



# Economic Letter

## Foreign Direct Investment: Financial Benefits Could Surpass Gains in Technology

by Jian Wang, Janet Koech and Xiao Wang

**ABSTRACT:** Many emerging markets offer financial incentives to attract foreign direct investment, believing that such investment provides advanced technology or management skills. However, it appears developing economies such as China could benefit more from multinational corporations' financial resources.

Cross-border capital flows have increased substantially since the 1990s, reaching a peak of 20 percent of world gross domestic product (GDP) in 2007. Multinational corporations provide the majority of the flows, known as foreign direct investment, or FDI.

FDI has long been viewed as a way to promote the productivity of host countries, especially emerging economies. Many less-developed countries attempt to attract FDI by offering tax and other financial benefits. They hope these outside investments will speed movement toward the world technology frontier.

However, FDI's greatest contribution to emerging markets may lie in easier access to global financial markets rather than the mere acquisition of advanced technology. Notably, the financial conditions of local firms in China improved substantially after foreigners acquired the companies, a recent study showed.<sup>1</sup> Relaxed financial constraints allowed the newly purchased firms to increase exports and total output.

In other words, foreign ownership per se does not significantly improve the productivity of local firms, based on a variety of metrics. Instead, the key factor is that

capital flows from multinationals abroad help alleviate financial market frictions in the host countries, which enables them to allocate resources more efficiently across firms and sectors.<sup>2</sup>

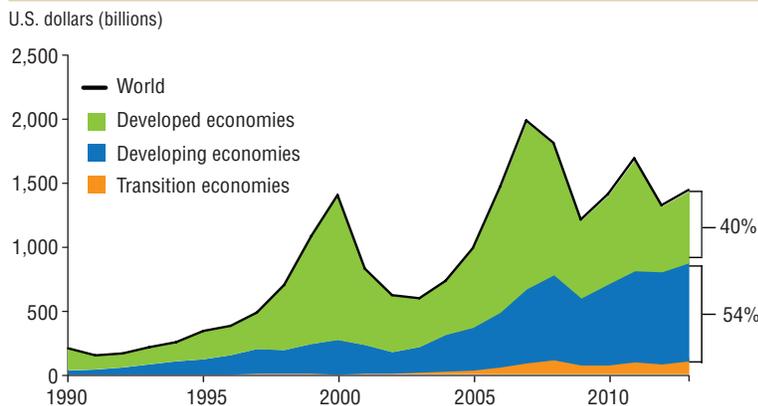
### Productivity-Driven FDI

FDI in emerging economies increased sixfold from 1995 to 2013. In 2012, emerging markets became the primary destination for FDI for the first time (*Chart 1*).

Conventional wisdom holds that FDI can benefit host countries through several channels.<sup>3</sup> FDI eases the introduction of new and better technology and management skills to host countries. Recipient firms can produce more than local firms, leading to greater efficiency. Over time, this line of reasoning suggests, the high productivity of firms benefiting from FDI will likely spill over to local companies through labor mobility, production integration and other channels.

Economists often consider total factor productivity (TFP). It is a measure of output reflecting companies' technology and efficiency, taking into account capital and labor inputs used in production. Higher TFP yields more output with the same inputs (*Chart 2*). Total inputs equivalent

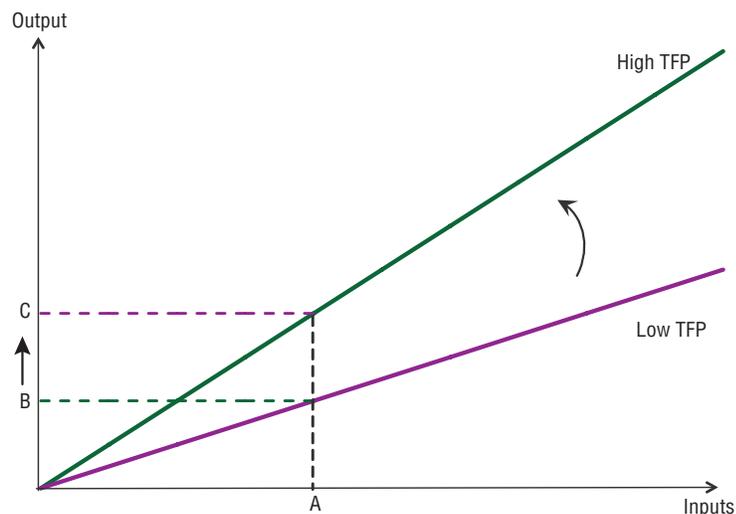
## Chart 1 Emerging Markets Get Most Foreign Direct Investment



NOTE: Developed economies are typically countries of the Organization for Economic Cooperation and Development and new European Union members; transition economies include former Soviet Republics and countries in Southeast Europe; developing (emerging) economies are all other countries.

SOURCES: United Nations Conference on Trade and Development; authors' calculations.

## Chart 2 Higher Total Factor Productivity Yields More Output



NOTE: The lines labeled "high TFP" and "low TFP" present two production possibilities. High TFP produces more output than low TFP given the same amount of input, indicating higher productivity.

to A produce output C when productivity is higher—but a smaller amount, output B, in a less-productive environment.

Multinational companies generally have higher TFP than firms that do not engage in FDI.<sup>4</sup> It has long been believed that multinationals' technology and efficiency advantages have driven FDI. In the process, the investment transfers technology, skills, innovative capacity, organization and managerial practices from advanced economies to less-advanced ones.

Output improvement can also be achieved by mixing inputs in different proportions—for instance, by equipping labor with more capital. However, financial constraints in emerging markets can limit such an efficiency gain. Firms cannot mix labor with as much capital as they would like to deploy (Chart 3). The blue downward-sloping line represents the budget constraint for a firm that pays a higher cost for capital due to financial constraints. The firm's optimal output is

at point A, obtained by combining K units of capital and L units of labor.

Once the firm's financial constraint is relaxed—for example, through FDI—its budget line shifts outward to the red downward-sloping straight line, which has a lower unit cost of capital. With this shift, the optimal output for the firm is now at point B, which uses K' units of capital and L' units of labor. Output B is higher than output A—the firm is able to produce more after equipping its labor with more capital.

### Decoding the Correlation

Multinational affiliates often display higher TFP than local firms, data show. However, identifying a causal relationship between FDI and greater productivity is more challenging. The correlation in the data may simply reflect that multinationals buy the most productive local firms or hire the most productive employees rather than transfer technology/skills.

In fact, FDI effects on productivity may depend on many factors, including the country of origin of the investment, the industry receiving the investment and the timing of the investment.

There is little evidence that additional productivity gains accompany foreign ownership, based on a comparison of postacquisition performances of foreign- and domestic-acquired firms in China from 2000 to 2007.

Foreign-acquired firms were paired with domestic-acquired firms that had similar preacquisition characteristics. Then the postacquisition firm performances of the two groups were compared, based on the assumption that, owing to their preacquisition similarities, the firms' differences were likely attributable to the foreign ownership of foreign-acquired firms.

The analysis reveals that the productivity of foreign acquisitions doesn't differ from that of domestic acquisitions. Both types of acquisitions improved target firms' TFP relative to the domestic firms whose ownership didn't change. That's because mergers and acquisitions in general facilitate reallocation of resources from less-productive firms to more-productive ones. But foreign ownership doesn't bring additional productivity gains.

Governments seeking to accelerate growth and economic transformation have increasingly pursued policies to attract FDI—emerging-market economies’ largest source of capital inflows (*Chart 4*). However, FDI-promotion policy does not serve its purpose if FDI isn’t driven by productivity, and such policy can be costly, especially in terms of foregone tax revenues.

## Finance-Driven Investment

Economists have recently explored other motivations for FDI flows. Among these studies, several examine the financial advantages of multinational affiliates. Firms in emerging markets often face severe financial constraints due to underdeveloped local financial markets and restrictions on access to foreign financial markets. FDI to these countries can be motivated by multinationals’ easy access to international financial markets rather than higher productivity.

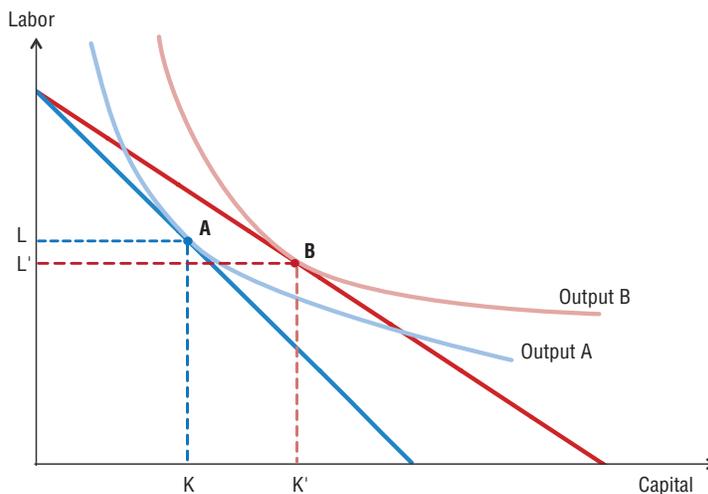
Foreign investment improved target firms’ financial conditions in the study of FDI in China.

The foreign-acquired companies became relatively less indebted, as measured by the decline in the leverage ratio (the fraction of a firm’s total liabilities relative to its total assets). A declining leverage ratio indicates that firms depend less on external financing to cover operational costs and may have fewer difficulties raising funds in the future.

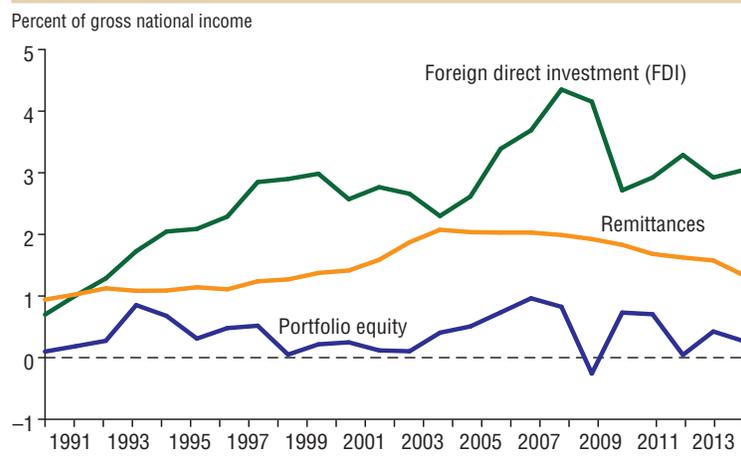
Foreign-acquired firms also tended to have a healthier liquidity ratio, which is the difference between current assets (cash and cash-equivalents) and current liabilities as a share of a firm’s total assets. A higher liquidity ratio indicates that firms have more liquid assets to cope with potential external financial disruptions and hence are less financially constrained.

Following acquisitions, the leverage ratio of foreign-acquired firms in the China study declined relative to domestic-acquired firms, while the liquidity ratio of the foreign-acquired firms increased.<sup>5</sup> This shows that foreign-acquired firms become less vulnerable than their domestic counterparts to external financial shocks: Foreign-acquired firms rely less on short-term debt and more on internal capital following a takeover. This is indicative of foreign ownership’s role in relaxing credit

**Chart 3** Relaxed Financial Restrictions Allow More Output at Same Overall Cost



**Chart 4** FDI Dominates Developing Economies’ Capital Flows



SOURCE: World Bank’s World Development Indicators database.

constraints, which is largely due to easier access to international financial markets and foreign parent company resources.

Foreign-acquired firms gain additional benefits, some involving international trade. The export share of foreign-acquired enterprises rose about 3 percentage points relative to domestic-acquired firms. Exporters benefit from newly available finances to bridge the time gap between production expenses and export payment.

Moreover, foreign-acquired firms in emerging markets can better fund the large fixed costs of international export trade. FDI capital can help foreign-acquired

local firms penetrate foreign markets and promote exports. Foreign owners can also pass their knowledge of foreign markets to acquired local firms.

Improved financial conditions may also give foreign-acquired firms competitive advantages unrelated to productivity. For instance, greater liquidity helps firms better cope with economic shocks and gain market share. The overall effects are increased total output, employment and real wages relative to domestic-acquired firms.

However, FDI doesn’t seem to deliver more output with the same inputs—that

is, through TFP gains. Rather, improvement is achieved by combining labor and capital inputs in more efficient proportions. Domestic companies, without the same access to credit as multinationals, can't replicate that performance.

Finance-driven FDI is likely to be prevalent in emerging markets where local firms face constraints due to underdeveloped financial markets.<sup>6</sup> Financial repression may also play a role: Disfavored firms can implement only high-yield projects with short maturity, while firms with subsidized, often outside funding choose relatively capital-intensive technologies. In this case, multinationals can bring welfare-improving changes, such as access to a better mix of products and inputs.

## Local Market Efficiencies

A wave of rapid financial globalization has occurred in the past two decades, marked by a surge of FDI. Many emerging markets offer incentives to lure FDI in the belief that such funding provides advanced technology, management and capital.

In China and many other emerging markets, gains from FDI may simply reflect multinationals' financial advantages rather than heightened productivity per se. While most developing countries install FDI-promotion policies, the results vary. Providing a macroeconomic environment that can help FDI firms maximize their comparative advantages is the most effective way of attracting FDI investment.

Because an important aspect of FDI is its ability to promote international trade, it follows that the removal of trade barriers through free-trade agreements and World Trade Organization membership is more effective than mechanically providing tax and financial incentives to multinationals.

Finance-driven FDI inflows may reflect local financial market inefficiencies; therefore, FDI inflows should not be the sole criterion for policy evaluation. Emerging countries may be better served by improving the efficiency of their financial markets through reforms instead of ramping up incentives to attract foreign investment. Additionally, without well-functioning local financial markets, spillover from FDI recipient firms to domestic firms may be limited.<sup>7</sup>

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## Notes

<sup>1</sup> See "Benefits of Foreign Ownership: Evidence from Foreign Direct Investment in China," by Jian Wang and Xiao Wang, forthcoming, *Journal of International Economics*.

<sup>2</sup> These findings are consistent with arguments that limited access to credit markets restricts local firms' production potential. See *Money and Capital in Economic Development*, by Ronald I. McKinnon, Washington, D.C.: The Brookings Institution, 1973.

<sup>3</sup> In addition, FDI is safer than other international capital flows, such as bank lending and equity investment (portfolio

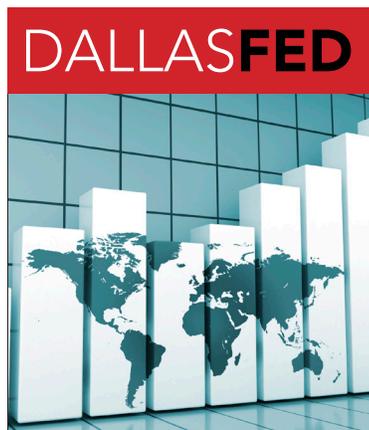
investment). Motivated by long-term prospects for the invested projects, FDI investors are directly involved in the production and cannot withdraw their investment easily. In contrast, portfolio investment is often driven by short-term profit-seeking activities and is prone to sudden capital-flow reversals, which can trigger financial crises in the host countries.

<sup>4</sup> Studies have shown that U.S. multinational corporations are on average more productive than U.S. firms that do not conduct FDI. For instance, see "Export Versus FDI with Heterogeneous Firms," by Elhanan Helpman, Marc J. Melitz and Stephen R. Yeaple, *American Economic Review*, vol. 94, no. 1, 2004, pp. 300–16.

<sup>5</sup> This study also confirms that the improvement of financial conditions in foreign acquisitions relative to domestic acquisitions is mainly from the financial improvement of foreign-acquired firms rather than the financial deterioration of domestic-acquired firms.

<sup>6</sup> For evidence on 15 emerging markets, see "Liquidity-Driven FDI," by Ron Alquist, Rahul Mukherjee and Linda L. Tesar, Graduate Institute of International and Development Studies Working Paper no. 17-2014, December 2014. Also see note 2.

<sup>7</sup> See "FDI and Economic Growth: The Role of Local Financial Markets," by Laura Alfaro, Areendam Chanda, Sebnem Kalemli-Ozcan and Selin Sayek, *Journal of International Economics*, vol. 64, no. 1, 2004, pp. 89–112.



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