



The environmental actions of firms: Examining the role of spillovers, networks and absorptive capacity[☆]



Facundo Alborno, Matthew A. Cole, Robert J.R. Elliott^{*}, Marco G. Ercolani

Department of Economics, University of Birmingham, Edgbaston, Birmingham B15 2TT, UK

ARTICLE INFO

Article history:

Received 9 December 2013

Received in revised form

6 July 2014

Accepted 8 July 2014

Available online

JEL classification:

D21

Q20

Q56

Keywords:

Multinational

Environment

Firm characteristics

Management

Motives

ABSTRACT

In the light of climate uncertainty and growing concern for the natural environment, an increasingly important aspect of global business is the environmental behaviour of firms. In this paper we consider the factors that influence firms' environmental actions (EAs). Our study of Argentinean firms concentrates on measures of environmental spillovers, informal and formal networks and absorptive capacity by testing four related hypotheses. We find that foreign-owned firms, large firms and those with a greater capacity to assimilate new environmental technologies are more likely to adopt EAs. We also show that formal and informal networks aid the adoption of EAs in the presence of traditional firm-level spillovers. Finally, we show that foreign-owned firms have different motives to domestic firms for undertaking EAs.

© 2014 Elsevier Ltd. All rights reserved.

1. Introduction

Understanding the factors that influence the environmental actions (EAs) of firms is of great importance to policy makers and business leaders attempting to control the environmental impact of the manufacturing sector. Industrial emissions pose a particular problem in developing and newly industrialising economies where concentrations of local air pollutants still regularly exceed World Health Organisation (WHO) guidelines. Estimates from the WHO (2006) are that urban air pollution kills more than a million people each year, predominantly in developing countries. Moreover, according to the WHO, over 80% of all diseases are wholly or partially attributable to environmental factors. For policymakers to lessen the environmental impact of industrial activity, a detailed understanding of the environmental actions of firms is required together with an understanding of what motivates firms to undertake actions that are likely to be beneficial to the environment.

[☆] We gratefully acknowledge the support of Leverhulme Trust grant number F/00094/AG.

^{*} Corresponding author. Tel.: +44 121 4147700; fax: +44 121 414 7377.
E-mail address: r.j.elliott@bham.ac.uk (R.J.R. Elliott).

In a world that is increasingly concerned about the economic and social impact of anthropogenic climate change, foreign firms have a potentially pivotal role in the development of a sustainable future.¹

In this paper we ask four distinct but related research questions centred on the ability of domestic firms in a newly industrialising country to learn and benefit from the EAs of foreign firms. To validate our research questions it is important that, firstly, foreign firms have superior environmental practices to their domestic counter-parts and, secondly, that domestic firms are able to learn from foreign firms to enable them to subsequently increase the number of environmental actions that they undertake. The key research questions are as follows. First, we ask whether foreign firms are more likely to adopt EAs than domestic firms. If we can confirm this relationship, we should then be able to ask more detailed questions concerning the ability of domestic firms to learn from the EAs of foreign firms. We then investigate the role played by the absorptive capacity of domestic firms and how this influences their

¹ In this paper we use the term environmental actions (EAs) rather than environmental management systems (EMS) which refer to a more systematic approach to dealing with a firm's environmental activities.

ability to learn. Next, we investigate the importance of formal and informal networks between firms and their peers, suppliers and customers, on the propensity of domestic firms to implement new green management and production technologies. Finally, we consider what motivates firms to take EAs and investigate why motives may differ across firms.

A number of previous studies have argued that foreign owned firms in developing economies are likely to have superior environmental practices than domestically owned firms (Zarsky, 1999; Cole et al. 2008) although not all studies agree on this point (Eskeland and Harrison, 2003). However, little has been said on the issue of environmental spillovers from foreign to domestic firms, the possible channels through which such spillovers might occur and the potential roles of absorptive capacity and networks. Furthermore, while existing studies identify some of the characteristics of firms that undertake environmental actions (Cole et al. 2006; Nakamura et al. 2001), little has been said specifically about firms' motives for undertaking environmental actions. We therefore believe this study fills a significant gap in the literature and adds considerably to our understanding of firms' environmental behaviour.²

To address the main research questions we apply techniques from the traditional productivity spillover literature to the environmental behaviour of firms, using a highly detailed firm-level dataset for 1087 firms in Argentina. We choose to focus on Argentina since it represents a middle-income economy facing the typical environmental challenges associated with rapid economic growth. Argentina is also a significant recipient of foreign direct investment and it undertook substantial liberalisation reforms in the 1990s making it an ideal country in which to examine the potential influence of foreign presence on firms' environmental actions. We hope our findings will be applicable to other outward-oriented middle-income economies. The richness of the data permits us to build on the existing literature to test a series of hypotheses not previously testable due to data limitations.

Our analysis focuses on whether, on average, foreign firms undertake more environmental actions than domestic Argentinean firms.³ More specifically, we are interested in firms' ability to learn, as measured by their absorptive capacity. This, coupled with the existence of formal and informal networks, might determine how important these mechanisms are for good environmental practice to be transferred from foreign to domestic firms. Finally, we hope to show to what extent the motivation to adopt certain environmental practices differs by ownership and if local conditions play an important role in encouraging foreign firms to improve their environmental behaviour.

The remainder of the paper is organised as follows. In Section 2 we explain the relationship between ownership and the environmental practice of firms and present our four testable hypotheses. In Sections 3 and 4 we describe the data and present our results. Section 5 concludes.

² Although space does not permit a wider discussion, it should be noted that in the political ecology literature the integration of developing countries into global markets is seen as part of an unequal struggle that could result in local land owners degrading their environment (Blaikie and Brookfield, 1986). See Newall (2012) for a review of the political ecology debate and the power relationships between global ecology and the global economy.

³ A lack of data on the actual environmental performance of firms (e.g. pollution emissions) means that we have to focus on environmental actions such as whether or not firms have taken actions to improve the efficiency of natural resource use or whether they have adopted environmental certification (these actions are defined fully in Section 3). We acknowledge that the precise link between such actions and actual environmental performance is unclear.

2. Theory and hypotheses

2.1. Environmental spillovers

In order to investigate the effect of foreign ownership on the adoption of EAs we have to establish the theoretical mechanisms through which foreign-owned firms may influence domestic environmental practices. Clearly, this requires an understanding of firms' learning processes and the manner in which knowledge is disseminated across firms.

For domestic firms to learn and benefit from the good environmental practices of foreign firms two conditions must hold:

Condition 1: Foreign firms must have superior environmental practices to domestic firms.

Condition 2: Domestic firms must have the ability to learn from foreign firms.

The suggestion that domestic firms can learn from foreign-owned firms is implicit in the so-called 'pollution halo' hypothesis.⁴ The pollution halo hypothesis argues that if multinationals utilise more advanced technologies, cleaner production methods, and possess more developed environmental management systems (EMS) and organisational techniques, then these may yield substantial environmental benefits to developing countries. For example, it has been argued that OECD based multinationals typically utilise cleaner technologies and possess more sophisticated EMS than many domestic firms in developing countries motivated, it is argued, by a more stringent regulatory environment in the OECD (Zarsky, 1999).⁵ Multinationals may also feel pressured to continue to use such technologies in their overseas affiliates because a percentage of production may be exported back to OECD markets where the requirements of environmentally aware consumers must be met. Both Wallace (1996) and Zarsky (1999) note that such technologies may also be indirectly passed on to domestic firms via relationships with customers and suppliers. With the above in mind, we therefore assess whether Condition 1 holds by testing Hypothesis 1.

Hypothesis 1. Foreign-owned firms are more likely to adopt EAs than domestic firms.

If Condition 1 is empirically verified, then there is the potential for a flow of information from foreign to domestic firms in the form of positive environmental spillovers. These may arise for a variety of reasons: First, they may arise due to workers moving from foreign-owned to domestic firms and bringing their experience and expertise with them. Second, domestic firms may adopt technologies utilised by foreign-owned firms through imitation or reverse engineering. Finally, spillovers can move up or down the supply chain if foreign-owned firms, concerned about their public image, require their suppliers or customers to adopt certain minimum environmental standards. This is more likely between foreign firms and their suppliers.

A number of studies have examined the existence of *economic* spillovers, typically in the form of productivity improvements, from

⁴ The 'pollution halo' hypothesis contrasts with the 'pollution haven' hypothesis which argues that multinational firms may choose to locate in a developing country or region to take advantage of less stringent regulations and transfer environmentally inferior technologies and practices to their foreign affiliates or use these affiliates to market products that are banned or restricted in their home countries (Ives, 1985). The empirical evidence for the pollution haven hypothesis is mixed (see for example Eskeland and Harrison, 2003; Smarzynska-Javorcik and Wei, 2004; Cole and Elliott, 2005).

⁵ Christmann and Taylor (2001) argue that global ties themselves can increase self-regulation pressures on firms in low regulation economies.

Download English Version:

<https://daneshyari.com/en/article/7483369>

Download Persian Version:

<https://daneshyari.com/article/7483369>

[Daneshyari.com](https://daneshyari.com)