openness (t) × primary × developed	-0.0170 (0.0519)
Openness (t) × developing	0.121 (1.777)
Openness (t) × developed	-1.238*** (0.386)
Openness × Herfindahl (t)	-0.0519 (0.0515)
Herfindahl (t)	0.131** (0.060)
Observations	879
Number of id	69

Conclusions

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- ▶ In a situation where the country has a c.a. in primary products, trade liberalization mandates an increase in the size of the pampered bureaucracy relative to countries that have a c.a. in manufactures in order to maintain social stability.
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- ▶ We were able to find support for this prediction in the data.
- ▶ When the country has a c.a. in primary products, trade liberalization can reduce economic efficiency.