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# Does FDI Bring Good Jobs to Host Countries?

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*Are jobs created by foreign investors good jobs? The evidence reviewed in this article is consistent with the view that jobs created by foreign direct investment (FDI) are good jobs, both from the worker's and the country's perspective. From the worker's perspective, this is because such jobs are likely to pay higher wages than jobs in domestic firms, at least in developing countries, and because foreign employers tend to offer more training than local firms do. From the country's perspective, jobs in foreign affiliates are good jobs because FDI inflows boost the aggregate productivity of the host country. JEL codes: F21, F23, F61, F66*

One of the reasons why policy makers in developing and developed countries strive to attract foreign direct investment (FDI) is to create new jobs in their economies. But are the jobs created by multinational enterprises good jobs? Some jobs do more for development than others because of their greater contribution to poverty reduction and, perhaps more importantly, because of their knowledge externalities. If we accept this premise, then developing countries should not only focus on job creation but should also strive to create good jobs. From the worker's perspective, a good job is a job that leads to a higher standard of living—that is, a job that provides higher earnings, greater potential for growth in earnings and higher satisfaction. From the country's perspective, good jobs are jobs whose productivity is above the country's average, jobs with greater productive externalities, and jobs with potential for productivity growth. In this paper, we adopt these two perspectives to examine whether jobs created as a result of FDI inflows can be considered good jobs.<sup>1</sup> First, we take the worker's perspective and review the literature on the impact of foreign ownership on wages, worker training and job stability. Second, we take the host country's perspective and review the evidence on knowledge externalities associated with FDI.

## The Workers' Perspective

### *FDI and Wages*

A large number of empirical studies find that foreign affiliates pay higher wages relative to domestic firms in both developed and developing countries. The wage differential between domestically- and foreign-owned firms ranges from approximately 10 to 70 percent, depending on the country considered (see the studies cited by [Heyman, Sjöholm, and Tingvall 2007](#)).<sup>2</sup> Several explanations have been proposed for why this may be the case. Foreign firms may pay a wage premium to prevent labor turnover that leads to knowledge spillovers and benefits their domestic competitors ([Fosfuri, Motta, and Ronde 2001](#)). Higher productivity and the resulting higher profitability of foreign affiliates may translate into higher wages because of rent-sharing arrangements between foreign firms and their employees ([Budd, Konings, and Slaughter 2005](#)). Higher wages paid by foreign affiliates may serve as compensation for a higher labor demand volatility in foreign plants ([Fabri, Haskel, and Slaughter 2003](#)) or for a higher foreign plant closure rate ([Bernard and Sjöholm 2003](#)). It is also possible that due to a lack of knowledge of the local labor market, foreign firms may find it difficult to identify and attract good workers without paying a wage premium ([Lipsey and Sjöholm 2004](#)). The higher wages paid by foreign affiliates may also be a result of cherry picking, in which foreign companies acquire domestic firms with above-average human capital ([Almeida 2007](#)). Finally, higher wages may be a reflection of unobservable worker characteristics, such as higher ability or greater motivation.

A formal argument for the foreign direct investment (FDI) wage premium in developing countries has been proposed by [Egger and Kreickemeier \(2013\)](#). The authors develop a general equilibrium two-country model with heterogeneous producers and rent sharing at the firm level due to the fairness preferences of workers.<sup>3</sup> There are two sources of an FDI wage premium in the model. First, because multinational firms are more productive, they earn higher profits and therefore pay higher wages. The second effect is a firm-level wage effect: because rent sharing relates to a firm's global profits, a multinational pays higher wages than an otherwise identical firm that does not choose multinational status. In a setting with identical countries, the multinational wage premium disappears once firm characteristics, such as productivity, are controlled for because all firms above a certain productivity threshold will choose to become multinational. In a setting with asymmetric countries, the threshold productivity level necessary to become multinational is higher for multinationals headquartered in the less advanced economy—a finding that is consistent with the stylized fact that most FDI flows from more advanced to less advanced countries. Therefore, in the less advanced economy, foreign multinationals and purely national firms with identical productivity levels coexist.

These multinationals pay higher wages than their otherwise identical national competitors because they have higher global profits, which they share with their workforce in both countries. Thus, the FDI wage premium exists only in less advanced countries.

Examining the causal effect of foreign ownership on wages is quite challenging due to the demanding data requirements. Ideally, to establish the causal effect of foreign acquisitions on wages, one would like to trace the pay of individual workers who are continuously employed in firms that change ownership and control for unobservable worker heterogeneity as well as firm heterogeneity.<sup>4</sup>

The recent availability of linked employer-employee data has allowed researchers to make progress in this area. The broad message that emerges from these studies is that although the FDI wage premium appears to be small or even negative in industrialized countries, it is positive in emerging markets.

One of the first studies of this type is by [Heyman, Sjöholm, and Tingvall \(2007\)](#), who use matched employer-employee data from Sweden for the second half of the 1990s. In their most demanding specification, they use propensity score matching to create a control group for the sample of Swedish firms that underwent foreign acquisitions.<sup>5</sup> Then, they employ the difference-in-difference estimator to examine whether the wages of individual workers have changed as a result of foreign acquisitions. Most importantly, they are able to control for individual fixed effects. Because they restrict their sample to workers who remain in the same firm for the entire period of observation of the firm, they obtain within-individual and within-firm estimates. This means that they control for both time-invariant individual- and firm-specific effects, thus accounting for a systematic sorting of individuals across firms. Once they do so, the small foreign ownership premium found in less demanding specifications becomes negative and equal to  $-2$  percent. In their data, foreign ownership is defined as the majority (more than 50 percent) of a firm's votes being foreign owned. This means that in the analysis, a change from foreign ownership of 49 percent to more than 50 percent would be defined as a foreign acquisition. Presumably, we would not expect to see large wage effects of such an ownership change, which would suggest that their findings should be treated as a lower bound.

[Almeida \(2007\)](#) considers matched employer-employee data from Portugal from the 1990s and uses a conventional cut-off of 10 percent to define foreign ownership. Unfortunately, due to the poor quality of worker identifiers, she is unable to control for unobservable worker heterogeneity. However, she is able to keep the composition of the workforce fixed before and after the acquisition and to examine the evolution of the average wage at the firm level. When she considers only manufacturing firms, she finds that following foreign acquisition, average wages increase by 2.2 percent for low-educated workers (with no more than nine years of schooling) and by 4.3 percent for highly educated workers (with more than nine years of

schooling). In both cases, these changes are expressed relative to the average wages paid by domestic firms in the same time period. Almeida hypothesizes that the difference in the wage adjustment between the two groups can be explained in the following way. If, after the acquisition, total profits increase and highly educated workers have greater bargaining power (due to the accumulation of firm specification skills), their wage adjustment may be higher. However, somewhat surprisingly, there is no statistically significant wage adjustment following foreign acquisition when the sample includes services industries. No explanation is provided for why this may be the case.

Hijzen et al. (2013) rely on linked employer-employee data from Brazil, Germany, Portugal, and the United Kingdom. Similar to Heyman, Sjöholm, and Tingvall (2007), they define foreign acquisitions as a change from having no or less than 50 percent foreign ownership to more than 50 percent of assets being foreign owned. In their most stringent specification, they use propensity score matching at the firm-worker level.<sup>6</sup> The matching procedure is conducted separately for a combination of year, manufacturing vs. services, and skill group (unskilled, semi-skilled, skilled) and is combined with a difference-in-differences approach. The average estimated effect is equal to approximately 3 percent in Germany and 6 percent in Brazil. Both estimates are significant only at the 10 percent level. The lack of statistically significant effects for the United Kingdom and Portugal may be due to smaller samples (9,348 and 923 matched workers, respectively).

Earle, Telegdy, and Antal (2013) benefit from a very long panel encompassing 4,926 foreign acquisitions in Hungary. They also rely on linked employer-employee data that capture a random sample of approximately 6.6 percent of production workers and 10 percent of non-production workers in the firms considered. They employ a majority ownership definition of FDI, though they report that a 10 percent definition would change the results only slightly. The acquisitions they study nearly always involve large changes in ownership share; 70 percent of acquisitions occur in firms whose pre-acquisition foreign share is zero. Their propensity score matching is conducted at the firm level, and matches are restricted to the same industry-year cell. When worker fixed effects are included and the analysis is restricted to incumbent workers, the estimated FDI premium is approximately 4.5 percent.<sup>7</sup> The authors find positive effects for all education, experience, and gender groups, occupations, and wage quantiles. Interestingly, subsequent divestment to domestic owners largely reverses the estimated effects.

In sum, the results from the existing literature are in line with the theoretical predictions of Egger and Kreickemeier (2013). There is evidence of a positive FDI wage premium of between 4.5 and 6 percent in emerging markets (Hungary and Brazil), whereas the results from advanced economies are mixed, ranging from a small positive premium to either no significant effect or even an FDI wage discount.

It has been postulated that as a result of knowledge brought by foreign investors to the host country, the marginal productivity of workers in foreign affiliates should be higher than in domestic firms. If this productivity advantage is significant, equilibrium wages should rise in response to increases in FDI. In other words, an overall shift in the aggregate labor demand curve could lead to upward pressure on wages for both domestic and foreign firms. This would be a pecuniary spillover. Alternatively, there could be spillovers due to human capital accumulation. The entry of multinationals brings new knowledge, which is then absorbed by domestic workers, increasing the domestic stock of human capital and making the local labor force permanently more productive. Although there is evidence in the United States of wage spillovers from domestic to foreign firms, in Mexico and Venezuela, FDI is associated with higher wages only in foreign affiliates. There is no evidence of wage spillovers leading to higher wages for domestic firms in these countries (Aitken, Harrison, and Lipsey 1996).

### *FDI and Worker Training*

From the worker's perspective, employment in a foreign affiliate may be more rewarding than employment in a local firm if the former offers more opportunities for training and professional development. The existing evidence supports this view. For instance, Filer, Schneider, and Svejnar (1995) find that foreign-owned firms in the Czech Republic spent 4.6 times more than domestic firms did on hiring and training. A study focusing on Malaysia also shows that foreign-owned firms provide more training to their workers than do domestic enterprises (World Bank 1997). Anecdotal evidence additionally suggests that foreign affiliates tend to have a more meritocratic culture that makes them more appealing employers, particularly for female workers, in more traditional societies such as Japan (The Economist 2011).

### *FDI and Job Stability*

Workers tend to value stable jobs. Evidence for the United States and Indonesia suggests that multinational firms are less likely to shut down than are domestic firms. This pattern is due to their larger size and superior productivity relative to domestic firms. However, after accounting for the fact that multinationals are typically larger and more productive, they are more likely to shut down than are domestic firms. These findings are based on figures from the United States from the late 1980s and 1990s examined by Bernard and Jensen (2007) and Indonesian data covering the 1975–89 period analyzed by Bernard and Sjöholm (2003). However, more recent data from Indonesia spanning the 1988–96 period indicate that multinational firms are less likely to shut down than are comparable domestic enterprises (Harrison and Scorse 2010). Harrison and Scorse attribute the difference between their findings and the results of Bernard and Sjöholm to the fact that prior to 1990,

the number of foreign-owned enterprises in Indonesia was small; consequently, a few plants could lead to large rates of entry and exit.

## The Host Country's Perspective

From the host country's perspective, good jobs are jobs with above-average productivity, jobs with potential for productivity growth, and jobs that result in knowledge externalities. This section presents arguments for why jobs in foreign affiliates tend to meet these criteria. It begins by arguing that multinationals are producers of knowledge. Then, this section presents evidence suggesting that multinationals transfer knowledge to their foreign affiliates. Finally, the section reviews evidence of FDI spillovers.

### *Multinationals as Producers of Knowledge*

Engaging in FDI is costly because of the need to set up new productive facilities. Moreover, foreign affiliates are disadvantaged relative to indigenous competitors in the host country due to the lack of familiarity with the local rules and regulations and consumers' preferences. Therefore, only the most productive firms or, to use [Dunning's \(1988\)](#) term, firms that possess "ownership advantages" are able to successfully compete in foreign markets. According to Dunning, these ownership advantages can take the form of new technologies, know-how or management techniques, and well-established brand names. These intangible assets, developed in headquarters, can easily be transferred to foreign subsidiaries, and their productivity is independent of the number of facilities in which they are employed. The existence of ownership advantages is reconfirmed in the recent theory of heterogeneous firms, which suggests that only the most productive establishments can afford the extra cost of setting up production facilities in a foreign country and predicts that multinationals come from the upper part of the productivity distribution of firms in their country of origin ([Helpman, Melitz, and Yeaple 2004](#)).

Consistent with the existence of ownership advantages, the data confirm that multinationals are heavily involved in the creation of new knowledge through their engagement in research and development (R&D) activities. In 2002, 700 firms, 98 percent of which were multinational corporations, accounted for 46 percent of the world's total R&D expenditure and 69 percent of the world's business R&D. Given that there existed approximately 70,000 multinational corporations in the world at that time, this is a conservative estimate. In 2003, the gross domestic expenditure on R&D of 3.84 billion dollars by the eight new members of the European Union<sup>8</sup> was equal to approximately half of the R&D expenditure of Ford Motor (6.84 billion), Pfizer (6.5 billion), DaimlerChrysler (6.4 billion) and Siemens (6.3 billion)

during the same year and was comparable to the R&D budget of Intel (3.98 billion), Sony (3.77 billion), Honda and Ericsson (3.72 billion each) (UNCTAD 2005). More than 80 percent of global royalty payments for international transfers of technology in 1995 were made from foreign subsidiaries to their parent firms (UNCTAD 1997).

The prevailing view that R&D activities are undertaken only in headquarters of multinational corporations is no longer valid. According to UNCTAD's survey of the world's largest R&D investors conducted in 2004–5, the average respondent spent 28 percent of its 2003 R&D budget abroad, including in-house expenditure by foreign affiliates and extramural spending on R&D contracted to other countries (UNCTAD 2005). The shift of R&D activities abroad has been driven by the need to adapt products to the host country conditions and by cost saving.

The above arguments suggest that FDI can serve as a channel of knowledge transfer across international borders.

### *Evidence of the Productivity Advantage of Foreign Affiliates*

Establishing a causal relationship between foreign ownership and the productivity of foreign affiliates is challenging because of selection bias. The superior performance of foreign affiliates documented by many studies (e.g., Aitken and Harrison 1999; Javorcik 2004) may simply reflect cherry picking of the best-performing local producers as foreign acquisition targets, or it may be a result of greenfield investments (i.e., newly set up plants) occurring in the most productive industrial niches rather than being due to productivity advantages brought by foreign ownership per se.

The handful of studies that examine the causal relationship between foreign ownership and firm performance produce mixed results. Harris and Robinson (2003) use data from the United Kingdom and find that foreigners acquire the best-performing domestic firms and that foreign ownership does not lead, in general, to improved performance of the acquisition targets. In contrast, Conyon et al. (2002) conclude that acquisitions have a positive effect on the labor productivity of acquired firms in the United Kingdom. A similar conclusion is reached by Girma and Görg (2007), who study food and electronics sectors in the United Kingdom, and Griffith (1999), who considers the British car industry.

The lack of consistent findings in studies focusing on industrialized countries mirrors the pattern found by studies of wage effects. It is also not surprising given that the productivity gap between multinationals and their acquisition targets is most likely not as large in the United Kingdom. One would expect the gap to be larger in the case of developing countries; thus, one would anticipate larger productivity effects of foreign acquisitions.

The only study focusing on a developing country, by Arnold and Javorcik (2009a), is based on Indonesian plant-level data from the Manufacturing Census covering the 1983–2001 period and confirms that a change from domestic to

foreign ownership leads to improved performance. The study combines propensity score matching (within industry-year cells) with a difference-in-differences approach. The results suggest an increase in plant productivity reaching approximately 13.5 percent in the third year under foreign ownership. These productivity improvements occur simultaneously with increases in investment in machinery and equipment, employment, wages and output, suggesting an on-going restructuring process. Plants that receive foreign investment also become more integrated into the global economy by exporting a larger share of their output and sourcing a larger share of their inputs from abroad (figure 1). These patterns are consistent with acquired plants receiving a transfer of technologies embodied in machinery and equipment as well as in imported inputs.

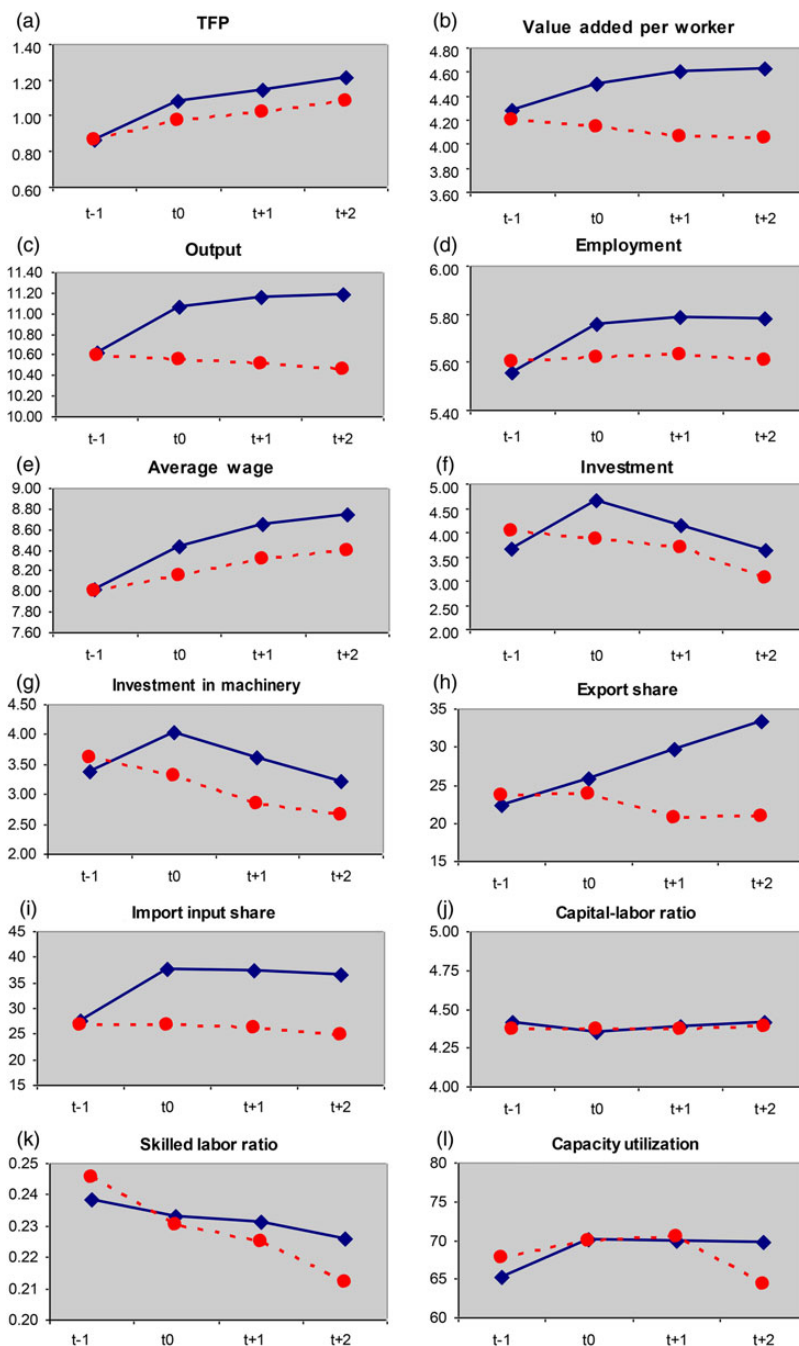
Proprietary technologies constitute only part of multinationals' ownership advantages. Tacit knowledge, know-how, management techniques, and marketing strategies may be equally important drivers of the success of multinationals. The transfer of these intangible assets can be very valuable to FDI recipients in developing countries. Arnold and Javorcik's research is suggestive of such a transfer. While their results show that foreign ownership does not induce increases in the skill intensity of the labor force (defined as the share of white collar workers in total employment) or the capital-labor ratio, it leads to higher labor productivity (and total factor productivity).

Several explanations are consistent with the observed patterns. It is likely that new foreign owners introduce organizational and managerial changes that make the production process more efficient by reducing waste, lowering the percentage of faulty product and using labor more effectively.<sup>9</sup> It is also possible that although foreign owners do not alter the skill composition of labor, they are able to attract more experienced and better-motivated employees. They may also substitute expatriate staff for local managers and introduce pay scales linked to performance. This would be in line with the earlier observation that acquired plants hire a large number of new workers and increase the average wage. Finally, foreign owners may invest more in staff training, which is consistent with the evidence mentioned earlier. Another possibility is that the use of higher-quality inputs or more suitable parts and components translates into higher productivity, which is consistent with the observed increase in the use of imported inputs in the aftermath of foreign acquisition.<sup>10</sup>

The productivity effects of foreign acquisitions are not limited to the manufacturing sector. A study by [Arnold, Javorcik, and Mattoo \(2011\)](#) finds that the foreign acquisitions of Czech service providers resulted in large changes in the labor productivity and sales of the acquired firms. These findings are consistent with foreign services providers bringing new technologies and know-how to the Czech Republic and providing services with greater appeal to Czech consumers.



**Figure 1.** Comparing performance of acquired and control plants over time



Notes: The solid line denotes the treated group (acquired plants). The dashed line represents the control group. t0 denotes the year of foreign acquisition.

Source: [Arnold and Javorcik \(2009b\)](#).

The findings of econometric studies are consistent with the conclusions of the case study literature. In a survey of case studies from around the world, Moran (2007) provides many examples of knowledge, know-how, and technology transfer from parent companies to foreign affiliates. However, he also argues that in distorted environments where host governments impose local content, joint venture or technology transfer requirements, foreign affiliates are less likely to receive such transfers.

In sum, the existing evidence is supportive of knowledge transfer occurring between headquarters and foreign affiliates, at least in the context of developing countries. In turn, this means that foreign affiliates have the potential to become sources of knowledge externalities.

### *FDI Externalities*

Conceptually, one can distinguish two types of externalities associated with FDI. The most important type from the host country's perspective is *knowledge spillovers*, which occur when knowledge created by a multinational enterprise is used by an indigenous firm and the indigenous firm does not (fully) compensate the multinational enterprise. Typically, this happens through the demonstration effect (indigenous firms obtain knowledge about new products, technologies, marketing and management strategies or business opportunities in foreign markets by observing the actions of foreign affiliates), movement of labor (indigenous firms hire workers trained by multinationals) or the transfer of knowledge from foreign affiliates to their suppliers or customers (provided affiliates are not compensated for the transfer). The second type of externality comprises *pecuniary externalities*, which take place through firm-to-firm interactions and occur through prices in a properly functioning market. For instance, if the entry of foreign affiliates into downstream sectors creates increased demand for inputs, it may create incentives for indigenous firms to invest in product upgrading, cost-saving technologies or increased capacity, all of which may lead to better performance. The entry of foreign affiliates may also change the market structure and increase the level of competition in a manner similar, for instance, to trade liberalization leading to competitive externalities.

Econometric studies of *intra-industry* spillovers from FDI are usually unable to distinguish between the various spillover channels. A typical study relates the total factor productivity of indigenous firms to some proxies for FDI presence in the same industry. This means that the empirical results capture both knowledge spillovers and competitive externalities. As noted by Aitken and Harrison (1999), if the increase in competition leads to local firms losing part of their market share and spreading their fixed cost over a smaller market, a negative correlation may be found between FDI presence and the performance of indigenous firms in the short and medium run. In the long run, the weakest performers exit, which then reverses the sign of the correlation. Thus, the conclusions of empirical studies about intra-

industry spillovers from FDI depend on whether knowledge spillovers dominate competitive externalities or vice versa. This depends on the host country's characteristics and the type of FDI it receives.

A study by [Aitken and Harrison \(1999\)](#) based on a panel of more than 4,000 Venezuelan plants between 1976 and 1989 finds that FDI inflows lead to negative spillover effects. The authors first show that increases in foreign equity participation are correlated with increases in total factor productivity in recipient plants with fewer than 50 employees but not in other plants. Then, they find that increases in FDI presence negatively affect the total factor productivity of domestic firms in the same industry. Their interpretation of the latter finding is that the expansion of foreign affiliates reduces the market share of local producers, forcing them to spread their fixed cost over a smaller volume of production, which results in lower observed total factor productivity.

The patterns observed by Aitken and Harrison can be explained by the host country's conditions. As noted by [Moran \(2007\)](#), their finding that only some plants benefit directly from an increase in foreign ownership suggests that FDI in Venezuela presented limited potential for productivity spillovers. Moran argues that this situation was due to heavy restrictions imposed by the government on foreign investors, which included strict joint venture and local content requirements. Further, foreign investors were forbidden to exercise confidentiality and the exclusive use of trade secrets in their mandatory joint ventures, which lowered their incentives for technology transfer. During the time period considered in the study, Venezuela was pursuing an import substitution strategy; thus, indigenous producers were not exposed to significant competition from abroad. This situation may explain why FDI inflows could have had a large negative effect on the market shares of indigenous producers.

The findings of Aitken and Harrison contrast sharply with the results obtained by [Haskel, Pereira, and Slaughter \(2007\)](#), who find evidence consistent with positive intra-industry FDI spillovers in the United Kingdom. Using a plant-level panel covering the manufacturing sector from 1973 through 1992, they find that a 10 percentage-point increase in foreign presence in a United Kingdom industry raised the total factor productivity of that industry's domestic plants by approximately 0.5 percent. They also show that spillover effects were larger for lower-performing plants.

In contrast to Venezuela, foreign affiliates operating in Britain exhibited higher value added per worker relative to indigenous firms in the same industry. They were also responsible for a large share of R&D effort undertaken in the United Kingdom ([Griffith, Redding, and Simpson 2004](#)). This finding suggests that foreign affiliates in Britain had the potential to become a source of knowledge spillovers. The sophistication of the British firms and the openness of the country to international trade also suggest that competition externalities were unlikely to be large in the United

Kingdom. The observation that lower performers benefited more from spillovers is consistent with the sophistication of the British manufacturing sector and thus the limited room for learning.

The inability of the empirical literature to distinguish between knowledge spillovers and competitive externalities explains why surveys of the literature on intra-industry spillovers conclude that the existing results are mixed (Görg and Strobl 2001; Saggi 2002; Görg and Greenaway 2004; Smeets 2008). However, some progress has been made on this front. A novel and interesting approach to examining intra-industry spillovers is adopted by Kee (2010) who is able to identify business relationships between Malaysian garment producers and their suppliers of intermediate inputs. Her results are consistent with Malaysian firms becoming more productive as a result of sharing suppliers with foreign affiliates.

Three studies explicitly focus on spillovers that occur through the movement of labor. Görg and Strobl (2005) employ Ghanaian data that indicate whether the owner of a domestic firm has previous experience working for a foreign affiliate and relate this information to firm-level productivity. Their results suggest that firms that are run by owners who worked for multinationals in the same industry immediately prior to opening their own firm are more productive than other domestic firms. Balsvik (2011) documents extensive labor mobility flows from multinationals to non-multinationals in Norwegian manufacturing during the 1990s. During this period, 14,400 workers moved from multinationals to non-multinationals. By the year 2000, 28 percent of workers employed in non-multinationals had previously been employed in multinationals. Balsvik shows a robust and significant positive correlation between the share of workers with multinational experience and the productivity of non-multinationals. This finding is consistent with spillovers through labor mobility. Workers with multinational experience contribute 20 percent more to the productivity of their plant than do workers without such experience, even after controlling for differences in unobservable worker characteristics. The difference between the private returns to mobility and the productivity effect at the plant level suggests that this type of labor mobility represents a knowledge externality. The same issue is examined by Poole (2013), though in a somewhat different manner. Poole also uses matched employer-employee data, but she focuses on Brazil and studies wage spillovers. She estimates wage equations for incumbent workers in domestic firms and finds that their wages are positively affected by the share of workers with prior work experience from multinationals.

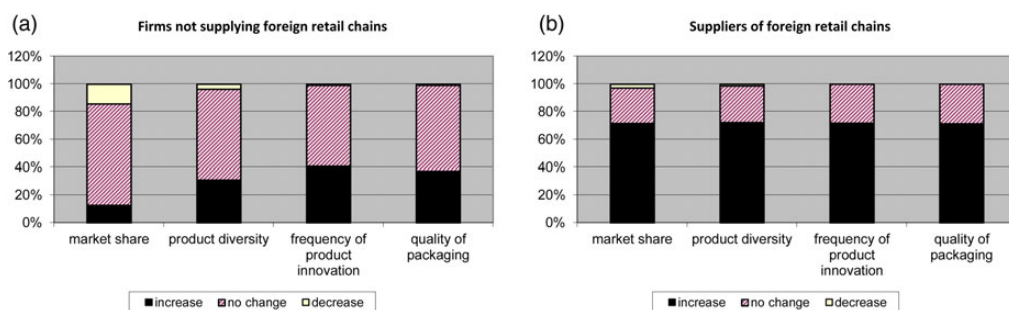
Another set of studies examines knowledge spillovers from FDI pertaining to export markets. Based on panel data on 2,104 Mexican manufacturing plants from the 1986–90 period, Aitken, Hanson and Harrison (1997) demonstrate that the presence of exporting multinationals in the same region reduces the costs of exporting for Mexican firms. No such externalities are found for exporting firms in general. Using detailed Chinese trade statistics that identify the type of exporters

and their location, Chen and Swenson (2008) find that the presence of foreign affiliates in the same sector is associated with more and higher unit value trade transactions by Chinese firms. Using the same data set, Swenson (2007) shows that the positive association between the presence of foreign affiliates and new export connections by private Chinese exporters may be driven by information spillovers.

The conclusions of the literature on *inter-industry* effects are more clear-cut. Using firm-level panel data from Lithuania covering the period 1996–2000, Javorcik (2004) finds evidence suggesting that FDI presence boosts the productivity of supplying industries, but not the industries in which foreign affiliates operate. She argues that although multinationals have an incentive to prevent knowledge from leaking to their local competitors, they may also have an incentive to provide assistance to their local suppliers in upstream sectors. A one-standard-deviation increase in foreign presence in the sourcing sectors is associated with a 15 percent rise in the productivity of Lithuanian firms in the supplying industry. The productivity effect is found to originate from investments with joint foreign and domestic ownership but not from fully owned foreign affiliates, which is consistent with the evidence of a larger amount of local sourcing undertaken by jointly owned projects. The conclusion with respect to spillovers from fully versus partially owned foreign affiliates is further confirmed by Javorcik and Spatareanu (2008) in the context of Romania. Evidence of positive spillovers through backward linkages is also found in Indonesia by Blalock and Gertler (2008) and in China by Liu (2008) and Du, Harrison, and Jefferson (2011).<sup>11</sup> Typically, the studies of *inter-industry* spillovers from FDI do not distinguish between pecuniary spillovers and knowledge spillovers. An exception is Javorcik (2004), who made some progress toward this goal by controlling for the demand from foreign affiliates based in downstream sectors.

Almost all studies of *inter-industry* effects rely on industry-specific measures of foreign presences in downstream sectors. There are, however, two studies that explicitly identify suppliers of multinationals operating in their country and thus test *directly* whether suppliers are more productive than non-suppliers. Chung, Mitchell, and Yeung (2003) examine this question in the context of the American automotive component industry in the 1980s. They find that Japanese FDI into automotive assembly was associated with overall productivity improvements in the US auto component industry. Somewhat surprisingly, their results indicate that Japanese assemblers tended to purchase components from *less productive* US suppliers and that the productivity growth of US suppliers affiliated with Japanese assemblers was not greater than that of other non-affiliated US suppliers. Javorcik and Spatareanu (2009a) use data from the Czech Republic to make an explicit distinction between *self-selection* (i.e., the possibility that more productive firms become suppliers to foreign affiliates) and the *learning* effect (i.e., the productivity benefits that accrue to suppliers from their interactions with affiliates). They find evidence consistent with

**Figure 2.** Impact of entry of foreign retailers on Romanian firms



Source: Author's calculations based on data from Javorcik and Li (2013).

both high productivity firms having a higher probability of supplying affiliates and suppliers learning from their relationships with affiliates.

The studies mentioned so far focus primarily on manufacturing sectors, but FDI inflows into the retail sector can also generate knowledge externalities and pecuniary spillovers. A case study by Javorcik, Keller, and Tybout (2008) finds that the entry of Wal-Mart into Mexico facilitated the modernization of the retail sector and stimulated fundamental changes in the relationship between retailers and suppliers of soaps, detergents, and surfactants. The entry of Wal-Mart pushed high-cost suppliers out of business, benefited surviving producers by providing access to a larger market and prompted suppliers to introduce more innovations. Survey evidence from Romania confirms that firms that supplied foreign supermarket chains were more likely to innovate, diversify their production and improve the quality of packaging than firms that did not serve foreign retailers (figure 2). An econometric analysis based on Romanian firm-level data also finds that the expansion of global retail chains led to a significant increase in the total factor productivity in the supplying industries. A 10 percent increase in the number of foreign chains' outlets was associated with a 2.4 to 2.6 percent boost to the TFP in the supplying industries. The decomposition of the aggregate productivity in the supplying industries suggests that the boost to performance was driven by both within-firm improvements and between-firm reallocation (Javorcik and Li 2013).

## Conclusions and Policy Implications

The evidence reviewed in this study is consistent with the view that jobs created by FDI are good jobs, both from the worker's and the country's perspective. From the worker's perspective, this is because such jobs are likely to pay higher wages than

jobs in indigenous firms, at least in developing countries, and because foreign employers tend to offer more training than local firms do. From the country's perspective, jobs in foreign affiliates are good jobs because FDI inflows tend to increase the aggregate productivity of the host country. This occurs through the entry of foreign affiliates with superior productivity (which extends the right-hand-side tail of the productivity distribution), exit of the least productive domestic firms due to competition externalities (truncation of the left-hand-side tail of the distribution) and a (partial) rightward shift of the productivity distribution as a result of knowledge spillovers. The latter effect is mostly driven by spillovers resulting from contacts between multinationals and their local suppliers.

The existence of positive externalities associated with FDI may suggest that a government intervention aimed at increasing FDI inflows may be warranted. How much should governments be willing to spend to attract foreign investors? The only study that provides explicit guidance on this point is the paper by [Haskel, Pereira, and Slaughter \(2007\)](#), which was reviewed earlier. This study finds that presence of foreign affiliates is positively correlated with the productivity of indigenous firms in the same industry. The authors calculate that an extra job in a foreign affiliate leads to an annual output boost to all British plants in the same industry equal to £2,440 in 2000 prices. This implies that the maximum amount of subsidy should not exceed the discounted value of spillovers summed over all the years a foreign affiliate will operate. Thus, for instance, with a 5 percent discount year, a foreign affiliate operating for 10 years will produce benefits equal to £18,841 per job. In reality, however, it is difficult to ensure that a foreign affiliate that is awarded FDI incentives will remain in operation for a sufficient number of years to warrant the subsidy. Moreover, it is not clear that the investment in question would not have happened in the absence of incentives. On a positive note, the study focuses only on *intra-industry* spillovers and ignores *inter-industry* spillovers, which may be larger in magnitude.

A less costly course of action may be to engage in investment promotion activities other than FDI subsidies. The main purpose of investment promotion is to reduce the costs of FDI by providing information on business conditions and opportunities in the host economy and by helping foreign investors address bureaucratic procedures. Investment promotion activities encompass advertising, investment seminars, participation in trade shows, direct marketing efforts, facilitating visits from prospective investors, matching prospective investors with local partners, helping to obtain permits and approvals, preparing project proposals, conducting feasibility studies and servicing investors whose projects have already become operational. Because obtaining information on investment opportunities in developing countries tends to be more difficult than gathering data on industrialized economies, investment promotion should be particularly effective in a developing country context.

The existing evidence from [Harding and Javorcik \(2011\)](#) suggests that investment promotion is a cost-efficient way of attracting FDI to developing countries. Based on

data on investment promotion efforts in 124 countries and figures on inflows of US FDI, Harding and Javorcik find that sectors designated as a priority for investment promotion purposes receive more than twice as much FDI as do non-priority sectors. Although the magnitude of the effect may seem large, it is not implausible. If one considers only positive flows of US FDI to developing countries, the median sector-level flow was equal to US\$11 million in 2004. Therefore, the estimated effect of investment promotion translates into an additional annual inflow of US\$17 million for the median sector-country combination. With regard to the costs of investment promotion, on average, an investment promotion agency spent US\$90,000 per sector targeted in 2004. Hence, a dollar spent on investment promotion corresponds to US\$189 of FDI inflows. Alternatively, the results indicate that priority sectors experience a 68 percent increase in affiliate employment compared with non-targeted sectors. This implies an additional 1,159 jobs for the average sector, or US\$78 per job created (in 2004 dollars).

These back-of-the-envelope cost-benefit calculations should be treated with caution. On the one hand, Harding and Javorcik's analysis considers only flows of FDI from the United States. As investment promotion is likely to have a similar impact on investors from other source countries, and their analysis underestimates the benefits of investment promotion activities. On the other hand, there may be other factors that contribute to the success of investment promotion and whose costs they do not consider (for instance, access to accelerated bureaucratic procedures for targeted sectors). Finally, the analysis captures the average, not the marginal, effect. In other words, it does not suggest that a large increase in investment promotion spending in countries that are already engaged in such a practice will lead to huge increases in FDI inflows. Instead, the authors interpret their results as suggesting that countries that are not involved in investment promotion may benefit from such activities.

Harding and Javorcik also find that investment promotion appears to be particularly effective in countries where obtaining information is more difficult and countries with more cumbersome bureaucratic procedures. These results indicate that the provision of information about the host country as well as assistance with red tape are the key aspects of investment promotion. There is no evidence that offering fiscal or financial incentives is effective for attracting FDI.

Of course, it is not enough to set up an investment promotion agency and expect a huge boom in FDI inflows. Successful investment promotion requires professionalism, effort and a commitment to customer service. It requires maintaining an up-to-date, attractive, and user-friendly website that includes relevant and useful information that an investor requires during the site selection process. Providing the necessary data to support this decision process can make a difference. As shown by [Harding and Javorcik \(2013\)](#), a higher quality of investment promotion agencies translates into higher FDI inflows. In the past decade, a country with an agency



awarded a quality score of 60 percent (on a 0–100 percent scale, as assessed by the Global Investment Promotion Benchmarking initiative of the World Bank Group) received, on average, 25 percent higher FDI inflows than did a country whose agency obtained a score of 45 percent (controlling for country-specific characteristics).

Once FDI enters a country, governments may wish to maximize the productivity benefits associated with FDI by assisting local firms in becoming suppliers to foreign affiliates. Econometric evidence from the Czech Republic suggests that less credit constrained firms are more likely to become suppliers to foreign affiliates (Javorcik and Spatareanu 2009b). This finding is consistent with the survey evidence from the same country indicating that foreign firms often require their prospective suppliers to make improvements prior to signing a contract (Javorcik 2008). It is also in line with the cross-country evidence suggesting that FDI stimulates economic growth in host countries with well-developed financial markets (Alfaro et al. 2004). Thus, authorities may wish to consider extending subsidized credit to prospective suppliers of foreign affiliates. Another possible policy intervention involves establishing supplier development programs that bring together local firms and foreign affiliates to help local firms meet the expectations of foreign customers.

## Notes

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1. The *2013 World Development Report* (WDR) offers other examples of jobs with a broader positive impact on the society. For instance, the employment of women can result in improvements in their children's educational attainment and health. The availability of jobs that are suitable for women can increase parents' incentives to invest in girls' education. Jobs requiring that require interactions with other ethnic, social, or religious groups may contribute to building social cohesion. In turbulent environments, employment opportunities for young people can provide alternatives to violence and help restore peace. The WDR also gives provides examples of bad jobs. These are jobs that exploit workers, expose them to dangerous environments, or threaten their physical and mental well-being. These may also be jobs producing that produce negative externalities. For example, although jobs supported through transfers or privilege are lucrative to their holders, they undermine opportunities for others to find remunerative employment. Similarly, jobs that damage the environment put take a toll on the society.

2. The foreign wage premium decreases once firm characteristics, such as size, are controlled for (Harrison and Rodriguez-Clare 2010). However, a larger size of foreign affiliates may be a reflection of their superior productivity and thus a direct effect of their ownership status *per se* (see Arnold and Javorcik 2009).

3. Rent sharing implies that workers' wages are related to the employer's ability to pay.

4. Firm-level studies are unable to separate the effect of the wage changes of continuing workers from the impact of the changing composition of the labor force. If foreign acquisitions result in

increased reliance on skilled labor, they will automatically lead to an increase in the average wage and a firm-level foreign wage premium.

5. In other words, for each future acquisition target they find another (control) firm similar in terms of observable characteristics that will not be acquired by foreign interests. The underlying assumption is that the performance of the control firm is an accurate reflection of how the acquired firm would have performed in the absence of the ownership change.

6. Firm controls include industry and region fixed effects, log employment and its square and the average wage, whereas worker controls encompass wages, gender, age, age squared, and tenure.

7. The authors caution the reader that nearly half of workers with both pre- and post-acquisition observations have only a single observation either pre- or post-acquisition. Thus, these results most likely suffer from attenuation bias.

8. The group includes the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, and Slovenia. Because the 2003 figures were not available for Lithuania and Slovenia, the 2002 data were used for these countries.

9. A relevant example of organizational changes introduced by a foreign investor in its Chinese affiliate is presented in [Sutton \(2005\)](#) and cited by [Arnold and Javorcik \(2009\)](#). According to the interviewed engineer, what mattered was not the obvious alternation to the physical plant but rather inducing a shift in work practices. This shift involved a move away from traditional notions of inspection at the end of the production line to a system in which each operator along the line searched for defects in each item as it arrived and as it departed. The idea of such constant monitoring was partly intended to avoid adding value to defective units. More importantly, this system allowed for the quick identification and rectification of the sources of defects.

10. A lower percentage of faulty inputs may translate into a lower share of final products that must be rejected at the quality control stage.

11. For additional studies, see the literature review by [Görg and Greenaway \(2004\)](#) and [Smeets \(2008\)](#).

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