European Journal of Political Economy 30 (2013) 70–79

Contents lists available at SciVerse ScienceDirect

European Journal of Political Economy

journal homepage: www.elsevier.com/locate/ejpe

# Corruption and economic activity: Micro level evidence from rural Liberia

Gonne Beekman [a], Erwin H. Bulte [a,b,*], Eleonora E.M. Nillesen [a]

[a] Development Economics Group, Wageningen University, P.O. Box 8130, 6700 EW Wageningen, Netherlands
[b] Njala University, Sierra Leone

ARTICLE INFO

*Article history:*
Received 18 April 2012
Received in revised form 22 January 2013
Accepted 25 January 2013
Available online 9 February 2013

*JEL classification:*
K42
O12
O17

*Keywords:*
Corruption
Development project
Agriculture
Investment
Trade

ABSTRACT

We study how corruption affects economic activities of households in rural Liberia. A proxy of corruption of community leaders is obtained by directly monitoring the diversion of inputs associated with a development project. We measure quantities of these inputs twice; before and after the chief stored them, and interpret any 'gaps' between these measurements as indicative of diversion by the chief (or corruption). We use this 'gap' proxy to explain variation in economic behaviour across respondents, and find that corrupt community leaders cause reduced levels of income generating activities that are economically important: corruption leads to a 50% reduction in rice planted and to nearly equally large reductions in trade activity.


## 1. Introduction

An extensive and rapidly growing literature examines the multi-faceted relation between corruption and economic performance. This literature has gradually shifted from analyses based on aggregate data and perception indices (e.g., Tavares, 2003) to micro-based research, occasionally including experimental methods (see Serra and Wantchekon, 2012 for a recent overview). Part of the literature considers the *determinants* of corruption, and probes the scope for limiting the incidence of corruption via various policy measures. The other part focuses on the complementary question: how does corruption affect economic performance? This literature increasingly reaches the conclusion that corruption is bad for growth and development. For example, while early literature on the effects of corruption produced rather mixed evidence (e.g. Mauro, 1995) and occasionally argued that corruption may 'grease the wheels' of a rigid bureaucracy,[1] most recent papers are rather more critical about the consequences of corruption. Aidt (2003) warns that the notion that efficient corruption may offset government failures is based on 'second-best reasoning.' He argues corruption often *creates* government failure, rather than repairing it (see also Rowley, 2000 on the difference between rent seeking and rent extraction). Aidt (2009) finds a strong negative correlation between growth of per capita wealth and corruption, and concludes that "corruption is much more likely to sand than to grease

* Corresponding author. Tel.: +31 317 485286; fax: +31 317 484037.
*E-mail address:* Erwin.bulte@wur.nl (E.H. Bulte).

[1] See, for example, Shleifer and Vishny (1994), and the discussion about 'efficient corruption' and side payments in Aidt (2003). In line with such reasoning, greater corruptibility may increase investments in pollution abatement technology (Fredriksson and Wollscheid, 2008), and offer a 'helping hand' for FDI provision by multi-national enterprises (Barassi and Zhou, 2012; Egger and Winner, 2005).

0176-2680/$ – see front matter © 2013 Elsevier B.V. All rights reserved.
http://dx.doi.org/10.1016/j.ejpoleco.2013.01.005

the wheels" (p. 276). Similarly, a recent review by Olken and Pande (2012) concludes that corruption is widespread and pervasive, and induces efficiency costs. According to an estimate by the World Bank Institute (cited in Sequeira, 2012, p. 145), some 25% of African states' GDP is lost to corruption each year. Hence, the costs of rent extraction ('grabbing') due to corruption will in most circumstances outweigh the benefits of rent sharing ('greasing').

Corruption can undermine growth and development via various channels. Macro studies suggest that it tends to hamper international trade (De Jong and Bogmans, 2011) and impede country-level FDI inflow (Busse and Hefeker, 2007). In addition, corruption may have adverse distributional consequences (Olken, 2006), and could have long-term consequences (e.g., by undermining the supply of education and health care services, see, for example, Reinikka and Svensson, 2004). A micro-oriented literature considers the direct consequences of corruption for firms, exploring consequences for investment choices (e.g., Egger and Winner, 2006; Wei, 2000). If corruption acts as a tax, or leads to uncertainty and high transaction costs (Fisman and Svensson, 2007), it drives a wedge between actual and privately appropriable levels of output — discouraging private levels of input supply (see also Campos et al., 1999). In addition to such under-investment, corruption may invite evasive yet costly behaviour (Sequeira and Djankov, 2010) and affect the direction of investments. In a setting where corruption pressure is endogenous, firms may rationally invest in inefficient but malleable 'fly-by-night' technologies to improve their bargaining position vis-à-vis corrupt bureaucrats (Svensson, 2003).

The objective of this paper is to contribute to the debate on the economic consequences of corruption by analysing how corruption affects economic choices for a sample of smallholder farmers in rural Liberia. We analyse the causal effect of local corruption on certain economic activities that are at the heart of Liberian policies to reduce poverty and achieve food security (e.g., Hilson and van Bockstael, 2012). While strengthening governance, at various levels including the local one, is widely perceived as a precondition for agrarian development (World Bank, 2007), we are not aware of empirical research analysing the consequences of corruption on production decisions of smallholder farmers in Africa. Bates (1981) argued African farmers may opt for subsistence farming to avoid corruption in input and output markets, but this hypothesis remains to be rigorously tested using micro data. Such testing is important as it could, for example, inform NGOs and multilateral agencies about whether or not the quality of local governance should play a role in the design of agricultural development strategies. The urgency of these questions is now more pressing than ever. The majority of the world's poor continue to live in rural areas and their livelihoods tend to be intimately linked to agriculture. Moreover, agricultural development – intensification and commercialisation of farming – is prominently back on the international development agenda as a strategy to pursue sustainable and pro-poor development (World Bank, 2007; Christiaensen et al., 2011).

We use an objective, rather than subjective, approach to gauge corruption. Building on a small number of recent papers we obtain two measurements of a flow of agricultural inputs allocated to the community — before and after these inputs have been given in custody to the local chief. We employ the 'gap,' if any, between these measurements as the basis for several corruption proxies, and then seek to explain key economic variables by these corruption variables. Our main finding is that corruption undermines productive private investments and the propensity to engage in trade. This, in turn, could sustain poverty.

This paper is organized as follows. In Section 2 we briefly summarize some key recent micro studies on corruption. Section 3 sketches the context of our research, focusing on governance issues in Liberia. In Section 4 we outline our data and identification strategy, and Section 5 contains our results. Finally, Section 6 concludes.

## 2. Micro-based corruption studies: minding the gap

This paper seeks to contribute to the relatively small set of corruption studies based on micro data. While aggregate cross-country studies tend to be based on perception-based corruption measures, a strong point of much of the micro work is objective measurement of the incidence and extent of corruption. Sequeira (2012) provides an extensive discussion of recent advances in measuring corruption in the field.[2] In addition to efforts to directly observe corruption and bribing in the field (e.g. Bertrand et al., 2007; Olken and Barron, 2009), corruption may be measured via a 'forensic economic' approach based on a comparison of official data and the equilibrium predictions of theoretical models (e.g., Fisman, 2001). However, the most common approach to measuring corruption in the field is by 'minding gaps in the data,' suggesting corrupt behaviour. Such gaps might be identified in case of mismatches between different data sources; mismatches between administrative data and results from an independent household study; or simply because two primary sources of data do not add up (as in our measurement strategy, outlined below).

An early and influential paper based on gaps in the data is Reinikka and Svensson (2004). They analysed diversion of national grant money allocated to primary schools. On average, approximately 80 cents from every dollar disbursed by the national government was diverted. Money thus stolen was perhaps used by local level officials to strengthen their patronage network or finance political activities. In a follow-up paper, the authors investigate the impact of a possible solution: a newspaper campaign publishing data on monthly transfers (when and how much) to the various districts, facilitating monitoring at the grassroots level (Reinikka and Svensson, 2011). In this context, such newspaper campaigns are cost-effective in reducing capture of public funds.

Another well-known study based on an analysis of gaps in the data is Olken (2007), who investigates corruption of a national road-construction project in Indonesia, using 'missing expenditures' as a measure of corruption. Missing expenditures are defined as the difference between reported and actual costs of constructing the road (as estimated by a team of engineers). 'Missing expenditures', thus defined, account for about 24% of the total costs of road construction. Moreover, upon combining the gap

[2] See also Olken and Pande (2012) for a review of other approaches measuring corruption.