Journal of Development Economics 103 (2013) 154–166

Contents lists available at SciVerse ScienceDirect

Journal of Development Economics

journal homepage: www.elsevier.com/locate/devec

Corruption and product market competition: An empirical investigation ☆

Michael Alexeev [a,*], Yunah Song [b]

[a] Department of Economics, Indiana University, Bloomington, IN 47405, United States
[b] Korea Insurance Research Institute, 35-4 Yoido-dong Youngdeungpo-gu, Seoul 150-600, Republic of Korea

ARTICLE INFO

Article history:
Received 10 October 2010
Revised 9 October 2012
Accepted 9 February 2013

JEL classification:
D73
D21
O17

Keywords:
Competition
Corruption

ABSTRACT

We analyze the relationship between product market competition and corruption. The existing literature typically views corruption as extortion of "pre-existing" rents. This perspective suggests that competition usually reduces corruption, although generally the sign of this relationship is ambiguous. Shleifer and Vishny (1993), however, show that cost-reducing corruption is promoted by product market competition. That is, the effect of competition on corruption depends of the nature of corruption. Unlike the existing empirical studies that employ cross-country data and general measures of corruption, we test the competition–corruption relationship using firm-level information. Our approach overcomes significant estimation difficulties that result from relying on cross-country data; for instance, we include country fixed effects, and we deal with potential endogeneities by instrumenting competition with US capital–labor ratios for the appropriate industries. Contrary to the existing empirical work, we show that stronger product market competition is associated mostly with greater corruption of the cost-reducing variety.

© 2013 Elsevier B.V. All rights reserved.

1. Introduction

Control of corruption has been an important public policy issue both in developed and developing countries. Encouraging competition in product markets represents one potential approach to dealing with corruption among the officials regulating these markets, and this approach has attracted considerable attention in the theoretical literature.[1] This literature has demonstrated that the relationship between corruption and competition is complicated and depends on various factors such as the nature of corruption, technologies employed by the firms, preferences of corrupt officials, probability of punishment, and the information that the officials possess about firms. Most of the models treat corruption as appropriation by government officials of rents that accrue to incumbent firms in the industry. Shleifer and Vishny (1993) and Sequeira and Djankov (2010), however, point out that the effects of product market competition on corruption depend strongly on whether corruption is "coercive" (extortion) or "collusive" (cost-reducing). We argue that while the link between product market competition and coercive corruption is theoretically ambiguous, collusive corruption is promoted by competition and, therefore, empirical work should be cognizant of this distinction.

The main goal of this paper is to examine empirically the competition–corruption relationship in a framework where the nature of corruption is more specific than in the previous empirical studies such as Ades and Di Tella (1999) and Emerson (2006). These papers show that countries characterized by a greater degree of product market competition tend to have less corruption. The reliance of these papers on cross-country data, however, has obvious drawbacks, including a small number of observations and the possibility of omitted variable bias. In addition, the degree of market competition in these papers is usually measured in rather indirect ways. For example, Ades and Di Tella use such measures as the share of imports in GDP and the distance to world's major exporters while Emerson uses indicators of an economy's competitiveness as reflected in the World Economic Forum's Global Competitiveness rankings and the Heritage Foundation's Index of Economic Freedom.

Another drawback of using cross-country data is the difficulty of dealing with the potential for reverse causality between corruption and competition. As was noted in the aforementioned papers and elsewhere, corrupt officials may exercise their power to limit competition in

☆ We would like to thank Jim Leitzel, Andrei Levchenko, Joon Park, the anonymous referees, and the participants of the conference "Enforcement, Evasion and Informality: Theory and Practice" (Ann Arbor, June 4–6, 2010) for insightful and helpful comments. All errors and omissions are our own.

* Corresponding author. Tel.: +1 812 855 7103; fax: +1 812 855 3736.
E-mail addresses: malexeev@indiana.edu (M. Alexeev), yunah.song0@gmail.com (Y. Song).

[1] See Bliss and Di Tella (1997), Ades and Di Tella (1999), Straub (2005) and Emerson (2006).

0304-3878/$ – see front matter © 2013 Elsevier B.V. All rights reserved.
http://dx.doi.org/10.1016/j.jdeveco.2013.02.010

order to generate rents for the incumbent firms — rents that then can be extorted through bribes.[2] And perhaps most importantly, it is unclear what type of corruption is reflected in country-wide measures of corruption. As noted earlier, corruption can be collusive (cost-reducing) or coercive (rent extraction) and the relative amounts of each type of corruption may vary significantly from country to country or sector to sector. Meanwhile, the consequences of product market competition for different types of corruption may be quite different.

We attempt to complement and improve on the existing empirical work by relying on firm-level survey data that allow for better measures of competition, more specific measure of corruption, and better controls and instruments than are available with cross-country data. Our results are quite different from both Ades and DiTella and Emerson; we suggest that the differences could be due not only to the empirical approach, but also to the type of corruption captured in the studies. Our firm-level data appear to refer mostly to cost-reducing corruption, while country-wide indices may predominantly reflect coercive corruption.

We use the data from the World Bank's Productivity and the Investment Climate Private Enterprise Survey (henceforth, PICS); this survey contains responses from several thousand firms across a number of countries. PICS covers the years 2001–2005, and some of the countries are included in more than one round of the survey, although this is not a panel dataset. Our basic approach is to regress the survey-based corruption measure on various measures of competition and some controls. Corruption is measured as the share of sales that firms similar to respondent's pay in the form of informal payments "to get things done." We measure competition in several ways: the number of competitors the firm faces, hypothetical customer reaction to price increases, firm market share, markup over operating costs, and industry-level Herfindahl–Hirschman indices calculated from the same survey. Our controls include firm characteristics that are likely to be exogenous to corruption, as well as country and year fixed effects.

We demonstrate that for the most reliable measures of competition, firms in more competitive environments tend to pay a greater percentage of their sales in bribes. While this relationship does not always hold strongly, we do not find any evidence that competition and corruption are inversely related, particularly if we control for potential endogeneity between competition and corruption by instrumenting competition with US capital–labor ratios for relevant industries as a proxy for the firm's fixed costs — one of the "deep competition" parameters suggested by Bliss and Di Tella (1997).[3] The advantage of this instrument is its clear exogeneity with respect to corruption in the surveyed countries. One disadvantage of this instrument is that it does not necessarily reflect the technological constraints in those narrow sectors where the survey respondents operate.[4]

All statistically significant coefficients indicate a positive relationship between the strength of competition and the extent of corruption, though in several regressions the relevant coefficients are statistically insignificant. All coefficients in the IV regressions have signs consistent with a positive competition/corruption relationship, while the coefficients associated with the most reliable measures of competition are typically statistically significant.

The rest of the paper is organized as follows. The next section briefly reviews the existing literature, focusing on the empirical implications of the theory. In addition, we suggest another simple model that implies a positive relationship between product market competition and cost-reducing corruption under some reasonable assumptions. We describe the data in Section 3. Our main results are presented and discussed in Section 4. Some robustness checks are performed in Section 5. Section 6 concludes.

2. The existing theory and evidence

Most of the existing models of the relationship between product market competition and corruption produce ambiguous implications with respect to its sign. In the first paper to focus on this relationship, Bliss and Di Tella (1997) assume that each official deals with only one firm; officials do not know the precise amount of rent enjoyed by the firm they oversee, but they know the distribution of these rents. An official's problem then is to demand the bribe that maximizes the expected value of bribe revenue, while the firm agrees to pay the bribe as long as it is smaller than the firm's rent. Otherwise, the firm exits the market. The degree of competition in this model is based on three "deep competition" parameters: (1) the degree of substitutability of the firms' products; (2) the degree of similarity of the firms' production functions; and (3) the amount of fixed costs in the industry. In other words, in this paper, the extent of competition is determined by technological factors that are assumed to be exogenous with respect to the degree of corruption. When the degree of competition is determined by either the first or the second of the "deep" parameters, the relationship between competition and corruption (measured by the size of the bribe demanded) is ambiguous. If the degree of competition is determined by the third parameter (i.e., fixed costs), greater competition always increases corruption.[5] An increase in fixed costs has two effects. Higher fixed costs reduce the number of incumbents, generating greater operating profits for the remaining firms. But a fixed cost increase also reduces each incumbent's total profits available for extortion. In Bliss and DiTella's model, these two opposed effects result in lower overall profit and, therefore, lower bribes.

Ades and Di Tella (1999) also assume that each official deals with only one firm, but unlike Bliss and Di Tella, they assume that the official knows precisely the firm's amount of profit (which is random and is not observed by the state). The official may collude with the firm to hide the true amount of profit in exchange for a bribe. If the bribe is detected by the state, however, the official loses his wage. The state's problem is to set the officials' wages in such a way as to reveal (and collect as a tax) the greatest amount of profit net of the officials' wages. The degree of competition in this model is measured by the exogenous number of firms in the market and the extent of corruption is defined as the frequency of bribes of exogenous size. The assumed exogeneity of the number of firms implies that the direction of causality on which the model focuses is from competition to corruption. In this framework, corruption decreases in the number of firms unless increased competition leads the state to decrease substantially the

[2] Both papers attempt to deal with potential reverse causality by using 2SLS estimation. Ades and Di Tella instrument the intensity of competition (proxied by share of imports in GDP) with the logarithm of population and logarithm of land area. Emerson instruments corruption, which is a right-hand side variable in his empirical model, with a civil liberties index and variables reflecting educational level in a country. Neither author presents formal tests of the validity of these instruments. While there is little doubt that the instruments used in each paper are correlated with the variables being instrumented, it is unclear why these instruments would be uncorrelated with the residuals. In both cases, instruments could affect the dependent variables through channels other than the variable being instrumented — an issue that regularly arises with the instrumental variable approach.

[3] Deep competition parameters are technologically based and are not influenced by "institutionally created opportunities for corruption" (Bliss and Di Tella, 1997, p. 1002).

[4] The manufacturing sectors identified in the survey constitute 15 rather broad industries such as "Textiles" or "Metals and Machinery." Therefore, both corruption and the competitive environment faced by firms within these industries may vary greatly, depending on what specific part of the sector the firm operates in and in what part of the country it is located.

[5] To prove this result, Bliss and Di Tella assume that the distribution of the firms' overhead costs is uniform.

Download English Version:

https://daneshyari.com/en/article/5094619

Download Persian Version:

https://daneshyari.com/article/5094619

Daneshyari.com