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ANALYSIS

Institutionalized pollution havens☆

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ABSTRACT

A multiple-principal, multiple-agent lobby group model suggests that the effect of foreign direct investment (FDI) on environmental policies is conditional on the structure of host countries' political institutions such as the number of legislative units (veto players). The model also yields the novel concept of "aggregate honesty" which combines veto players and corruption. FDI raises environmental policy stringency where the number of legislative units are many (aggregate honesty is high), but reduces it where the legislative units are few (aggregate honesty is low). Our panel data evidence is fully consistent with these predictions. An additional contribution is to show the empirical importance of endogenizing environmental policy in Pollution Haven Hypothesis studies. Only when treated as endogenous does environmental policy have a significant negative effect on FDI.

1. Introduction

The assertion that countries with relatively weak environmental regulations will increasingly specialize in pollution intensive production has become the subject of a rapidly growing body of literature in recent years. Known as the Pollution Haven Hypothesis (PHH), the argument is often tested by examining the impact of environmental regulations on patterns of foreign direct investment (FDI) (see, e.g., List and Co, 2001, Xing and Kolstad, 2002). However, the literature contains very few investigations of the reverse relationship, i.e. the possible effects of FDI on environmental regulations — the only exception is Cole et al. (2006), to our knowledge.[1] This appears to be an important omission by the PHH literature since evidence suggests that foreign firms frequently lobby and bribe host country governments in order to influence

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[1] Cole et al. (2006) investigate the effect of FDI on environmental policies in the presence of corruption.

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policy to their advantage.[2] For example, Desbordes and Vauday (2007) show that foreign firms gain substantial regulatory advantages from their political influence in 48 developing countries (see also, e.g., Hellman et al., 2000; James and Ramstetter, 2005; Kennedy, 2005; Gawande et al., 2006).[3] The sheer scale of FDI — in 2004 world FDI inflows were $648 billion, with the estimated stock of FDI equal to $9 trillion (UNCTAD, 2005) — suggests that the potential lobbying power of foreign firms is significant, particularly in those countries most reliant on inward FDI.

If feedback does exist from FDI to regulations, a failure to take it into account will result in spurious econometric estimates. This paper therefore examines whether feedback does exist from FDI to environmental regulations. In examining these feedback effects we draw upon a body of literature that emphasizes how political institutions such as presidential vs. parliamentary systems and electoral rules influence environmental and fiscal policy outcomes (see Persson et al., 2000, Milesi-Feretti et al., 2002, and Fredriksson and Millimet, 2004), which was ignored by Cole et al. (2006). These studies suggest that economic policy, including environmental policy, is affected by the characteristics of host countries' political institutions (such as the presence of presidential–congressional, parliamentary, or bicameral systems; and proportional or plurality electoral rules). If so, then it appears important to investigate the impact of foreign firm lobbying on environmental regulations in the presence of different host countries' political structures.

The political institution of particular interest in this paper is the number of legislative units (LUs), or veto players. LUs are branches of government such as (dependent on the political system) the president, the prime minister, the chambers of parliament or congress, the government coalition parties or the majority party (see Tsebelis, 1999, 2002; Henisz, 2000; Keefer and Stasavage, 2003).

We begin the analysis by developing a stylized lobbying theory using a single-principal, multi-agent model (a special case of Prat and Rustichini, 2003) (as opposed to the multi-principal, single-agent model used in the single-LU model by Grossman and Helpman, 1994), in the vein of Fredriksson and Millimet (2007).[4] This approach is particularly well suited for the issue at hand. A firm lobby, formed by identical domestic and foreign firms, attempts to influence environmental policy making by a government made up by n identical and independent LUs. The imperfectly competitive firms are engaged in quantity competition in the local market. The firm lobby offers all LUs prospective campaign contributions that are conditional only on the pollution tax policy set by the LU itself. Each LU values campaign contributions, as well as aggregate social welfare, and independently selects its optimal pollution tax policy (identical for all LUs in a symmetric equilibrium) after receiving the contribution offer from the lobby. Each LU's relative weight on aggregate social welfare may be regarded as a measure of LU honesty (see Schulze and Urspung, 2001; Damania et al., 2003).[5]

Our model adds a novel perspective to the literature on lobbying and what contributes to industry lobby influence (see Potters and Sloof, 1996 for a survey) on environmental policy. In equilibrium, the influence of the lobby group relative to aggregate social welfare depends on the number of LUs, *adjusted* by the LUs' degree of honesty (i.e. the product of the number of LUs and the inverse of their degree of corruptibility). We propose to denote this new (composite) variable "aggregate honesty." Aggregate honesty reflects the total resistance that a lobby group encounters in its attempt at seeking influence over environmental policy.

The model predicts that the arrival of a foreign subsidiary (equivalent to FDI) has two main effects on environmental policy. First, FDI has an "influence effect." By raising the lobbying effort of the firm lobby group (due to a greater aggregate output level of the lobby group members), FDI weakens the pollution tax policy. Second, FDI has a "competition effect", which induces the government to raise the pollution tax. The intuition is that in an imperfectly competitive market with polluting firms, a welfare maximizing government sets a second-best tax policy which addresses both the pollution damage and the insufficient level of firm competition. Thus, there is a tendency by the government to cut the equilibrium pollution tax in order to raise output and consumer surplus (see Barnett, 1980, Katsoulacos and Xepapadeas, 1995, Cole et al., 2006). With greater product market competition due to FDI, the government's second-best pollution tax becomes stricter since the government's incentive to lower this tax declines.

[2] In a newspaper article discussing how corruption in India is starting to look more like U.S. style lobbying ("India's U.S.-Style Lobbyists" by Anand Giridharadas, International Herald Tribune, May 19, 2006), Sunita Narain, a well-known Indian environmentalist who for years has battled against the practices of multinational companies in India, is cited as stating: "I'm not very happy with this legalized corruption"… "Give me old-fashioned Indian corruption. Yes, it stinks. But it's a stink that everyone knows." Moreover, the article also mentions Deepak Talwar, a prominent Delhi lobbyist, who represented Coca-Cola, which had been accused of harming the environment (the company denied the charges). Talwar's lobbying approach was to ensure, among other things, that every government or private study accusing the company of environmental harm was challenged by another study. See http://www.indiaresource.org/news/2006/1059.html (visited on Aug. 7, 2007).

[3] Hellman et al. (2000) provide evidence of the corrupt practices of foreign investors in the transition economies and indicate that foreign firms are more likely to engage in lobbying and bribery than domestically owned firms. Kennedy (2005) documents the significant influence of foreign businesses on national economic policy in China and outlines how foreign firms are often assisted by their own governments when lobbying Chinese policy makers. Similarly, James and Ramstetter (2005) report that foreign owned firms in Indonesia and Thailand successfully lobbied the Indonesian and Thai governments for favorable economic policies. Finally, Gawande et al. (2006) provide evidence of lobbying by foreign firms in the US that resulted in reductions in US trade barriers.

[4] Fredriksson and Millimet (2007) focus on the dispersion of environmental policy across countries and do not study FDI. Damania and Fredriksson (2007) also use this approach in a study of trade policy and political instability, and abstract from FDI.

[5] Shleifer and Vishny (1993) and Bardhan (1997) define corruption as the propensity to sell policies for personal gain.