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Multinationals and plant exit: Evidence from Chile

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ABSTRACT

This paper investigates three main questions: are affiliates of foreign multinationals more likely to exit than domestic firms? Does the exit probability of multinationals depend on its export orientation?, and Does the presence of multinationals affect the survival of other firms in the economy? Our results show that foreign plants are more likely to exit the economy, controlling for other firm and industry characteristics, only during the late 1990s, a period when the Chilean economy experience a massive slowdown. Our data also suggest that only domestic market oriented multinationals responded to this negative shock by being more "footloose". We also find that the presence of multinationals has a positive effect on plant survival in the early 1990s. This positive effect, however, is fully captured by productivity, once controlling for TFP in our exit regressions we do not find any further impact of multinational presence on a plant's probability of exit.

1. Introduction

The potential impact of foreign direct investment (FDI) and multinationals (MNEs) on economic development of host countries has been prominent on the research agenda of trade and development economists in recent years. Much of the academic work has focussed on the question of detecting "productivity spillovers", the potential labour market effects of multinationals, as well as macroeconomic growth effects of FDI (see, for example, Görg & Greenaway, 2004; Barba Navaretti & Venables, 2004 for reviews of this literature).

What has been largely neglected is an analysis of the link between multinational enterprises and the survival of plants or firms in the host country. This is an important topic, however, not only because plant survival shapes the competitive landscape of the economy, but also because the persistence of jobs is linked to the survival of plants. Both of these issues can be expected to impact on welfare in the economy. We therefore attempt to investigate three questions in this paper. First, are affiliates of foreign multinationals more or less likely to exit than domestic firms? Second, is the exit probability of multinationals different according to their export orientation? Third, does the presence of multinationals affect the survival of other firms in the domestic economy?

As regards the first and second questions, there are a number of reasons why we may expect foreign affiliates to behave differently from domestic firms. One argument emphasizes the notion of multinationals being more footloose, i.e., more likely to leave an economy than domestic firms if the economy experiences a negative shock (e.g, Flamm, 1984).[1] This may be due to multinationals being part of an international production network in which production can be easily shifted between locations, and because they are likely to be less linked into the local economy through vertical or horizontal linkages. On the contrary, one may also argue that foreign affiliates are less likely to exit because investing abroad involves substantial sunk costs which are likely to be higher than for setting up a purely domestic plant in the host country. Hence, they may be reluctant to leave if the shock is only temporary.

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[1] Flamm's theoretical argument is based on optimal portfolio theory. When there are negative changes in the economy, foreign investors readjust their optimal portfolio (which depends on country risk) and may therefore leave the economy.

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Table 1
Plant distributions by nationality types

	1990		1995		2000	
	Plants	%	Plants	%	Plants	%
Domestic	4395	95.9	4812	94.1	4262	94.0
Non-exporter	3744	81.7	3839	75.1	3524	77.7
Exporter	651	14.2	973	19.0	738	16.3
Multinational	190	4.2	300	5.9	273	6.1
Non-exporter	81	1.8	139	2.7	111	2.5
Exporter	109	2.4	161	3.2	162	3.6
Total	4585	100.0	5112	100.0	4535	100.0

Source: authors' own calculations based on ENIA.

As regards the role of exporting the expectation is again ambiguous. On the one hand, exporting multinationals are less reliant on the domestic product market and may therefore, in the presence of a negative shock in the domestic market, be better able to cushion the adverse impact and stay in the host country. On the other hand, exporters are even more likely to be involved in international production networks and therefore less likely to be linked into the domestic economy.

Moving on to the third question–does the presence of multinationals in an industry affect plant survival?–one may again expect two opposite effects. On the one hand, the entry and presence of multinationals increases competition in the host country and therefore may lead to the exit of domestic firms that are unable to cope with the increased competitive pressure. On the other hand, the presence of multinationals may generate spillovers, which allow domestic firms to learn and improve their productivity and efficiency. As the survival of firms is positively linked to efficiency (Audretsch, 1995) this would be expected to have positive effects on the survival of firms.

This paper provides a number of contributions to the literature. Firstly, we investigate in detail the three questions about the link between multinationals and plant exit simultaneously. Using plant level data for manufacturing industries in Chile we examine the determinants of exit probabilities of plants, paying particular attention to the role of the nationality of the plant as well as the presence of foreign multinationals in the industry. Analysing these issues at the same time is a novelty of our paper, as the small number of previous papers focused on either the role of nationality, or the impact of the presence of multinationals, in isolation.[2] Also, in contrast to previous empirical evidence, in the data we are also able to distinguish exporting and non-exporting multinationals, and we investigate whether exporting activity by MNEs matters for their probability of exit.

Chile in particular is an interesting case as the economy experienced a major slowdown in the late 1990s which provides us with a natural experiment to identify directly the “footloose nature” of multinationals. If multinationals are indeed more “footloose” they may be expected to be more likely to leave the country especially during that period when it was hit by a negative shock (Flamm, 1984). Previous literature did not analyze directly this issue but examined generally whether multinationals are more likely to exit than domestic firms. We are the first to investigate this issue using data for a Latin American country, a region where inward FDI has increased substantially over the last twenty years or so. Chile has undergone phases of substantial trade and investment liberalisations imposing domestic plants to international competition, since the mid 1970s. A number of papers have looked at the effects of these phases of trade liberalisation on employment and plant productivity (Pavcnik, 2002; Levinsohn, 1999). However, to the best of our knowledge, the link between multinationals and plant exit has not been investigated thus far.

The remainder of the paper is structured as follows. Section 2 describes the dataset used and presents some preliminary empirics. The empirical model is presented in Section 3 while Section 4 discusses the estimation results and robustness checks. Section 5 concludes.

2. Data and preliminary empirics

The empirical analysis is based on the Annual National Industrial Survey (ENIA) carried out by the National Institute of Statistics of Chile (INE). This plant level survey is representative of the universe of Chilean manufacturing plants with 10 or more workers. The dataset is available for the period 1979 to 2000, but exports and foreign ownership are only collected since 1990. Given that we are interested in studying the relationship between plant survival and multinationals, we use information for the period 1990 through 2000. A significant percentage of plants in the survey are actually single-plant firms. The INE updates the survey annually by incorporating plants that started operating during the year and excluding those plants that stopped operating for any reason.

Each plant has a unique identification number which allow us to identify entry and exit. For each plant and year, ENIA collects data on production, value added, sales, employment and wages (production and non-production), exports, investment, depreciation, energy usage, foreign licenses, and other plant characteristics. Plant ownership is identified by the percentage of capital owned by foreigners. We define a foreign plant as one with any foreign ownership. Most plants, however, have majority foreign ownership.[3] In addition, plants are classified according to the International Standard Industrial Classification (ISIC) rev 2.

[2] Görg and Strobl (2003a), Bernard and Sjöholm (2003) look at differences in survival probabilities for foreign owned and domestic firms in Ireland and Indonesia, respectively. Bernard and Jensen (2007) investigate differences in survival for domestic plants and US multinationals (not foreign-owned) in the US. Görg and Strobl (2003b) analyse the effect of the presence of foreign multinationals on survival of domestic firms in Ireland.

[3] In 1990 (1995), the median and mean of foreign capital participation is 99% (100%) and 74.5% (82.3%), respectively.