

Corruption in Turbulent Times: A Response to Export Booms and Busts*

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The effect of output fluctuations on institutions and governance has been mainly addressed through the lens of the resource curse literature (Sachs and Warner, 1995). In fact, theoretical predictions and empirical evidence on the effect of economic fluctuations on governance, including corruption, mainly deal with a “voracity effect” of economic booms in the context of fragile states (Tornell and Lane, 1999; Melhum *et al.*, 2006; Dalgaard and Olsson, 2008; Arezki *et al.*, 2012). In these studies, resource windfalls are detrimental to integrity in the public and private sectors because they foster rent-seeking instead of productive activities (Melhum *et al.*, 2006), when institutional safeguards against malpractices are challenged. To reframe this view into our problematic, corruption is likely to expand when opportunities to personally enrich flourish, and is therefore likely to be pro-cyclical.



* Paper prepared for the Ferdi workshop on “Commodity market instability and asymmetries in developing countries: Development impacts and policies”, held in Clermont Ferrand, France, June 24-25, 2015.

•••/••• The reverse hypothesis according to which corruption could be response to adverse shocks, and thereby being contra-cyclical, has however been much less considered. Although there is little evidence, many arguments can be invoked in support to such a relationship. First the literature on queuing models (Lui, 1985; Kulsheshta, 2007) and auction models (Saha, 2001) of bribery gives us interesting insights into how corrupt behaviors may help “jumping the queue” or being awarded of a rationed public goods. In these models, people compete for scarce resources, which give strong discretionary powers to people allocating these resources, who may therefore personally enrich with bribe-taking. As a consequence, by creating temporarily resource scarcity and by making people competing with each other for their control, transitory adverse shocks may foster what could term “survival corrupt behaviors”. The relationship between shocks and corruption could therefore be contra-cyclical, as a “scarcity effect” of adverse shocks on corruption may prevail.

This paper tries to reconcile these two seemingly competing hypotheses. It argues that both positive and adverse shocks may be either conducive or detrimental to corrupt practices, depending on whether institutions are capable of maintaining productive activities more attractive than rent-seeking and corrupt activities. Following the work of Melhum et al. (2006, 2003), the prevalence of “opportunistic” and “survival” corrupt behaviors during economic booms and economic busts, respectively, is a question of talent allocation (Murphy et al., 1991), as “producer-friendly” institutions are likely to prevent agents from entering in rent-seeking activities during both economic expansions and contractions. On the contrary, one can expect that opportunistic corruption spreads during positive shocks, and that survival corruption spreads during negative shocks, when institutions are ‘grabber friendly’. As a consequence, if institutions matter, the effect of economic fluctuations on corruption may be symmetric – i.e.

corruption increases or decreases during both favorable and adverse shocks – and be driven by asymmetric corrupt behaviors (see table 1).

Table 1. Institutions and asymmetric corruption responses to shocks.

Economic fluctuations Institutions	Positive shocks	Negative shocks
Grabber-friendly institutions	+ opportunistic corruption	+ survival corruption
Producer-friendly institutions	– survival corruption	– opportunistic corruption

► Data and empirical approach

Because institutional constraints upon malpractices may bind during sharp fluctuations only, the paper focuses on the effect of booms and busts in exports proceeds on corruption prevalence, conditional on the quality of institutions. The analytical framework presented in the previous section suggests that corruption should be expressed as a function of positive shocks, negative shocks, and conditional on a set of controls, including institutional variables:

$$\text{Corruption} = E\{\text{positive shocks, negative shocks} \mid \text{Institutions, Controls}\} \quad (1)$$

Macro and micro estimations of this corruption equation are conducted using data on firms’ bribery drawn from the World Bank Enterprise Surveys and skewness-based variables of exports booms and busts¹. Tests of the role of institutions in channelling the effect of shocks on corruption are conducted using, on the one hand, democracy variables drawn from the Polity IV and Freedom House, and on the other

1. Rancière et al. (2008) follow the same approach to separate the effect of credit crisis from credit booms by using a variable of negative skewness and a positive skewness of credit growth, respectively. As they say: “the skewness specifically captures asymmetric and abnormal patterns in the distribution of [a variable], and thus can identify the risky paths that exhibit rare, large, and abrupt [variations]” (p.360).

hand, access to credit variable drawn from the World Development Indicators.

From 19,616 firms' reports of bribery of firms located in 38 developing countries², two dependent variables are used in micro and macro-estimations: while micro-estimations use raw survey data on informal payments, expressed as the firm *k*'s share of total sales, macro-estimations use a measure of corruption incidence based on binary data on informal payments (1 if the firm has declared an informal payment, 0 otherwise)³, averaged at the country-level and expressed as a share of responding firms.

Controls encompass variables measuring export variance⁴, level of economic development, human capital, natural resource rents, the size of the government, and the share of trade in GDP.

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► Empirical results

Baseline, micro and macro-level estimations point to a symmetric effect of export booms and busts on corruption, driven by asymmetric corruption responses to shocks. Micro-level estimation suggests that episodes of export booms increase firms' bribe payments, thereby supporting the hypothesis of opportunistic corruption, while macro-level estimation stresses the existence of symmetric positive effect of exports booms and busts on corruption incidence. Therefore, results support that, in our sample of developing countries, opportunistic corrupt be-

haviors spread during export booms while survival corruption behaviors spread during export busts.

Empirical tests of institutional channels point to a hump-shaped symmetric effect of export booms and busts on corruption prevalence, conditional on democracy and access to credit. First, regarding the democracy channel, booms and busts are found to have a positive effect on bribe payments and bribery incidence when democracy is weaker. Conversely, export booms and busts have a negative effect on bribery incidence when democracy is stronger. More specifically, improved independence of media from economic influence seems to act as a significant safeguard against corruption responses to shocks. It therefore appears that stronger pillars of democracy make both booms and busts more detrimental to "grabbers" than to "producers".

Second, regarding the role of access to external finance, similar relationships are evidenced. A nonlinear symmetric effect of export shocks on corruption prevalence is observable: below a certain credit threshold, both booms and busts are found to increase corruption, while above it, booms and busts are negatively associated with corruption variables. The dampening effect of access to external finance is particularly significant during export busts, when firms probably face liquidity constraint. Therefore, lack of access to credit makes booms and busts more detrimental to producers rather than grabbers, while an easier access contributes to dampen this relationship, especially during export busts.

► Concluding remarks

This paper proposes an analytical framework for the effect of economic fluctuations on corrupt transactions. Using data on firms' experience of corruption with public agents (WBES) and skewness-based measures of instability to test the effect of export booms and busts on corruption

2. Enterprises were interviewed between 2006 and 2011 and asked the following question: "We've heard that establishments are sometimes required to make gifts or informal payments to public officials to "get things done" with regard to customs, taxes, licenses, regulations, services etc. On average, what percent of total annual sales, or estimated total annual value, do establishments like this one pay in informal payments or gifts to public officials for this purpose?"

3. Missing data is not considered as 0.

4. Elbers et al. (2007) have stressed that symmetric and moderate shocks may also have a proper effect on economic transactions, by affecting agents' perception of risk and generating ex ante strategies aimed at reducing exposure to economic fluctuations and lowering income variance. Therefore, I control for this effect by including the long-run rolling standard deviation of exports in the corruption equation.

prevalence, estimates support the existence of a “voracity effect” of booms, driven by opportunistic corrupt behaviors, and a “scarcity effect” of busts, driven by survival corrupt behaviors, when financial and democratic institutions are failing.

These findings provide an additional argument in support to the reinforcement of state capacity for mitigating the consequences of shocks and policies lowering country’s exposure to them. More specifically, policies aimed at improving access to financial markets and supporting pillars of democracy should dampen the positive effect of export booms and busts on corruption prevalence, by keeping productive activities attractive than rent-seeking. Moreover, empirical evidence also suggests that external factors of economic stability, such as aid and remittances (Combes and Ebeke, 2011; Guillaumont and Chauvet, 2001), may be detrimental to corruption and rent-seeking, *ceteris paribus*.

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n° ISSN : 2275-5055

