Note: Due to an unexpected delay in the data collection process we have not been able to present the final version of the paper at this stage. The fieldwork has just ended and we should have a final version ready in the upcoming month.

Outline of “The long way around: the real consequences of corruption in customs”

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Though corruption is widely cited as a major obstacle to economic growth, there is little empirical evidence to sustain this assertion. Most of the literature is still based on cross-country analyses that exploit perception-derived data (Mauro 1995, Wei 1997) with poor identification. Some notable exceptions (Olken, 2006; Bertrand et al 2007) have emerged that collect primary micro-level observational data on corrupt behavior, yet even these still fall short of identifying the real costs of different types of corruption. At the theoretical level, two major views have persisted in the form of the “efficient or innocuous corruption” camp (Leff, 1964; Lui, 1985) that sees corruption as the grease that allows agents to overcome cumbersome red tape; and the view of corruption as a distortionary “tax” with strong implications for the allocation of resources in the economy (Schleifer and Vishny 1993; Krueger 1994). Despite the salience of corruption in the study and practice of development, this debate has remained unsettled for several decades, primarily due to the lack of compelling empirical evidence on either side.

In this paper we generate and analyze a unique dataset that contains information on bribe payments to customs at border posts and ports for 700 shipments along two competing transport corridors in Mozambique and South Africa. We take advantage of the opening of a new transport link to the Port of Maputo in Mozambique in 2003, whereby firms located in the South African industrial, mineral and agricultural heartland became served by two competing corridors -leading to the ports of Maputo and Durban-. There is significant spatial variation on the location of key industries across the affected

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South African provinces, placing different firms in the immediate catchment area of each port, and more importantly, generating an area of “swing” firms that are equidistant to both ports. A clearly defined group of South African firms can therefore now choose to ship cargo through two different ports -Maputo or Durban- with similar rates of overland transport services, similar screening technologies and similar logistics services for standard cargo -primarily provided by the same South African freight forwarding companies- but with varying levels of corruption and time delays caused by bureaucrats in customs.

We focus on transport networks for three reasons. On the one hand transport is a universal input for economic activity with a direct impact on the cost structure and behavior of firms by affecting decisions on the sourcing of inputs, participation in export markets and product diversification, among others. Corruption in customs is also a pervasive phenomenon worldwide, shared by developed and developing countries alike, which increases the external validity of our results. Finally, customs’ officials have significant discretionary power to implement rules and regulations, ultimately determining the transit times and the cost of all imports and exports in the region. Not only is there ample room for corrupt behavior but the real consequences of bribes can also be very high for firms in the form of spoiled or idle cargo or the selection of longer shipping routes. Southern Africa on the other hand provides the ideal set up to measure the real consequences of corruption in transport. First, southern African cargo travels long distances averaging between centers of production and ports for domestic – on average 700 kms- but also international trade since South African and Mozambican transport networks serve up to eight landlocked countries in the region. Secondly, recent studies in both countries have estimated commercial transport and logistics expenditures to be in the order of 15% of GDP\(^4\) and firm-level costs of approximately 15-20% of total firm costs. This sustains our belief that the choice between alternative shipping routes is real and a key component of the firm’s overall survival and growth strategies.

\(^4\) With much lower figures for comparable countries like India or Brazil (6% of GDP) and as a benchmark, in the US (4%).
We test predictions from two different models on the nature of corruption in customs. The fixed bribes model posits that bribes are set according to product characteristics other than their value to weight and the location of firms. In an alternative price discriminating model, customs officials are perfect discriminators, setting bribes according to the location of firms. The economic consequences of each model are strikingly different. The implications of the fixed bribes model are that routing decisions are not explained by physical transport costs alone and that corruption distorts firms’ behavior. The price discriminating model on the other hand implies that routing decisions are explained by physical costs and that corruption has no real distortions.

If there is perfect price discrimination and bribes are linear to the distance between the firm and the port, corrupt bureaucracies are able to capture spatial rents without distorting a firm’s choice of shipping route. The intuition is simple: firms closer to the port would pay higher bribes but the indifferent firm would be placed exactly at the equidistant point, with the option to ship through an alternative corridor with lower bribes. Most firms along the corridor would be paying more to ship their goods, but, just like a lump sum tax, it would not necessarily result in an inefficient allocation of resources and bribes would have no real cost. Consequently, bribes would vary by location and could be treated analytically as another dimension of transport costs or the cost of doing business.

We obtain primary data on per product and per route transport rates charged to firms through an original survey of the trucking industry; we collect observational data on bribe transactions at the port and border post by working directly with clearing agents; and we conduct a survey of 1000 firms located in the catchment areas of both ports to obtain information on firms’ shipping choices, performance indicators and their perceptions of alternative shipping routes.

We find that bribes are not related to distance but to the characteristics of the shipment such as its degree of perishability, the heterogeneity of the shipment and its overall value. Though per product transport costs are very similar in both routes, the incidence and magnitude of corruption differs significantly between ports. The incidence of bribe payments is approximately 30% for Durban Port and they represent on average
6% of a one-way shipping rate for a standard 40ft container. In the case of Maputo, the incidence of bribes is much higher, corresponding to about 60% of all cargo movements, and they account for approximately 15% of total shipping costs for the same standard shipment.

Overcoming one of the most important limitations of existing studies of corruption, we use original firm survey data to calculate the magnitude of the distortion introduced by bribe payments for our sample of 1,000 exporting and importing firms located in the overlapping hinterlands of both corridors. This distortion corresponds to the cost difference between the route that minimizes transport costs alone and the route that minimizes transport costs plus bribes. We find that nearly 40% of firms incur in a 15% increase in transport costs (and an average distance increase of 300 kms) to go the long way around and avoid the more corrupt port. We find significant variation on firm behavior depending on the type of cargo they ship but not on their location.

The results of this study provide compelling evidence on how corruption creates real distortions in the economy and generates deadweight loss, as opposed to an alternative view of bribes as a pure transfer between private agents and public officials that affects prices but not allocative efficiency.