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The impact of foreign direct investment in China on employment adjustments in Taiwan: Evidence from matched employer–employee data

Meng-Wen Tsou [a], Jin-Tan Liu [b,c], James K. Hammitt [d,e,*], Ching-Fu Chang [f]

[a] National Central University, Graduate Institute of Industrial Economics, Taiwan
[b] National Taiwan University, Department of Economics, Taiwan
[c] NBER, USA
[d] Harvard University, Center for Risk Analysis, USA
[e] Toulouse School of Economics (LERNA-INRA), France
[f] National Taiwan Ocean University, Graduate Institute of Applied Economics, Taiwan

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ABSTRACT

Using a unique matched employer–employee dataset on Taiwanese manufacturing, we examine the impact of foreign direct investment in China on domestic employment adjustments controlling for firm and worker heterogeneity as well as for potential endogeneity of firms' expansion in China. Our findings suggest that workers employed at firms with higher levels of investment in China are more likely to leave the firm, compared with workers at firms with zero or lower levels of investment in China. We provide evidence that foreign expansion in China decreases worker employment security at parent companies, particularly for low-skilled workers. Employment adjustments through employer-to-employer transitions are found to be highly associated with wage losses, with the strongest wage effects for low-skilled workers who shift employment between industries. Moreover, we find no evidence that FDI in China contributes to skill upgrading at parent companies.

1. Introduction

Economists have long discussed the impacts of outward foreign direct investment (FDI) on the home labor market. As multinational enterprises (MNEs) play an important role in the international division of labor, a number of studies have investigated whether employment at a parent firm and its foreign affiliates are complementary or substitutes. Since the relationship is determined primarily by how multinationals reallocate the operations between parent and affiliates in response to wage differences across countries, this subject is an empirical issue and the evidence is far from conclusive. Studies have generally documented that jobs in high-income affiliates are complementary with parent jobs, while jobs in low-income affiliates are substitutes for parent jobs. However, contradictory results have been reported across different contexts and time periods.

More recently, the availability of employer–employee matched data has created a new wave of research investigating the role of globalization on domestic labor market dynamics. Yet the evidence is relatively scant. Menezes Filho and Muendler (2011) use linked employer–employee data from Brazil to examine how workers' labor market transitions are affected by trade liberalization. They find that trade openness is associated with more displacements and fewer accessions at employers in comparative-advantage industries and at exporters. Utilizing a Danish matched worker-firm dataset, Hummels et al. (2010) find that workers displaced from outsourcing firms experience greater wage declines, and that less-educated workers suffer larger and more consistent losses than highly-educated workers. In contrast, based on a German linked employer–employee dataset, Becker and Mundler (2008) report that foreign expansion significantly reduces the probability of domestic worker separation and conclude that hindering MNEs from engaging in FDI may lead to greater job destruction at home.

Contributing to this trend, we utilize unique employer–employee data to investigate how foreign expansion in China affects workforce adjustment in Taiwan and how the impact may

* Corresponding author at: 718 Huntington Ave., Boston, MA 02115, USA. Tel.: +1 617 432 4343.
E-mail address: jkh@harvard.edu (J.K. Hammitt).

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vary across skill levels. Taiwan presents an interesting case for at least two reasons. First, compared with other developed economies, a large proportion of Taiwan's outward direct investment goes to China, concentrated mainly in the manufacturing sector.[1] This trend is even more significant after the government replaced its policy of 'patience over haste' with that of 'active opening and effective management' in 2001. The share of total outward investment that is directed toward China increased from 17 percent in 1995 to a record 63 percent in 2005.[2] Second, there is evidence that the Taiwanese labor market is more dynamic than in most Western economies as Taiwan is a small, open economy with weak unions and limited employment protection.[3] Therefore, it is of interest to examine adjustment costs in the labor market associated with foreign expansion by multinational enterprises.

This paper contributes to the literature in two respects. First, it covers a period of rapid expansion of FDI to China, after the Taiwanese government relaxed restrictions on investment items and allowable FDI to China in 2001. We control for the potential endogeneity of foreign expansion in China by using the policy change as an instrument. Second, we use a unique employer–employee matched dataset to explore the effects of foreign expansion in China on individual labor-market transitions. In addition to worker separations, one striking feature of our data is that we are able to identify employer-to-employer (*EE*) flows and to distinguish transitions within-industry and between-industry, which allows us to generate a more complete picture of labor-market adjustments.[4] Information on wages before and after the job change is also available.[5] As compelling evidence supports the claim that it is more costly for workers to shift employment between than within industries,[6] by distinguishing between- and within-industry *EE* transitions we can better understand the costs of labor adjustment. To our knowledge, this study uses more comprehensive measures of worker flows than have been previously employed to investigate the effects of outward FDI on short-run labor-market dynamics.

Our empirical findings on listed companies suggest that FDI in China is significantly negatively associated with parent employment growth and significantly positively associated with worker separation. Even accounting for observable and unobservable characteristics of firms and workers, our results on worker-level analysis reaffirm the prominent view in the public debate that foreign expansion in China threatens domestic employment stability in Taiwan, particularly for less-skilled workers. With regard to adjustment costs, employment shifts through employer-to-employer transitions are found to be strongly associated with wage losses. The adverse domestic wage effect of expansion in China appears to be the strongest for low-skilled workers who shift jobs between industries.

The remainder of the paper is organized as follows. In Section 2, we summarize related literature. Section 3 provides background on outward FDI policy toward China. In Section 4, we describe the data and measures. Section 5 describes the empirical strategy and empirical specification. In Section 6, we analyze the empirical results. Conclusions follow in Section 7.

2. Related literature

The impact of outward FDI on a parent company's employment and skill composition is closely related to the motivations behind FDI. Theories of multinational enterprises traditionally highlight two major reasons for FDI, market-seeking (horizontal FDI, formulated by Markusen, 1984) and comparative advantage (vertical FDI, formulated by Helpman, 1984). Multinationals that undertake horizontal FDI are mainly motivated by potential savings of transport and trade costs. They produce the same products or services abroad and duplicate most or all of their production activities in multiple countries. As foreign investment substitutes for parent exports, affiliate employment is predicted to substitute for parent employment (Markusen and Maskus, 2001). Vertical FDI is primarily motivated by factor endowment differences. Multinationals that undertake vertical FDI fragment their production stages across countries to exploit differences in factor costs. The vertical decomposition of production leads to a complementarity in labor demands between a parent and its foreign affiliates (Brainard and Riker, 1997).

Recent literature has advanced beyond the distinction between horizontal and vertical FDI. Markusen (2002) incorporates these two motives in the knowledge-capital model and predicts how affiliate activity is affected by the market size and relative factor endowment in the host country. Ekholm et al. (2007) extend prior work to model the "export-platform" FDI, with the affiliate activity possessing both horizontal and vertical features.[7] Hanson et al. (2001), Yeaple (2003), and Grossman et al. (2007) have also documented that multinationals use more complex integration strategies and perform a diverse set of activities at foreign affiliates, which cannot be captured by a simple distinction between horizontal and vertical FDI.

In practice, the coexistence of market-seeking and cost-reducing forces makes theoretical predications about the effect of outward FDI on parent-firm employment ambiguous. Even when considering only one type of FDI, the labor market effects of outward FDI are not clear and depend crucially on the nature of the activities moved offshore and the relative factor abundance in home and host countries. In the case of horizontal FDI, a complementary relationship between labor demand of parents and affiliates may exist if foreign operations stimulate some of the activities or functions centralized at headquarters. Similarly, when vertically-integrated multinationals relocate their operations from the parent company to affiliates, strong substitution between parent and affiliate employment can be expected. Cases where labor-intensive activities are transferred to low-income countries while the skill- or capital-intensive activities remain within the home country may result in a shift in relative demand favoring skilled labor in the home country. Conversely, FDI in countries with sufficiently high-skilled workers may be associated with a downgrading of skills in the home country.

A considerable empirical literature has analyzed how FDI affects labor demand in the MNEs' home operations.[8] The evidence is mixed. Initially, Brainard and Riker (1997) found that foreign affiliates substitute modestly for US parent employment. However, a more recent study by Desai et al. (2009) reported the opposite association, with expansion abroad stimulating domestic employment. A number of studies have documented that the destination of FDI is important for the relationship between foreign activity

[1] The electronics, basic metals and chemical industries accounted for the largest shares of FDI outflows toward China.

[2] Data from the Bureau of Statistics at the Ministry of Economic Affairs.

[3] Tsou et al. (2001, 2002) suggest that the manufacturing sector is the most important sector in contributing to both job and worker flows in Taiwan.

[4] A growing number of recent studies have highlighted the importance of EE flows on labor-market dynamics (Fallick and Fleischman, 2004; Nagypál, 2005; Shimer, 2005; Golan et al., 2007; Tsou and Liu, 2008; Bjelland et al., 2011).

[5] Our dataset includes the insured monthly salary for each private sector employee.

[6] See, for example, Fallick (1993), Neal (1995), Greenaway et al. (2002) and Haynes et al. (2002).

[7] Export-platform FDI refers to affiliate production primarily for exports to third countries.

[8] A growing number of studies have highlighted the importance of international factors, such as outsourcing, foreign direct investment, and trade, in affecting the individual risk of becoming unemployed or the probability of changing jobs (Egger et al., 2007; Geishecker, 2008; Simpson, 2012).