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The influence of wages on public officials' corruptibility: A laboratory investigation ☆

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ABSTRACT

Previous studies have proposed a link between corruption and wages in the public sector. The present paper investigates this link using a laboratory experiment. In the experiment, public officials have the opportunity to accept a bribe and can then decide between a neutral and a corrupt action. The corrupt action benefits the briber but poses a large negative externality on a charity. The results show that increasing public officials' wages greatly reduces their corruptibility. In particular, low-wage public officials accept 91% of bribes on average, whereas high-wage public officials accept 38%. Moreover, high-wage public officials are less likely to choose the corrupt option. Additionally, the results suggest that a positive monitoring rate may be necessary for these effects to arise.

1. Introduction

Corruption is a significant problem in large parts of the world. Following the World Bank (World Bank, 1997), corruption has been widely defined as "the abuse of public office for private gain" (see also Buehn & Schneider, 2009). In a similar spirit, Shleifer and Vishny (1993) define corruption as "the sale by government officials of government property for personal gain" and Banerjee, Hanna, and Mullainathan, 2012 define it "as breaking of a rule by a bureaucrat (or an elected official) for private gain." Other definitions have broadened the scope of these definitions to include corruption in the private sector. For example, Transparency International defines corruption as "the abuse of *entrusted* power for private gain" (Transparancy International, 2012, emphasis added). The 1999 Criminal Law Convention on Corruption (European Union, 1999) also explicitly incorporated corruption in the private sector as a form of corruption.

Corruption is widely thought to be widespread. For example, the World Bank has estimated that at least 1 trillion dollars in bribes changed hands in 2002 (Kaufmann, 2005, Chapter 2.1). As a consequence, fighting corruption has become a primary goal for many of the world's governments in recent years. One possible policy instrument that has prompted considerable

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debate is the level of public official compensation. Theory (starting with Becker & Stigler, 1974, see also Acemoglu & Verdier, 2000; Besley & McLaren, 1993; Cadot, 1987) suggests that increasing the wages of public officials should reduce their corruptibility. If this holds, it provides governments with a policy instrument that falls directly under its control and would therefore be relatively easy to implement.

There are at least two reasons why increasing public officials' wages could reduce the level of corruption. Firstly, increasing public official wages would increase the expected monetary costs of corruption. A wage increase would reduce the relative value of the wage a public official could expect to earn in the private sector. With the right combination of monitoring and punishment, the amount of money public officials will expect to lose from corruption will increase, inducing them to behave less corruptly (this is the mechanism suggested by Becker & Stigler (1974); see also Olken (2007) and Tanzi (1998)).[1]

Secondly, increasing public officials' wages may also increase the non-monetary or 'moral' costs of corruption for at least three reasons. A first reason is that public officials may perceive a high wage as being more fair, making it more costly for them to go against the government's wishes by behaving corruptly; this idea is similar to the fair wage-effort hypothesis (Akerlof & Yellen, 1990; see also Van Rijckeghem & Weder, 2001). A second reason is that there may be a social norm condoning side payments for low-wage public officials but not for high-wage public officials (Fisman & Miguel, 2007). A third reason is that inequality averse public officials may be more willing to increase their income through corruption if their wage is lower than the comparison wage (Abbink, 2005; Fehr & Schmidt, 1999).

However, field studies have produced little evidence in favor of the link between corruption and public sector wages. Svensson (2005) discusses four directly relevant studies: Rauch and Evans (2000), Treisman (2000), Van Rijckeghem and Weder (2001) and Di Tella and Schargrodsky (2003). Of these four, the first two find no robust evidence; the latter two find a small negative association. However, as Svensson (2005) argues, the first three studies are based on perception-based cross-country data that hinder causal inference; moreover, they use ranked data rather than absolute levels to measure corruption. Di Tella and Schargrodsky (2003) make use of exogenous variation in the audit probability in the city of Buenos Aires, which increases corruption risks and does not directly affect the relative wage of public officials.

In response to this apparent difficulty in acquiring high-quality data, the last decade has seen a large increase in the number of laboratory experiments in the area of corruption.[2] Starting with Frank and Schulze (2000) and Abbink, Irlenbusch, and Renner (2002), corruption experiments have investigated issues ranging from the effect of staff rotation (Abbink, 2004), culture (Barr & Serra, 2010; Cameron, Chaudhuri, Erkal, & Gangadharan, 2009) and intermediaries (Drugov, Hamman, & Serra, 2011) to comparing top-down and bottom-up monitoring (Serra, 2011), the effects of risk attitudes (Berninghaus et al., 2013) and small bribes and gift giving (Malmendier and Schmidt, 2012). See Abbink and Serra (2012, Chapter 4) for an overview.[3]

Laboratory experiments have also previously been utilized to investigate the influence of public officials' wages on their corruptibility. Abbink (2005) investigates the link between wages and corruption by varying the wage of public officials with respect to the wage of a third party and finds no effect. Frank and Schulze (2000) and Schulze and Frank (2003) vary the fixed payment received by public officials in a one-shot game and also find no effect. Armantier and Boly (2008) compare the results of a framed lab and field experiment in which participants have to grade homeworks. In one of the homework sets, graders receive a bribe accompanied by a request to be lenient in grading. They find that increasing graders' wages decreases their corruptibility, although this effect is significant only in the lab with a large set of controls. Azfar and Nelson (2007) find that higher wages decrease the corruption of an executive party in a public choice experiment but have no effect on the corruptibility of an attorney general. Finally, Jacquemet (2012) studies a three-player corruption game with delegation and finds that corruption actually *increases* in the wage of the public officials.[4] Overall, the laboratory evidence on the link between wages and corruption appears to be rather mixed as well.

One possible reason why previous studies examining the link between wages and corruption have yielded mixed findings is that they employed different reference wages. Indeed, both monetary and non-monetary considerations require a reference wage to determine what wage should be regarded as 'high' or 'low'. Field studies have tended to take aggregate level variables as reference wages, such as, for example, the average wage in the manufacturing sector (e.g., Van Rijckeghem & Weder, 2001).

However, previous work in both psychology and economics suggests that people compare themselves to individuals who are similar to them and whom they often interact with (see e.g., Buunk & Mussweiler, 2001; Festinger, 1954; Suls, Martin, & Wheeler, 2002; Sweeney & McFarlin, 2004; or see Linde & Sonnemans, 2012, for a recent application in economics). By this line of reasoning, income comparisons are likely to be part of the bribery process when private parties are in long-term personal corruption relationships with relatively similar public officials.

[1] An additional mechanism applies if public officials' utilities are a concave function of money. Having a large salary will then decrease their marginal utility of money, decreasing the attractiveness of accepting bribes.

[2] For a discussion of the advantages and disadvantages of different methods used to measure corruption, see Armantier and Boly (2012, Chapter 5), Schneider (2005), Sequeira (2012, Chapter 6), Olken and Pande (2012) and Banerjee et al. (2012) among others.

[3] Related studies focusing on different forms of illegal or immoral behavior include Kirchler, Hoelzl, and Wahl (2008), Coricelli, Joffily, Montmarquette, and Villeval (2010) and Kogler et al. (2013) who study tax evasion and strategic tax compliance, Schwieren and Weichselbaumer (2010) and Cassar, Friedman, and Schneider (2009) who study cheating, and Gneezy (2005) and Dreber and Johannesson (2008) who study deception.

[4] Jacquemet (2012) conjectures that this is caused by the fact that being corrupt is costly in the experiment, so high-wage public officials can more easily afford to be corrupt. Barr, Lindelow, and Serneels (2009) also document a link between public officials' wages and corruption in a laboratory experiment. However, in this study the monitoring rate is endogenously determined and increasing in the public official's wage; hence it becomes impossible to separate the effect of wages on corruptibility from the effect of monitoring.