Productivity Spillovers from Competition between Local Firms and Foreign Affiliates

12.1 Introduction

In the debate on the role of multinational corporations in international technology transfer, it has often been suggested that a large share of the host countries’ benefits from foreign direct investment may come in the form of external effects or ‘spillovers’. MNCs may, for example, introduce new technologies that are imitated by local producers, or train workers whose specific skills spill over when they set up their own firms or are hired by existing local firms. These benefits can be characterized as effects of contagion and demonstration. Other effects are related to competition, and occur when local firms are forced to become more productive – by introducing new technologies or increasing X-efficiency – in order to survive in markets where foreign affiliates are present.

To date, several empirical studies have attempted to test whether these types of externalities are significant enough to be observed at an aggregate level. The best-known contributions, by Caves (1974) for Australia, Globerman (1979a) for Canada, and Blomström and Persson (1983) for Mexico, all conclude that spillovers are likely to be important. However, the results of some more recent studies – for example, Aitken and Harrison (1991) for Colombia, and Haddad and Harrison (1993) for Morocco – suggest the opposite conclusion.

The contradictory findings are partly the result of differences in methodology and data availability, but it is also possible that there are systematic differences in spillovers across countries and industries. In our study of Mexican manufacturing (see Chapter 10), we argued that positive spillovers are less likely in industries with highly differentiated products and large economies of scale. Foreign and local firms may use entirely different technologies when products are differentiated, and economies of scale may allow the foreign affiliates to ‘crowd
Out’ local firms from their segments of the market. In both cases, MNC technologies may be irrelevant for local firms, so that the potential for spillovers is small.

Another possible explanation is that the empirical tests have not distinguished between effects of contagion and effects of competition. Existing studies, which typically measure spillovers as the impact of foreign presence on the level of local productivity or the rate of productivity growth, may have failed to capture some of the externalities. In fact, Wang and Blomström (1992) argue that spillovers from competition are not necessarily proportional to the presence of foreign firms, although demonstration and contagion effects are. Moreover, they assert that the former effect may dominate the latter, so that a large foreign presence may coincide with a small technology transfer, which arguably has been the case in many Latin-American countries.

In the present chapter, we shall use detailed data from Mexican manufacturing industries in 1970 to examine whether there are significant spillovers from competition that are not proportional to foreign presence.\(^1\) The issue is important not only because it may help to explain why spillovers are not observed in all countries and industries, but also because it is relevant from a policy perspective. The empirical studies that have found positive externalities imply that host country policies aiming to maximize these benefits should focus on measures that increase the inflow of FDI. However, this is not an obvious conclusion if the amount of spillover is determined by other variables than just the extent of foreign presence.

The chapter is organized as follows: Section 2 looks briefly at some theoretical studies of endogenous spillovers; Section 3 presents the data, a statistical model, and the estimation method; Section 4 reports the results of endogeneity tests and regression analysis; and Section 5 concludes the chapter.

### 12.2 Endogenous spillovers in theoretical models

The available empirical studies of spillovers, and early theoretical models such as those by Findlay (1978), and Koizumi and Kopecky (1977), have assumed that spillovers are proportional to foreign presence, and independent of the behaviour of foreign affiliates and local firms. An important feature of newer models, however, is that the actions of both types of firm have an impact on spillovers.