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Corruption and management practices: Firm level evidence

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ABSTRACT

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We argue that corruption can decrease aggregate productivity by deteriorating firm management practices. We investigate the impact of regional corruption on the management quality of firms within the manufacturing sector in Central and Eastern Europe. The empirical challenge is that bureaucrats' bribing practices may evolve in response to firm behaviors, and that regional corruption is measured with error. To identify causal effects, our preferred specifications use a difference-in-differences methodology. We measure the manufacturing industries' exposure to corruption using their level of dependence to contract institutions. Controlling for regional and manufacturing industry – country fixed effects, we find that firms in more contract dependent industries, located in more corrupt regions, tend to have lower management quality, a more centralized decision-making process, and a lower level of education among administrative staff. In more corrupt regions, contract dependent firms are also characterized by lower investment in R&D, and smaller product markets. We show that our findings are not likely to be driven by omitted variables, outliers, or reverse causality. *Journal of Comparative Economics* **000** () (2015) 1–21. University College London, United Kingdom;OECD Economics Department, France.

1. Introduction

The impact of corruption on economic performance is a key issue in development economics, central to the evaluation and design of public policies. A large existing literature investigates the determinants of corruption, and the effect of corruption on entrepreneurship. Corruption can waist public and private resources and obstruct the implementation of necessary regulations deterring entrepreneurial activity, investment, and tax revenues.[1] The World Bank estimates that 1 trillion USD, around 3.3% World GDP, is spent on bribes every year (World Bank, 2004). However, most of the existing empirical evidence on the effect of corruption on economic performance is based on cross-country studies. This empirical strategy can only provide incomplete evidence for the mechanisms behind the impact of corruption on economic performance. Corruption may have important efficiency costs for the economy, additional to the amount of bribes paid to public officials. Therefore, the effect of corruption

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[1] See among recent examples: Svensson (2003), Fisman and Svensson (2007), Bertrand et al. (2007), the reviews of Olken and Pande (2012) and Banerjee et al. (2012) and references therein.

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on firm performance, and the associated underlying mechanisms, need to be further assessed in empirical studies, and carefully reviewed when designing anticorruption and development policies (Olken and Pande, 2012; Sequeira, 2012).

This paper estimates the effect of regional corruption on firm management quality within the manufacturing sector. We construct a new data set merging measures of management quality and management practices in Central and Eastern Europe at the firm level, measures of regional corruption from household and firm surveys, and measures of exposure to corruption based on the contract dependence of different manufacturing industries. The precise identification of the impact of corruption on firm management quality, and firm performance is difficult. Bribing practices can partially be a response to a dysfunctional political or economic environment. We use a difference-in-differences identification strategy, based on the different level of exposure to corruption, in order to circumvent this endogeneity issue. By comparing firms that operate within the same region but have a different exposure and dependence to public services, we are able to determine the precise channels through which corruption affects firm performance. We determine a firm's exposure to corruption and its institutional environment based on the level of contract dependence within this firm's industry. We measure contract dependence as the share of intermediate inputs, used in an industry, that are relationship specific or require customized investments by the suppliers. Indeed, firms using contract dependent inputs have to deal with courts and public institutions in order to enforce contracts with their suppliers (Nunn, 2007). We find a strong association between an industry's contract dependence and managers' evaluation of corruption as a barrier in doing business within this industry. Based on this relationship, we estimate difference-in-differences specifications, which display a sizable effect of corruption on management quality, management practices, and firm development. The purpose of this strategy is twofold. First, it allows us to distinguish the effect of corruption on firms, that is based on contract dependence, and is exogenous to firm behavior, from other endogenous forms of corruption, such as state capture. Second, this strategy determines the mechanisms through which exposure to corruption can impose barriers on firm performance, management practices, and overall management quality.

Our identification strategy delivers four main results. First, without controlling for the endogeneity of corrupt practices, we find a robust negative correlation between management quality and corruption. For the assessment of corruption we use two measures of corruption based on the household evaluation of the frequency of corruption, and managers' evaluations of the frequency of corruption, when interacting with public authorities. Second, we confirm the negative relationship between corruption and management quality by using our preferred difference-in-differences specification within regions. In more corrupt regions, firms with higher contract dependence have substantially weaker management practices than firms with lower contract dependence. We find that for a typical establishment, with average contract dependence, an increase of regional corruption from the level observed in Lithuania to the level observed in Belarus, would decrease management quality by roughly 0.9 standard deviation, which would be equivalent to a drop from the observed average management quality in Lithuania to the observed average management quality in Uzbekistan. These large estimates do not appear to be driven by omitted variables or measurement error. Third, we explore specific forms of managerial organization within the firms. Contract dependent establishments, located in more corrupt regions, are characterized by a lower quality of management, a substantially more centralized decision-making process, and a lower level of education among administrative employees. In corrupt regions, contract dependent firms are also characterized by limited development prospects. This is depicted in the reduced planning of production targets, the lower investment in R&D and the smaller product markets. These findings indicate that management practices are a possible channel through which corruption affects firm performance. We show that our results are not likely to be driven by omitted variables, outliers, or reverse causality.

This paper builds on three main strands of the literature. The first strand of the literature relates management practices and firm growth. Management practices are strongly linked to firm performance (Bloom and Van Reenen, 2007). Improvements in management are associated with higher annual sales growth, profitability, and survival rates (Bloom and Van Reenen, 2010). Recent experimental evidence from India identifies a causal impact of management quality on firm productivity (Bloom et al., 2012a). Management practices are affected by industry competition, the firm's ownership structure (multinational firms and private ownership), and human capital (Bloom et al., 2010a; 2010b). Bloom and Van Reenen (2007) also find that firm productivity and management quality in developing countries are significantly lower than in developed countries.

A second strand of the literature relates the institutional setting and firm organization. Institutional quality and corruption may affect firm organization. Firstly, corruption could divert firm inputs from their main economic activity. For example, Dal Bo and Rossi (2007) show that firms distributing electricity, in more corrupt countries, employ more labor inputs to produce the same level of output. The uncertainty of a corrupt business environment, where government officials are able to capture benefits from firms, may also discourage firm investment and expansion strategies (Ades and Di Tella, 1997). In addition, the illegality of corruption and the need for secrecy could lead to the adoption of specific corporate governance structures that obstruct change and innovation (Murphy et al., 1993). Managers may seek to conceal financial information and firm operations, and limit employee involvement in the decision making process, to reduce the risk of information leakages, and thus minimize any potential rent extraction from public officials.

Finally, a recent literature examines the determinants of vertical integration and centralization of firms across countries. Trust is related to the degree of centralization within multinational firms (Bloom et al., 2009). Acemoglu et al. (2010) and Bloom et al., 2009) find that countries with higher level of inter-individual trust, and higher level of product market competition, favor less centralized multinational firms. At the same time, countries with weak contracting institutions, severe contract enforcement problems, and sufficient financial development tend to favor more vertically integrated firms.

This paper makes three important contributions. First, we estimate how management practices depend on the quality of the business environment, based on the interaction between the firms and the state. Transition countries provide an ideal experiment