Journal of Development Economics 96 (2011) 126–138

Contents lists available at ScienceDirect

Journal of Development Economics

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

Does it matter where you come from? Vertical spillovers from foreign direct investment and the origin of investors

Beata S. Javorcik [a,*], Mariana Spatareanu [b]

[a] Department of Economics, University of Oxford and CEPR, Manor Road Building, Manor Road, Oxford OX1 3UQ, United Kingdom
[b] Department of Economics, Rutgers University, 360 Dr. Martin Luther King, Jr. Blvd., Hill Hall-804, Newark, NJ 07102-1801, United States

ARTICLE INFO

Article history:
Received 3 July 2007
Received in revised form 28 February 2010
Accepted 25 May 2010

JEL classification:
F23

Keywords:
Spillovers
Foreign direct investment
Technology transfer
Backward linkages

ABSTRACT

This study uses firm-level panel data from Romania to examine whether the origin of foreign investors affects the degree of vertical spillovers from FDI. Investors' origin may matter for spillovers to domestic producers supplying intermediate inputs in two ways. First, the share of intermediates sourced locally by multinationals is likely to increase with the distance between the host and the source economy. Second, the sourcing pattern is likely to be affected by preferential trade agreements. In this case, the Association Agreement between Romania and the European Union (EU) implies that inputs sourced from the EU are subject to a lower tariff than inputs sourced from the United States or Canada. This means that on average American investors may have a greater incentive than EU investors to source from Romania and hence present a greater potential for vertical spillovers. The empirical analysis produces evidence consistent with this hypothesis. The results show a positive association between the presence of American companies in downstream sectors and the productivity of Romanian firms in the supplying industries and no significant relationship in the case of European affiliates. The results also indicate that Romanian firms in sectors whose products are expensive to transport benefit more from downstream presence of American affiliates than Romanian firms in sectors with low shipping costs. No such pattern is found for European affiliates.
© 2010 Elsevier B.V. All rights reserved.

1. Introduction

Many countries strive to attract foreign direct investment (FDI) by offering ever more generous incentive packages and justifying their actions with the expected knowledge externalities to be generated by foreign affiliates. While the empirical literature searching for FDI spillovers taking place within sectors has produced mixed results in a developing country context[1], the emerging consensus is that spillovers are more likely to take place through contacts between domestic firms and their multinational customers operating in the same country. Javorcik (2004) and Blalock and Gertler (2008) provide evidence consistent with the presence of positive FDI spillovers working through this channel in Lithuania and Indonesia, respectively.[2] Despite being hugely important to public policy, factors affecting the existence of such externalities are rather poorly understood. In particular, relatively little attention has been paid to how characteristics of FDI projects matter for the extent of vertical spillovers.

This study uses a large panel data set on firms operating in Romania to examine a link between the origin of foreign investors and the degree of vertical spillovers associated with their investment projects. Such a link is likely to exist for three reasons. First, as the theoretical models of vertical linkages predict, the share of intermediate inputs sourced by multinationals in a host country is positively correlated with the distance between the headquarters and the production facilities in the host country (Rodriguez-Clare, 1996 and Markusen and Venables, 1999).[3] A larger share of local sourcing in

* Corresponding author.
E-mail addresses: beata.javorcik@economics.ox.ac.uk (B.S. Javorcik), marianas@andromeda.rutgers.edu (M. Spatareanu).

[1] Most of the existing firm-level studies, including Haddad and Harrison (1993) on Morocco, Aitken and Harrison (1999) on Venezuela, Djankov and Hoekman (2000) on the Czech Republic, Konings (2001) on Bulgaria, Poland and Romania, Javorcik (2004) on Lithuania, and Javorcik and Spatareanu (2008) on Romania cast doubt on the existence of intra-industry spillovers from FDI in developing and transition countries. They either fail to find a significant effect or produce evidence of a negative impact the presence of multinational corporations has on domestic firms in the same sector. For a literature review, see Görg and Strobl (2001) and Görg and Greenway (2004).

[2] For other studies of vertical spillovers see the literature review by Görg and Greenway (2004).

[3] This prediction is confirmed by empirical evidence. Hanson, Mataloni and Slaughter (2005) demonstrate that sales of intermediate inputs by US multinationals to their overseas affiliates decline with the trade costs. Local sourcing by Japanese investors in the US has been reported to be motivated by high transportation costs due to distance and potential shipping delays from Japan (Chung et al., 2003 and Martin et al., 1995). In a recent survey of multinationals operating in the Czech Republic, when asked "why did you choose to source inputs from a Czech supplier?" over half of the respondents mentioned the importance of proximity to suppliers and the savings on transportation costs while 44% of respondents pointed to savings on import duties (Javorcik and Spatareanu, 2005).

0304-3878/$ – see front matter © 2010 Elsevier B.V. All rights reserved.
doi:10.1016/j.jdeveco.2010.05.008

turn implies more interactions between multinationals and local firms in upstream sectors and a greater potential for knowledge spillovers.[4] Therefore, in the context of Romania we would expect a higher degree of vertical spillovers to be associated with American investors than with European multinationals, since home countries of the former are located farther away from Romania.

Second, preferential trade agreements that cover some but not all investors' home countries are likely to affect the sourcing patterns of foreign affiliates. For example, as Romania signed the Association Agreement with the European Union (EU), its tariffs on imports from the EU are much lower than tariffs on imports from the US or Canada. In 1999, the average tariff applied by Romania to manufacturing imports from the US was 15.78% whereas the corresponding tariff on imports from the EU was only 4.88%.[5] Given this tariff differential, it is much more costly for American affiliates relative to their European counterparts to bring inputs from the home country.

Third, multinationals using Romania as an export platform can enjoy preferential (or even duty-free) access to the EU market provided that a sufficient share of value in their product was added within the area covered by the Agreement. This implies that while for European investors intermediate inputs purchased from home country suppliers comply with the rules of origin, this would not be the case for home country suppliers of American multinationals. Therefore, we expect that American investors would have a greater incentive to source locally and thus their presence would be associated with greater knowledge spillovers to Romanian firms in the supplying sectors.[6]

Anecdotal evidence also suggests that investors' origin may indeed affect the extent of local sourcing in Eastern Europe. For instance, when a US investor, General Electric, took over a Hungarian light-source producer, Tungsram, it retained local content of the production above 60% (Newton Holding, 2003). Likewise, Procter & Gamble Romania “has developed close relations with Romanian suppliers and has helped them grow and improve production quality” (Rompres, 21 October 2004).[7] On the other hand, after a German company, Volkswagen, invested in Skoda Motor Company in the Czech Republic, it drastically reduced the number of suppliers. The company explicitly stated that it wished to concentrate on only ten suppliers that would provide sub-assemblies (Martin, 1998). Similarly, when the French multinational, Renault, purchased an equity stake in Dacia, the Romanian car maker, in 1999, it promised to continue sourcing inputs from local suppliers provided they lived up to its expectations. This, however, does not seem to have been the case. In 2002, eleven foreign suppliers of the French group were expected to start operating in Romania, thus replacing the Romanian producers from whom Dacia used to source.[8]

To test our hypothesis we relate the total factor productivity (TFP) of Romanian manufacturing firms to proxies for the presence of foreign affiliates from different regions of the world in downstream industries. Our sample includes information on 13,389 Romanian firms with sufficiently complete information to allow us to estimate their TFP. These firms operate in 52 manufacturing industries. Our data is an unbalanced panel covering the period 1998–2003. The data are obtained from a commercial database Amadeus. TFP is derived from production functions estimated separately for each of the 52 manufacturing industries using two approaches: a log-linear Cobb–Douglass specification and the semi-parametric method suggested by Ackerberg, Caves and Frazer (2006) which corrects for the simultaneity between productivity shocks and input choices.

A unique feature of the Amadeus database is the availability of detailed information on firm ownership structure, including the country of origin of each shareholder. Thus we are able to calculate proxies for foreign presence in downstream sectors separately for European and American affiliates. These proxies are based on information about foreign affiliates in all sectors, not just manufacturing industries.

Our results can be summarized as follows. We find a statistically significant and positive association between the presence of American companies in downstream sectors and the productivity of Romanian firms in the supplying industries. There is no indication, however, that the productivity of Romanian firms is affected by operations of European investors in downstream industries. The difference between the two effects is statistically significant. These results are robust to using different cut-offs to define foreign affiliates, to conducting the analysis at the regional level and to long differencing.

To eliminate the possibility that the results are driven by differences in sophistication levels between foreign affiliates of different origin, we show that the results are robust to controlling for the productivity level of foreign investors relative to their Romanian counterparts.[9] We also demonstrate that there is no statistically significant difference in productivity levels of American and European investors.

If the differences we find in the data are attributable to a greater involvement in local sourcing by American investors, then we should observe that vertical spillovers from American FDI are larger in sectors with higher transport costs. In other words, Romanian firms in sectors producing goods that are expensive to transport should benefit more from downstream presence of American affiliates. As we show in our analysis, this is indeed the case. Spillovers from American FDI are larger in the supplying industries whose products are more costly to transport. No such pattern is found for European FDI. This result is robust to using several measures of transport costs.

We conclude that the patterns observed in the data are consistent with our hypothesis that FDI inflows from far away source countries which are not part of the preferential trade agreement are more likely to be associated with local sourcing and thus lead to vertical productivity spillovers taking place through contacts with local suppliers of intermediate inputs. Although one may be tempted to advise the Romanian investment promotion agency to focus on attracting American FDI, we will stop short of doing so. Benefiting from knowledge spillovers is only of the reasons why countries wish to attract FDI (employment creation, tax revenues being among other potential reasons). Thus it would not be prudent to make policy recommendations without considering all of the effects FDI presence has on the host country.

[4] See Pack and Saggi (2001) for a model of vertical technology transfer from multinationals to local suppliers.

[5] Source: WITS database. The figures in the text refer to simple averages which were calculated based on the tariff data for 8- (for EU) or 6-digit (for US) HS categories. Manufacturing sectors are defined as HS 25-97.

[6] This may not be true of all American investors as many of them may still choose to import their inputs from countries covered by the Agreement. Similarly, a certain number of European investors are likely to engage in local sourcing. Nevertheless, we would expect to observe a broad pattern along these lines. Overall, we expect that importing intermediate inputs would be more advantageous to European investors than to other multinationals as European investors may benefit from volume discounts by combining sourcing for their headquarters, Romanian plants and possibly sister companies in other Europe countries. As pointed out by UNCTAD (2001, p. 136), centralized or pooled group-sourcing arrangements may encourage affiliates to use foreign sources even when local suppliers are available. In a survey conducted in the Czech Republic, Javorcik and Spatareanu (2005) found that 46% of multinationals operating there imported their inputs in order to source from global suppliers of the parent company and 37% of respondents were obliged to do so by their parent company.

[7] In this case, spillovers will take place only if the value of assistance extended to local suppliers is not reflected in lower prices of inputs obtained from them.

[8] Ziarul Financiar (Financial Newspaper) April 19, 2001.

[9] On the one hand, it is possible that Romanian firms may find it difficult to supply foreign investors exhibiting higher productivity as they may require more sophisticated inputs. On the other hand, such investors may present a greater potential for knowledge transfer to their suppliers.

دریافت فوری ← متن کامل مقاله

ISIArticles
مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات