Enforcement of the OECD Anti-Bribery Convention and the Export Performance: An Evidence from the Gravity Model.

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The OECD Anti-Bribery Convention

- Aims to reduce corruption in international trade by criminalizing bribery of foreign public officials by companies based in countries that signed the Convention, including potential intermediaries.
- Signed in 1997, by now 43 signatory countries.
- So far, the enforcement limited: more than one half of signatory countries has not report any criminal foreign bribery cases leading either to sanction or acquittance of any individual or legal person.
- The reasons for non-sanctioning might be diverse.

Do countries that sanction their exporters for providing bribes to foreign officials suffer by lower exports?

Do countries that do not enforce the anti-bribery laws provide an implicit comparative advantage to its exporters?

Are there economic incentives for free-riding on the international effort to combat bribery in foreign trade?

The OECD Anti-Bribery Convention

Attempts to balance conditions across countries in international trade forced namely by the U.S. administrations as the U.S. firms were prohibited to bribe foreign officials by the Foreign Corrupt Practice Act (FCPA) since 1977.

OECD working group established in 1989.

The OECD Convention on Combating Bribery of Foreign Public Officials in International Business Transactions signed in December 1997, effective since February, 1999.

Basic principle: to encourage the signatory countries to sanction bribery of foreign public officials carried out by citizens and firms from countries that signed the Convention.

Enforcement of the OECD Anti-Bribery Convention

The enforcement of the rules agreed in the Convention is voluntary. The OECD does not have any enforcement power over signatory countries.

The OECD focuses on surveillance of national legislations, monitoring of the enforcement activities, and strengthening the peer pressure.

The 2009's amendment: Commitment to explicitly criminalize the bribes to foreign public officials, to strengthen the protection of whistleblowers, and to adopt the measures against intermediaries to bribe for larger multinationals, including foreign subsidiaries.

Additionally, permanent peer-review cycle started.

Literature review

Legal literature: The Convention considered as a “qualified success” (Tyler, GWashIntLawRev, 2011), but lack of enforcement mechanism considered as the main weakness.

Brewster (ChicJIntLaw, 2014) signatory countries in a “prisoner dilemma” game: the cooperation of all agents increases welfare, but if majority enforces the rules, free-riders might benefit from defection.

Empirical literature: Cuervo-Cazurra (JIntBusStud, 2008): investors from signatory countries reduced investments into more corrupt countries.

D’Souza (JDevEcon, 2012): on average, the signatory countries reduced bilateral exports by 5.7% to countries with higher corruption relative to countries with lower corruption.

Jensen and Malesky (IntOrg, 2018): the impact of the 2009’s amendment on imports to Vietnam, difference-in-difference method, the propensity of multinational corporations to bribe foreign officials decreased significantly.

Methodology: Micro-founded gravity model

Gravity model in which the trade is affected not only by mutual trade barriers between a pair of countries, but by the multilateral resistance that reflects barriers to trade to all other countries.

Following Baier and Bergstrand (JIntEcon, 2009) and we use the approach of Taylor polynomials applied to all variables representing trade barriers (denoted as MTR).

Sample: 131 countries, Signatory countries enforcing and non-enforcing the Convention + Rest of the World

$$\log(X_{ijt}) = \beta_0 + \beta_1 \log(GDP_{jt}) + \beta_2 \log(GDP_{it}) + \delta \,\mathrm{MTR}\,(\log(TB_{ijt})) + \alpha_1 \mathrm{MTR}(ENF \,.\, CPI(im)) +$$
$$+ \alpha_2 \mathrm{MTR}(ENF \,.\, CPI(ex)) + \alpha_3 \mathrm{MTR}(NENF \,.\, CPI(im)) + \alpha_4 \mathrm{MTR}(NENF \,.\, CPI(ex)) +$$
$$+ \alpha_5 \mathrm{MTR}(ROW \,.\, CPI(ex)) + \alpha_6 \mathrm{MTR}(ROW \,.\, CPI(im)) + \lambda I_t + \varepsilon_{ijt} \qquad (1)$$

Coefficients α_i indicate effects of corruption on export in each group of countries. When $\alpha_1 > 0$ and $\alpha_3 < 0$, the enforcing countries increase exports with lower corruption, while the non-enforcing increase the export with increasing corruption in host countries. Similarly, α_1 and $\alpha_3 > 0$ and $\alpha_5 < 0$, only non-signatory countries increase export with higher corruption in host countries.

Methodology: Micro-founded gravity model

Equation (1) cannot be estimated directly, caveats:

1. Institutions can be correlated with corruption => variables representing institutions included in the model
2. Zero trade flows (in the data, no difference between missing observations and zero trade flows; 25%).

Two-step procedure, following Egger et al. (2011), 1st step: PROBIT to calculate probability of positive trade flows. We obtain the inverse Mills ratio, and include it in the second stage regression (along with its second, third and fourth power).

Model estimated on updated dataset dataset where the missing trade flows are replaced by zeros, with the help of the Poisson pseudo-maximum-likelihood estimator.

Unlike other estimation methods, such as OLS, the Poisson pseudo-maximum likelihood applied to gravity models preserves total trade flows, i.e. the sums of the actual and predicted trade flows are identical.

Data

COMTRADE, bilateral trade flows among 131 countries.

2000-2015

Enforcement data available for 40 countries (all signatory countries except Russia)

Both, aggregate trade flows and SITC product categories (single digit) considered.

Main Results

Main Results

Country Groups	(1) TOTAL	(2) SITC 0	(3) SITC 1	(4) SITC 2	(5) SITC 3	(6) SITC 4	(7) SITC 5	(8) SITC 6	(9) SITC 7	(10) SITC 8	(11) SITC 9
Enforcing group	1.52**	-0.67	0.21	-2.84***	-1.33†	-1.69†	-0.77*	0.73	4.17***	2.66***	0.75
(α_1)	(0.53)	(0.45)	(0.74)	(0.77)	(0.71)	(0.93)	(0.39)	(0.48)	(0.65)	(0.41)	(0.98)
Non-enforcing group	0.33	-0.39	-0.25	-5.87†	-2.28	-1.10	-1.20*	1.37**	5.42***	2.04*	0.94
(α_3)	(0.59)	(0.72)	(0.98)	(3.09)	(1.49)	(1.57)	(0.60)	(0.52)	(0.89)	(0.92)	(1.40)
Remaining exporters	-1.14*	0.60	-5.70***	-0.74	3.61*	3.75**	-2.72***	-0.52	-1.60*	0.45	-0.73
(α_5)	(0.49)	(0.46)	(1.03)	(1.19)	(1.68)	(1.39)	(0.51)	(0.57)	(0.62)	(0.57)	(1.70)
Observations	189,939	215,643	215,643	215,643	215,643	215,643	207,165	210,135	197,985	210,135	214,653

Notes: *** p<0.001, ** p<0.01, * p<0.05, † p<0.1. Robust standard errors in parentheses. Light grey color denotes positive and statistically significant coefficients. Dark grey color symbolizes negative and statistically significant coefficients.
Product categories: SITC 0: Food and live animals; SITC 1: Beverages and tobacco; SITC 2: Crude materials excluding fuels; SITC 3: Mineral fuels, lubricants etc.; SITC 4: Animal and vegetable oils, fats and waxes; SITC 5: Chemicals and related products (not defined elsewhere); SITC 6: Manufactured goods classified chiefly by material; SITC 7: Machinery and transport equipment; SITC 8: Miscellaneous manufactured articles; SITC 9: Other Commodities

Results: 2009-2015 Sample

Country Groups	(1) TOTAL	(2) SITC 0	(3) SITC 1	(4) SITC 2	(5) SITC 3	(6) SITC 4	(7) SITC 5	(8) SITC 6	(9) SITC 7	(10) SITC 8	(11) SITC 9
Enforcing group	1.06	-0.05	1.32	-2.20*	-1.29†	-2.43*	-0.67	0.96†	4.53***	2.39***	1.43
(α_1)	(0.68)	(0.50)	(0.83)	(0.93)	(0.77)	(0.96)	(0.54)	(0.52)	(0.75)	(0.58)	(0.97)
Non-enforcing group	0.36	-0.40	0.36	-6.21†	-2.58	-0.68	-1.67**	1.61**	6.31***	2.12*	2.08
(α_3)	(0.71)	(0.73)	(1.11)	(3.25)	(1.71)	(1.80)	(0.63)	(0.58)	(1.05)	(0.95)	(1.85)
Remaining exporters	-0.26	1.03†	-5.47***	-0.72	3.78†	4.70*	-2.84***	-0.35	-2.93**	1.29	2.26
(α_5)	(0.63)	(0.59)	(1.09)	(1.54)	(1.97)	(1.85)	(0.59)	(0.60)	(0.89)	(0.81)	(2.25)
Observations	90,392	107,112	108,872	108,872	108,872	108,872	100,072	105,352	94,792	101,832	106,734

Notes: *** p<0.001, ** p<0.01, * p<0.05, † p<0.1. Robust standard errors in parentheses. Light grey color denotes positive and statistically significant coefficients. Dark grey color symbolizes negative and statistically significant coefficients.
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Results: Levels of Enforcement

Country Groups	(1) TOTAL	(2) SITC 0	(3) SITC 1	(4) SITC 2	(5) SITC 3	(6) SITC 4	(7) SITC 5	(8) SITC 6	(9) SITC 7	(10) SITC 8	(11) SITC 9
Actively enforcing group	1.99**	0.26	-0.82	-1.91	1.59	-0.34	-0.93	1.92	4.83***	2.25**	-1.78
(α_1)	(1.00)	(0.89)	(0.84)	(1.77)	(1.47)	(1.52)	(0.67)	(1.38)	(0.76)	(0.75)	(1.20)
Moderately enforcing group	2.36**	-1.75**	2.67**	-6.36**	-0.48	-4.19**	-1.95**	1.29†	5.37***	4.80***	3.66*
(α_3)	(0.83)	(0.67)	(1.02)	(2.31)	(0.91)	(1.36)	(0.64)	(0.72)	(0.80)	(0.65)	(1.62)
Limitedly enforcing group	0.24	-2.88***	-0.39	-2.40**	-2.25*	-0.17	-2.82***	0.80	3.70***	0.61	1.08
(α_5)	(0.86)	(0.58)	(1.05)	(0.74)	(1.13)	(0.72)	(0.58)	(0.62)	(1.12)	(0.73)	(0.91)
Non-enforcing group	1.28†	1.09†	-0.12	-0.14	7.34***	1.38	-1.75**	0.26	2.79**	1.64*	3.27**
(α_7)	(0.73)	(0.63)	(0.96)	(1.33)	(1.69)	(1.49)	(0.55)	(0.59)	(1.01)	(0.64)	(1.08)
Remaining exporters	-1.79***	1.23**	-5.11***	-0.11	0.73	3.82**	-3.35***	-1.56***	-1.09†	0.31	-1.34
(α_9)	(0.40)	(0.47)	(1.03)	(1.17)	(1.20)	(1.39)	(0.47)	(0.45)	(0.62)	(0.58)	(1.69)
Observations	189,939	215,643	215,643	215,643	215,643	215,643	207,165	210,135	197,985	210,135	214,653

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Main Results: Summary

The effects of corruption on export from non-signatory countries are mainly negative or statistically insignificant, no matter whether they come from countries that sanctioned non-compliance with the Convention rules in the past or not.

Positive correlation between corruption and trade appears just in a few SITC product categories, representing only 16% of total exports.

The non-enforcing countries do not gain much advantage over the enforcing countries. Their exports are being substituted by exporters from non-signatory countries.

Therefore, motivations of both enforcing and non-enforcing countries are quite similar.

Conclusions and Policy Implications

Conclusions

All signatory countries have incentives to increase their activity in enforcing corruption, even though in some specific sectors or in particular companies, it may still be true that corruption can make it easier to obtain a contract and increase exports.

Those individual firms may have a strong incentive to reduce the government's efforts to combat corruption effectively. If their political power is above average, these groups can successfully influence legislation, and the progress in strenghtening the enforcement mechanisms might remain limited.

The regular peer-review process introduced by the 2009 amendment to the Convention was an important step forward in the international initiative to curb the corruption in international trade:

- ➔ The peer pressure can - to some extent - offset the domestic pressure of exporters with strong economic incentives to engage in foreign bribery.

Conclusions

On the other hand, the non-signatory countries are different. Among them, corruption seems to facilitate exports both on aggregate level or in manufacturing, and the non-signatory countries are likely to substitute the exports of signatory countries to countries with higher corruption.

Therefore, the exporters from signatory countries would benefit from equal conditions in international trade rather than from more easygoing policy. They may find beneficial to adopt the rules against foreign bribery into global rules of international trade, i.e. those set by the World Trade Organization.

Finally, the future enhancement of the OECD Anti-Bribery Convention shall focus not only on progress at the national level but on sectoral level as well. Particularly in product categories where corruption still works in accordance with the “Grease in the wheels” hypothesis, and where the potential benefits of bribery of foreign officials are the highest (crude materials, fuels, and chemical products).

Table: Share of SITC Product Categories on Total Exports

	Total Exports	SITC 0	SITC 1	SITC 2	SITC 3	SITC 4	SITC 5	SITC 6	SITC 7	SITC 8	SITC 9
Value (bn USD, 2015)	14 446	957	125	523	1 064	80	1 693	1 887	5 505	1 929	644
Share on Total Exports		7%	1%	4%	7%	1%	12%	13%	38%	13%	4%

Note: Comtrade, own calculations. The sum of export data was done on trade flows in the year 2015 and on countries in our sample (131 states).