ELSEVIER

Journal of Public Economics 91 (2007) 963 – 991

JOURNAL OF PUBLIC ECONOMICS

www.elsevier.com/locate/econbase

Public sector pay and corruption: Measuring bribery from micro data

Yuriy Gorodnichenko [a], Klara Sabirianova Peter [b,c,*]

[a] University of Michigan, United States
[b] Georgia State University, United States
[c] IZA Bonn, Germany

Received 16 February 2006; received in revised form 1 December 2006; accepted 6 December 2006
Available online 16 January 2007

Abstract

This study provides the first systematic measure of bribery using micro-level data on reported earnings, household spending and asset holdings. We use the compensating differential framework and the estimated sectoral gap in reported earnings and expenditures to identify the size of unobserved (unofficial) compensation (i.e., bribes) of public sector employees. In the case of Ukraine, we find that public sector employees receive 24–32% less wages than their private sector counterparts. The gap is particularly large at the top of the wage distribution. At the same time, workers in both sectors have essentially identical level of consumer expenditures and asset holdings that unambiguously indicate the presence of non-reported compensation in the public sector. Using the conditions of labor market equilibrium, we develop an aggregate measure of bribery and find that the lower bound estimate of the extent of bribery in Ukraine is between 460 million and 580 million U.S. dollars (0.9–1.2% of Ukraine's GDP in 2003).

JEL classification: D73; H1; J3; J4; O1; P2
Keywords: Corruption; Bribery; Public sector; Wage; Wage differentials; Consumption; Ukraine

1. Introduction

Corruption undermines the strength of public institutions and hampers economic growth and development (Shleifer and Vishny, 1993; Mauro, 1995; Bardhan, 1997; Meon and Sekkat, 2005). The cost of corruption is particularly high in developing and transition countries where bribery is

* Corresponding author. Georgia State University, United States. Tel.: +1 404 651 3986; fax: +1 404 651 4985.
E-mail addresses: ygorodni@umich.edu (Y. Gorodnichenko), kpeter@gsu.edu (K. Sabirianova Peter).

doi:10.1016/j.jpubeco.2006.12.003

endemic (EBRD, 2005; Transparency International, 2005). The question faced by the public and policy-makers is not whether corruption exists but its extent. Yet available estimates of bribery are imprecise, sporadic and apply to highly specific cases. Popular perception-based indices are ordinal and subjective and while informative they do not provide a reliable quantitative estimate of bribery.

In this paper we develop a novel framework to estimate the extent of bribery in the public sector using micro-level data on observable labor market outcomes, household spending, and asset holdings. Specifically, we estimate the residual wage differentials between the public and private sectors, compare these differentials with the sectoral differences in household expenditures and asset holdings, and then use the conditions of labor market equilibrium to compute a monetary value of unobserved non-taxable compensation (i.e., bribery) at the aggregate level.

We motivate our analysis by observing conflicting evidence from developed countries and several transition economies with respect to the private–public wage differentials. In a review of public sector pay in several developed countries, Gregory and Borland (1999) conclude that public sector employees generally receive higher average earnings than private sector employees. However, a few recent studies from transition countries find the opposite result, with public sector employees receiving much lower wages than their private sector counterparts (Adamchik and Bedi (2000) in Poland, Brainerd (2002) in Russia, and Lokshin and Jovanovic (2003) in Yugoslavia).

Using recently collected data from the Ukrainian Longitudinal Monitoring Survey, we also find that public sector employees in Ukraine are significantly underpaid compared to workers in the other sectors. The wage gap between private and public firms is surprisingly large (24 to 32% conditional on worker characteristics) and remarkably stable over recent years (1997–2003). We examine the wage gap at different points of the conditional wage distribution and establish that average results understate the gap at the top and overstate it at the bottom of the distribution. We show that the wage gap is largest (can exceed 60%) among the most productive and highly paid workers. At the same time, public and private sectors exhibit very similar rates of voluntary separations, labor mobility across sectors is non-trivial, the flows in and out of the public sector are approximately the same, and the size of the public sector remains virtually unchanged over the 7 years of our data. This brings about an important question of why public sector employees on average and the most productive workers in particular continue working in the public sector despite their low rate of official pay.

We argue that bribery is the most likely explanation for the observed wage differences. In particular, we show that the wage gap remains large after correcting for endogeneity, controlling for unobservable characteristics and accounting for differences in hours of work, job security, fringe benefits, bonuses, job satisfaction, and secondary employment. More importantly, we find that the levels of consumer expenditures and asset holdings are essentially identical for workers in the public and private sectors. This finding indicates unequivocally the presence of additional non-reported *monetary* compensation that allows employees in the public and private sectors to enjoy similar levels of consumption. We refer to this unobserved compensation in the public sector as a bribe. We find that the gap between consumption and reported income is the largest for subsectors of public administration and health care and for occupations of public sector managers and medical workers — groups that are commonly perceived as bribe takers and have also the greatest opportunities to extract bribes.

The bribery explanation of the wage gap is consistent with a study of 31 developing countries that finds a robust negative relationship between aggregate corruption indices and relative civil-service pay at the country level (van Rijckeghem and Weder, 2001). This explanation is also