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The effect of corruption on labour market outcomes

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ABSTRACT

We develop a theoretical model to investigate the relation between corruption and labour supply. The theoretical model shows that corruption affects labour supply in the formal sector by reducing productivity, changing the supply of labour in the shadow economy, altering the tax burden, and distorting the saving-consumption trade-off. The predictions of the theoretical model are tested by using panel data methods for 132 countries. Using the labour force participation rate (LFPR) and employment to population ratio as proxies for labour supply, the estimated empirical results show that corruption has a statistically significant robust direct negative effect on the LFPR and employment to population ratio. Corruption also has an indirect effect on the LFPR and employment to population ratio through a higher tax burden and increase in size of the shadow economy. Higher wages, an increase in consumption, and better regulatory quality are found to reduce the negative impact of corruption on labour supply, however, the overall effect on labour supply is negative, suggesting that the negative effects of corruption outweigh the positive effects of improved regulatory quality, wages, and higher consumption. Our findings imply that in order to reduce the negative effect of corruption on labour supply, governments need to develop a comprehensive approach to not only combatting corruption itself but also working on improving regulation and promoting policies that decrease activities in the shadow economy.

1. Introduction

Studies show that corruption can be damaging for an economy.[1] In this study, we investigate how corruption affects labour supply. Labour supply is measured by the labour force participation rate (LFPR) and the employment to population ratio,[2] both directly and indirectly. Numerous papers have investigated the effect of corruption on labour supply and have found that corruption can affect labour supply through a number of channels. However, little has been done to establish a more general theoretical framework to investigate how corruption alters the LFPR and employment to population ratio through different channels. It is well known that low LFPRs and employment to population ratios affect productivity at the firm and country levels, reduce tax revenues, and retard economic growth and development. Thus, investigating this issue is important from a policy perspective. It is crucial for governments to minimise the adverse effect of corruption on labour supply to promote growth. In light of this, we aim to develop a more general theoretical framework which links corruption to the labour market, and then we test the predictions stemming from the model, using panel data methods.

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[1] The most commonly used definition of corruption is the abuse of public power for private gain (Mauro, 1998a, b). Corruption has been found to constrain growth (Rose-Ackerman, 1999; Tanzi and Davoodi, 2002; Mauro, 1995; Mo, 2001), discourage investment (Mauro, 1996; Brunetti et al., 1998; Campos et al., 1999), reduce foreign direct investment (Wei, 2000; Abed and Davoodi, 2002), and limit productivity (Lambsdorff, 2003) and reduce human capital accumulations through distortions in the education system (Patrinos and Kagia, 2007). Studies also show that more corrupt countries face higher inflation (Al-Marhubi, 2000), larger shadow economies (Friedman et al., 2000; Johnson et al., 1997; Schneider et al., 2010), lower state bond ratings (Depken and Lafountain, 2006), and reduced expenditure on education and health (Mauro, 1998a, b). Shleifer and Vishny (1993) and Bardhan (1997) provide an extended review of different aspects of corruption and its economic effects.

[2] The LFPR is defined as the proportion of the population aged 15 and older who is economically active, that is, all people who supply labour for the production of goods and services during a specified period as defined by the World Bank (2015) and the International Labour Organisation (ILO, 2015). The employment to population ratio is the proportion of a country's population who is employed (World Bank, 2015; ILO, 2015).

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To address the gap in the literature, we construct a simple theoretical framework which captures the link between corruption and the labour supply. The main features of the framework are based upon the studies of Dzhumashev (2014a, 2014b), Aidt et al. (2008), and Delavallade (2006). In this framework, corruption is captured as distortions in the burden of taxes and externalities that arise due to government spending. We also incorporate the effect of the shadow economy by assuming that some labour is supplied to the underground sector.[3]

By analysing the links between corruption and the labour supply, the present study extends upon the literature in a number of ways. Firstly, the simple theoretical framework developed captures the main aspects of the relationship between corruption and the labour market. Secondly, we test empirically the theoretical conjectures and determine the overall effect of corruption on the labour supply, as well as the effects of corruption through different channels. In the estimation, we measure labour supply by using the labour force participation rate (LFPR), and the employment to population ratio (EPR). We test the results for robustness in a number of ways. We use additional control variables and interaction terms to capture a range of possible influences on the labour market. To account for country-level time-invariant unobservable influences, we use different estimation methods, including fixed effects estimation. To correct for any potential endogeneity bias, we use the system generalised method of moments (GMM) and instrumental variable (IV) estimations. Given the uncertainty and likely measurement errors in corruption, we test the robustness of the results using three different data sets on corruption: the Transparency International (TI), Kaufmann et al. (2014), and International Country Risk Guide (ICRG) corruption data sets. Estimation is also carried out by splitting the sample into two groups – countries with low levels of corruption (below the mean level of corruption) and those with high levels of corruption (above the mean level of corruption) – to investigate whether the adverse effects of corruption on the labour market are more pronounced for high-corruption countries.

The primary findings of the study can be summarised as follows. The theoretical framework highlights that corruption reduces labour supply by encouraging activities in the shadow economy, by reducing the productivity of the private sector, and altering the tax burden by distorting the saving-consumption trade-off. The empirical results of the present study suggest that corruption reduces the overall LFPR. The estimated results indicate that corruption has a statistically significant robust direct negative effect on the LFPR. Corruption is additionally found to have an indirect adverse impact on the LFPR through the higher burden of taxes, reducing private sector productivity and increase in size of the shadow economy. However, higher wages, an increase in consumption, and better regulatory quality are found to reduce the negative impact of corruption on labour market outcomes. The findings have the following policy implications. To reduce the negative effect of corruption on the labour market, governments need to develop a comprehensive approach not only to combatting corruption itself but also work towards improving regulatory quality and promoting policies that reduce activities in the shadow economy. Improvements in tax administration and encouraging the private sector not only have a direct effect on output but may also be viewed as policy measures for improving labour supply in the formal economy.

The rest of this paper is structured as follows. Section 2 discusses the literature. Section 3 presents the theoretical framework which links corruption and the labour supply. Section 4 presents the data and methodology. Section 5 evaluates the results, and Section 6 concludes.

2. Related literature

Only few studies have investigated the direct effect of corruption on labour supply. In developing our model, we attempt to synthesise a more general link between corruption and the labour market, by incorporating the mechanisms presented in the literature. We briefly discuss this literature below.

Mandal and Marjit (2010) develop a theoretical model which shows the impact of corruption on wage inequality between skilled and unskilled labour. Pi and Zhou (2013) extend the wage-inequality analysis accounting for the effect of institutional quality rather than corruption. These studies show that the difference in capital intensity between sectors influences the relation between corruption/institutional quality and the wage-gap between skilled and unskilled labour.[4] The cost of corruption (low institutional quality) in these studies is captured as a drain on the final output produced, due to the shift of labour and capital to unproductive use, or loss in output due to corrupt transaction costs. We follow their modelling technique in spirit by expressing the cost of corruption as a direct change in final income through the tax burden and diversion of resources from productive to unproductive use. The main difference between our model and these models is that their focus is on explaining the wage-gap between skilled and unskilled labour due to corruption, whereas our focus is on the distribution of labour between official and shadow economies and leisure.

Ferraz et al. (2012) in a study of corruption in Brazilian municipalities, observes that students in municipalities with high corruption receive test scores that are considerably lower and have higher dropout and failure rates compared to students in municipalities without corruption. Higher corruption levels are found to lead to fewer teachers, labs, and other educational facilities. Round et al. (2008) establish that in Ukraine, individuals find jobs primarily through connections that require bribe payments. Those who gain long-term employment also face a number of problems, which involve the lack of job security, informal payment of wages, and the absence of legal protection from employers. Walsh (2010) documents similar findings for the Chiang Rai region in Thailand. Corruption is found to lead to human trafficking, under-payment of wages, and unsafe working conditions. These studies are restricted to one country and are based on qualitative methods, as opposed to our study, which is undertaken on many countries and employs quantitative methods.

Lacko (2006) examines how tax rates, corruption, and institutional features of the labour market affect unemployment, employment, self-employment, and activity in the hidden economy in a group of OECD countries over the period 1995 to 2000. She finds that the subjective tax rate is an important factor that explains cross-country differences in unemployment, employment, and self-employment rates, as well as the size of the shadow economy. Using arguments along the same lines, Johnson et al. (1997) show that high regulatory policies and tax collection encourage individuals to move from the formal to the informal sector. Ahn and De La Rica (1997) use data on the Spanish labour market and find that individuals prefer working in the underground sector as opposed to being unemployed. Field (2007) examines the effect of increases in ownership security on household labour supply in Peru. The results indicate that tenure rights can increase social welfare with labour supply shifting from work at home to work in the outside market.

When corruption is ingrained in a society, the labour market is distorted and tends to operate under a 'shadow' system (Cooney et al., 2002). In other words, workers and employers lose faith in industrial and labour laws, and settle disputes outside the formal system. Dreher and Schneider (2010), Johnson et al. (1997), Ahn and De La Rica (1997), Fugazza and Jacques (2003), and Frederiksen et al. (2005) examine the relation between the shadow economy and the labour market. Dreher and Schneider (2010) argue that the high levels of regulation that accompany large shadow economies, lead to higher levels of unemployment and a fall in the number of hours worked in the official sector. Frederiksen et al. (2005) in a study of the male labour supply in the

[3] The shadow economy is defined as 'the market-based production of goods and services that escapes detection in official estimates of GDP' (Smith, 1994).

[4] See Marjit and Acharyya (2003, 2006), Marjit and Kar (2005), Pi and Zhou (2012), and Pi et al. (2013) for wage inequality analyses.