

Gains from Foreign Direct Investment: Macro and Micro Approaches

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This paper discusses the importance of an “integrated approach” to the study of the effects of FDI on host countries. Macro-level work that examines countries at different stages of development and institutional capacity is needed to surface the role of local conditions and absorptive capacities; micro-level work, that is firm-level data in developed as well as developing nations, to understand the mechanisms that impart substance to the anticipated benefits; and theoretical work to guide the analyses. The paper summarizes likely motives for foreign direct investment and potential effects of FDI on local economies as well as recent findings from the macro literature on the role of complementarities between FDI and local policies, conditions, and institutions and summarizes new efforts to understand the micro mechanisms and channels by which host countries can benefit from multinational activity, within and between firm productivity increases.

I. INTRODUCTION

Foreign direct investment, as it embodies technology and know-how as well as foreign capital, has in recent decades come to be seen as an engine of growth and development.¹ Understanding the effects of foreign direct investment (FDI) and multinational production has consequently become a critical topic in academic and policy circles. Knowledge spillover, backward and forward linkages with local firms, the potential for technology transfer, new processes, improved managerial skills, employee training, and access to international production networks and markets all have the potential to increase productivity and output, create employment, help diversify exports, and transform the production structure of the economy by fueling growth and fostering development.

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1. The academic literature on foreign direct investment has been surveyed many times. See, e.g., [Alfaro et al. \(2009\)](#), [Kose et al. \(2009\)](#), [Harrison and Rodríguez-Clare \(2010\)](#), [Alfaro and Johnson \(2012\)](#), [Antràs and Yeaple \(2014\)](#), [Melitz and Redding \(2014\)](#), and [Alfaro \(2015\)](#) for recent surveys of determinants, effects, spillover channels, and empirical findings.

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In the face of such a panoply of potential benefits, developed as well as developing countries have not only substantially reduced barriers to but also offered special incentives to attract, foreign direct investment. Yet the impact of the increasing role of FDI on host economies has been difficult to assess. Indeed, empirical evidence for FDI generating the expected positive effects is ambiguous at the micro- as well as macro-levels.

In this article, I discuss the value of an “integrated approach” to the study of the effects of FDI on host countries. Macro-level work that examines countries at different stages of development and institutional capacity is needed to surface the role of local conditions and absorptive capacities; micro-level work, that is firm-level data in developed as well as developing nations, to understand the mechanisms that impart substance to the anticipated benefits; and theoretical work to guide the analyses.

The macro-level data needed to reveal the effects on FDI of varying local conditions and institutional frameworks necessarily spans multiple countries and sufficiently long periods of time. Such data are essential to studies that would examine the broader environmental milieu in which the benefits of FDI gestate. But aggregate data cannot shed light on the channels through which capital controls affect the economy at the micro-level. To identify these, and the mechanisms that account for delivery of the benefits of FDI, requires marrying the firm- and plant-level data of developed and developing nations.

Availability of data thus becomes a critical issue. Census firm-level data are available in few countries and very few developing countries. Rarely, moreover, can data be accumulated over long periods or for similar periods across countries. Data may also entail usage restrictions (confidentiality, data restrictions, etc.) and lack desired variables. The workaround for data limitations is to exploit different sources of data, such as firm registries.

Work aimed at affording an understanding of the effects of FDI needs to be informed as well by theory, not only to guide empirical work but also to illuminate policy implications. For example, positive gains from multinational activity are often attributed to knowledge spillover and technology externalities transmitted from foreign to domestic firms (i.e., between-firm benefits). But multinational production can also precipitate more intense competition in product and factor markets and reallocation of resources from domestic to multinational, and from less productive to more productive domestic firms (i.e., between firm and market selection). Distinguishing spillover from market reallocation is critical to assessing the economic impact of FDI and setting corresponding economic policies. But the effect of multinational selection, knowledge spillover, and market reallocation on aggregate productivity and the welfare impact of multinational production cannot be disentangled simply by examining the relationship between multinational production and host-country average productivity, as all channels predict a positive relation. To separate these effects requires a theoretical framework that explicitly incorporates them (Alfaro and Chen 2013).

What has come to light thus far from the pursuit of an integrated approach to establishing the benefits of FDI is that they are conditional on the presence of

complementary conditions that facilitate their absorption by firms, regions, and countries. These benefits include the policy environment, quality of local institutions and financial markets, sector characteristics and market structure, and spatial co-location (Alfaro et al. 2004, 2010; Alfaro and Hammel 2007; Alfaro and Charlton 2013; Alfaro and Chen 2014). The sources of gains also differ within and between firms (Alfaro and Chen 2012a, 2012b, 2013). Implications of the findings of integrated macro- and micro-level studies that investigate the role of local conditions and sources of potential gains from multinational production, being critical to the design of economic policy, can usefully inform both policy and academic debates on FDI.

Section 2 summarizes likely motives for foreign direct investment and potential effects of FDI on local economies as well as recent findings from the macro literature on the role of complementarities between FDI and local policies, conditions, and institutions. Data issues and the challenges of micro-level work are discussed in section 3. Section 4 examines the role of theory in complementing recent work, and summarizes new efforts to understand the mechanisms and channels by which host countries can benefit from multinational activity, within and between firm productivity increases. Section 5 concludes.

II. MOTIVATIONS FOR AND EFFECTS OF MULTINATIONAL ACTIVITY: THE ROLE OF LOCAL CONDITIONS

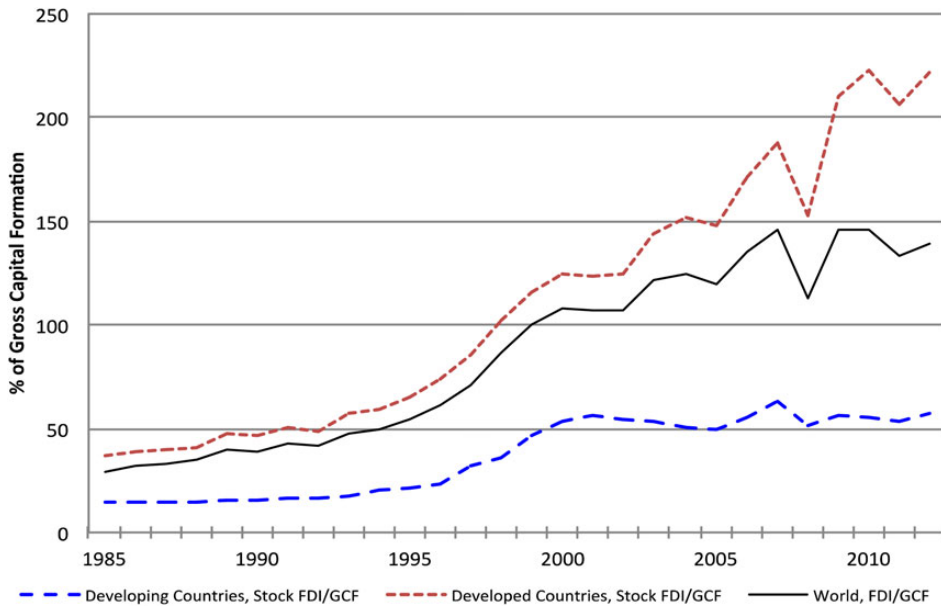
A multinational enterprise (MNE), or multinational or transnational corporation (MNC and TNC, respectively), owns and controls production facilities or other income-generating assets in at least two countries. Inaugurating a green-field operation (i.e., constructing a new production facility) or acquiring control of an existing local firm constitutes *direct investment* by a foreign entity. In such relationships, source country *parents* control productive facilities of host country *affiliates*. It is the formers' partial or complete control over the latter's activities that distinguishes FDI from portfolio investment.²

Figure 1 shows the increase in multinational activity in developed and developing countries over the past three decades. MNEs vary in size, sector, and structure. Firms variously invest abroad to serve a market directly or to export; to access inputs, raw materials, or labor; to improve operational efficiency; or to impede competitors' acquisition of strategic assets (see Desai 2009). But do these ends offset such exigencies of doing business in another country as costs associated with communication and transport and stationing personnel abroad, customs and language barriers, and exclusion from local business and government networks? How can a foreign firm offset the local firm's advantage of superior knowledge of the market, legal and political systems, language, and culture?

Hymer (1960) proposed a broadly accepted framework, derived from the industrial organization literature, in which real (as opposed to financial) factors

2. See Alfaro et al. (2014) for definitions and stylized facts regarding foreign capital flows over the past four decades.

FIGURE 1. Foreign Direct Investment as a % of Gross Capital Formation



Source: UNCTAD.

explain the location decisions of multinational firms. After all, if lower cost of capital were the only advantage, why wouldn't a foreign investor simply make a portfolio investment and forego the headaches of operating in a different political, legal, and cultural milieu? Firms engage in FDI not per se because of differences in the cost of capital—as in the case of portfolio investment—but because certain assets are worth more under foreign control, which allows firms to compete in foreign environments.³ This view credits the genesis of FDI to the possession of some asset, such as technology or know-how, that constitutes a significant gain for the host country, which, in turn, suggests that FDI can play an important role in accelerating and modernizing a country's economic growth.⁴

It is FDI's embodiment of capital, technology, and know-how that affords the potential for host countries to benefit from direct knowledge transfer through partnerships with, and opportunities to learn from the innovation and experience of, parent firms, and interaction and movement in labor markets.

Here, the findings of the macro literature on the effects of FDI on growth offer important insights. Evidence not of an exogenous positive effect of FDI on

3. Hymer's approach was subsequently refined by, among other authors, [Kindleberger \(1969\)](#) and [Caves \(1974\)](#), and eventually rechristened the OLI (ownership advantage, location factor, internalization) framework in [Dunning's \(1981\)](#) work. For a description, see [Antràs and Yeaple \(2014\)](#).

4. Note, however, that there might be offsetting costs to the host country. The proprietary asset or technology provides its owner with some market power or cost advantage over indigenous producers.

economic growth but rather of positive effects conditional on local conditions and policies⁵ reflects [Rodrik and Rosenzweig's \(2009\)](#) observation that “Appropriate development policies typically exhibit high degrees of complementarity.” The FDI literature has identified important roles for the policy and institutional environments ([Alfaro et al. 2007, 2008](#); [Balasubramanayam et al. 1996](#)); human capital ([Borensztein et al. 1998](#)); local financial markets ([Alfaro et al. 2004, 2010](#)); sector characteristics ([Alfaro and Charlton 2013](#)); and market structure ([Alfaro et al. 2010](#)). [Harrison and Rodríguez-Clare \(2010\)](#) similarly emphasize the relevance of complementary aspects of a trade policy regime, such as labor-market policies and ease of entry and exit, and [Kose et al. \(2009\)](#), who identify macroeconomic and structural policies that need to be in place for countries to reap the benefits of financial globalization, emphasize that capital account policies need to be viewed as part of a much broader set of policies.

[Borensztein et al. \(1998\)](#), using a data set of FDI flows from industrialized countries to 69 developing countries, finds FDI to be an important vehicle for transferring technology and promoting growth only when the host country has a minimum threshold of human capital, and [Xu \(2000\)](#), using data on US multinationals, finds that most developing countries do not meet such a threshold. These results suggest strong complementarities between FDI and human capital, and that FDI is more productive than domestic investment and important as a vehicle for technology transfer only when the host country has a minimum threshold stock of human capital.

[Alfaro et al. \(2004\)](#) argue, on the basis of studying the role local financial institutions play in channeling the contributions of FDI to economic growth, that underdevelopment of local financial markets can limit an economy's ability to exploit the potential of FDI spillovers. The results of the analysis of growth on FDI to GDP (and various controls variables) indicate that FDI, on its own, does not exert a robust positive impact on growth. When the interaction term is included, however, the regression results become positive and significant, leading the authors to posit that realization of the positive benefits of FDI is contingent a country's possession of a strong financial sector.

[Alfaro and Charlton \(2013\)](#), using industry-level evidence derived from data on OECD countries, show the relation between FDI and growth to be stronger for industries that are more reliant on external financing. These results, as well as being consistent with the existing macro literature on the hypothesized benefits of FDI, are further evidence of important cross-industry differences in the effects of FDI.

Scarcity of capital for new investment is among the reasons policy makers advance for promoting foreign investment in developing countries. This argument is based on the assumption that additional capital is made available by foreign investors that establish new enterprises in local markets. [Kindleberger \(1969\)](#),

5. That firm-level panel studies tend to cover specific and quite different types of countries (transition, developing, emerging, industrialized) as well as different periods makes it difficult to understand the role of country specific conditions.

Graham and Krugman (1995), and Lipsey (2002), however, present evidence that investors often fail to fully transfer capital on taking control of a foreign company, tending instead to finance a significant share of their investment in the local market.⁶ Bilir, Chor, and Manova (2014) show that host countries with more developed financial markets attract more multinational entry. Many foreign investors, moreover, have hedged against rising exchange-rate volatility by borrowing in local capital markets. Foreign firms that borrow heavily from local banks instead of bringing scarce capital from abroad may exacerbate local firms' financing constraints by crowding them out of domestic capital markets.

The importance of well-functioning financial institutions to economic development has been examined extensively in the literature. Researchers have shown that such markets, by reducing transaction costs, ensure that capital is allocated to the projects that yield the highest returns, thereby enhancing growth rates. As McKinnon (1973) observed, the development of capital markets is "necessary and sufficient" to foster "adoption of best-practice technologies and learning by doing," which is to say, that limited access to credit markets restricts entrepreneurial development. If entrepreneurship fosters greater assimilation and adoption of best technological practice as made available by FDI, then absence of well-developed financial markets limits FDI's potential positive externalities. Some local firms might be able to finance new requirements with internal financing, but the greater the technology-knowledge gap between current practice and new technology, the greater the need for external financing, which, in most cases, is restricted to domestic sources. The creation of linkages may also depend on the access of funds by potential suppliers to enter the market or upgrade their products.

In order to formalize one mechanism through which the trickle down effect of FDI depends on the extent of local conditions, Alfaro et al. (2010) develop a theoretical model in which the presence of positive linkages depends on the local financial sector's degree of development.⁷ A small open economy is modeled in which final goods production is carried out by foreign and domestic firms that compete for skilled and unskilled labor and intermediate products. An entrepreneur that would operate a firm in the intermediate goods sector must debut a new variety of intermediate good, development of which requires upfront capital investment. The more developed local financial markets, the easier it is for credit-constrained entrepreneurs to start firms. As the increasing variety of intermediate

6. The industrial organization literature, as noted above, suggests that firms engage in FDI not because of differences in cost of capital, but because certain assets are worth more under foreign than under local control. Were lower cost of capital the only advantage a foreign firm enjoyed over domestic firms, why a foreign investor would take the trouble to operate a firm in a different political, legal, and cultural milieu rather than simply make a portfolio investment would remain unexplained.

7. Hirschman (1958) argues that linkage effects are realized when one industry, by easing conditions of production, facilitates the development of another, thereby accelerating the pace of industrialization. He further argues that in the absence of linkages, foreign investments could have limited or even negative effects on (so-called enclave) economies. For further discussion and evidence, see Alfaro and Rodríguez-Clare (2004).

goods precipitates positive spillovers to the final goods sector, financial markets allow backward linkages between foreign and domestic firms to transform into FDI spillovers. Illustrating the implication of the model for realistic parameters, the authors find that for the same share of foreign production in total output, countries with more developed financial markets exhibit higher growth rates; increases in the amount of FDI (or the technology gap between foreign-owned firms and domestically owned firms) imply also in additional growth effects generated in the financially well-developed countries close to three times higher those financially poorly developed countries. Moreover, the authors find that differences in growth rates increase when domestic firms and MNEs are substitutes rather complements and by varying the relative skill ratios while assuming that MNEs use skilled labor more intensively.

That the literature on complementarities has found some countries to lack the preconditions requisite to reaping the potential benefits of FDI may help explain the ambiguity in findings on the relationship between FDI and growth. Spillovers from foreign to domestic firms depend on the domestic firms' ability to respond successfully to new entrants, new technology, and new competition. That success is, to some extent, determined by local characteristics such as levels of human capital and development of local financial markets as well as by the overall institutional level of the country.⁸ Weaknesses in these areas may reduce the capacity of domestic industries to absorb new technologies and respond to the challenges and opportunities presented by foreign entrants.

III. MICRO PATTERNS AND IMPLICATIONS

A central challenge facing the FDI literature has been the absence of a global source of firm-level data. Researchers have instead used multinational (MNC) activity at the industry level or aggregate FDI flows from balance-of-payments statistics as a proxy for foreign firm activity or country-level firm data. Cross-country empirical investigations at the firm level are impeded by the lack of high-quality data sets, which tend to be limited to advanced, and not be comparable across countries, and infrequency of economic censuses owing, especially in poor countries, to their high cost and institutional restrictions. Many sources, moreover, are encumbered by confidentiality restrictions that make it difficult to compile the data. No single institution having the capacity or resources to undertake the primary collection of census or census-like data over a wide range of countries and periods, researchers have taken recourse to other sources, such as business compilations (e.g., registries and tax sources) or surveys.

The data in WorldBase compiled by Dun and Bradstreet, relative to other international datasets, represent a quite large number and variety of sources (e.g.,

8. Examining, in an empirical framework, different explanations for the dearth of capital flows, particularly of FDI, from rich to poor countries, termed the Lucas paradox, [Alfaro et al. \(2007, 2008\)](#) find institutional quality to be the most important explanatory variable.

partner firms, telephone directory records, Web sites, self-registration).⁹ Using the WorldBase firm-level data set that includes location, ownership, and sector (at the four-digit level) for each of more than 650,000 multinational subsidiaries in 400 industries and 90 countries, [Alfaro and Charlton \(2009\)](#), consistent with the existing literature, find the bulk of multinational activity to occur between the rich nations of the world, but other patterns to differ, some plant-level findings of particular significance warranting reconsideration of the conventional wisdom in certain areas.

For analytical simplicity, FDI is usually classified as horizontal or vertical. Firms engage in horizontal FDI when they replicate a subset of their activities or processes in another country, in other words, when production is duplicated in an offshore venue ([Markusen 1984](#); [Markusen and Venables 2000](#)). Firms engage in vertical FDI when they fragment production by function, that is, when, often motivated by cost considerations arising from factor cost differences, they break up the value-added chain ([Helpman 1984](#)).¹⁰ Models that assume low transport costs and comparative advantage are consistently rejected in favor of models that treat market access issues. Our results suggest that data limitations have led the literature to systematically underestimate vertical FDI, which our data set reveals to be far more prevalent than previously thought.

Combining four-digit sector level information and input-output tables to distinguish horizontal from vertical FDI, [Alfaro and Charlton \(2009\)](#) classify a horizontal subsidiary as a plant in the same sector code as the foreign owner parent, a vertical subsidiary as a plant that produces in sectors that input to the foreign parent's product.

At the four-digit level, many foreign subsidiaries in the same two-digit industry as their parents occupy sectors related to highly specialized inputs to the parents' production, which is to say, that most vertical activity is in sectors close to the parent firm (i.e., intra-firm FDI). Differences from previous findings emerge because much vertical FDI, being north-north, has been assumed to be market seeking (horizontal) when, in fact, firm-level data indicates the relationships to be vertical, their true nature being visible only at the four-digit level, and hence being missed at the two-digit level. Intra-industry vertical subsidiaries, being generally located in sectors related to high-skill inputs, largely tend also to be located in high-skill countries.

These differences matter for how FDI may impact countries. In particular, different motivations for FDI differ on how multinational activity affects factor incomes within and across countries. Horizontal FDI, being a substitute for trade, multinational activity may raise income in each country without necessarily changing its distribution; while for vertical FDI, a complement to trade, multinational activity may reduce absolute wage differences across countries and alter

9. See [Alfaro and Charlton \(2009\)](#) for a detailed discussion of WorldBase data and comparisons with other data sources.

10. For empirical evidence on the different types, see [Alfaro and Charlton \(2009\)](#).

relative wages within countries. In the case of intra-industry FDI, the effects on income distribution may be more subtle as it seems to be driven by ownership considerations rather than cross-border factor cost differences: tendency of multinational firms to own certain stages.¹¹

How MNEs respond, relative to local firms, to crisis, and how MNEs' performance is linked across the countries in which they operate, have been little studied. [Alfaro and Chen \(2012a,b\)](#) addressed this deficiency by investigating the effects of foreign ownership on resilience to negative shocks. The authors exploited the global scope and considerable heterogeneity of the recent global financial meltdown to explain the role of FDI in microeconomic performance. Specifically, they examined firms' micro responses to, and differences in performance during, that crisis. The effects of foreign ownership were disentangled from other effects using the D&B data set, and observable and unobservable differences between foreign subsidiaries and local establishments controlled for by matching each foreign subsidiary with a local establishment with similar characteristics operating in the same country and industry. The effect of foreign ownership is inferred from divergences in performance. Comparing the effect of foreign ownership between the noncrisis (2005–2007) and crisis (2007–2008) periods enabled the authors to identify the role played by vertical and financial links in increasing the resilience of foreign subsidiaries to negative demand and financial shocks.

Foreign subsidiaries performed better than locally controlled plants with similar characteristics during the crisis, but not during the noncrisis. Locally controlled establishments were also outperformed during the crisis period by foreign subsidiaries with strong vertical, but not by those with horizontal, production links with their parent firms. This pattern as well was not observed during the noncrisis years. Superior performance by foreign subsidiaries operating in industries with greater intra-firm financial links was also observed only during the crisis period, and especially in host countries in which credit conditions had worsened.

These findings have important implications for academic and policy debates on the role of foreign direct investment. Notwithstanding concerns, prompted by a number of studies that have found FDI to have a significant negative effect on plant survival and stability (see, e.g., [Bernard and Jensen 2007](#)), that FDI is more volatile and occasions greater vulnerability, especially during crises, than domestic investment, [Alfaro and Chen \(2013\)](#) find vertical production and financial links between foreign subsidiaries and parent firms to have the potential to mitigate the impact of crises on host countries.

IV. THEORY AND EVIDENCE: SPILLOVERS, SELECTION, AND REALLOCATION

[Alfaro and Chen \(2013\)](#), exploring the mechanisms by which an economy responds to multinational production, disentangle the roles of knowledge

11. See also [Alfaro, Antras, Conconi, and Chor \(2015\)](#) regarding implications for sourcing patterns.

spillover roles, selection, and reallocation (within- and between-firm effects) in determining the aggregate impact of multinational production on host-country productivity.¹² Although research abounds on the knowledge spillover effect of multinational firms, the role of market reallocation, and the different ways in which market reallocation and knowledge spillover influence potential gains from multinational competition, have been little studied, and the relative importance of spillovers and market selection seldom analyzed.

Although all imply a positive relation between multinational production and host-country productivity, the implications and economic causalities of these mechanisms differ sharply. Positive externalities that accrue to knowledge spillover enhance the productivity of individual domestic firms, consequent market reallocation can contribute to the contraction of domestic industries. If, moreover, knowledge spillover is a significant source of productivity gains from multinational production, special treatment of foreign firms, often tendered by host countries in the form of tax breaks and financial incentives, may be justified. But if productivity increases are instead attributable to market reallocation, public resources may be better spent improving domestic market conditions including conditions of labor supply and credit access, and eliminating regulatory barriers to facilitate gains from competition and reallocation of resources.

It is difficult, however, to separate these effects in the absence of a theoretical framework that explicitly incorporates them. With this purpose, [Alfaro and Chen \(2013\)](#) develop an empirical framework based on a standard model of monopolistic competition and heterogeneous firms augmented to include potential externalities of multinational production. Using this micro theoretical foundation that captures these distinct aspects of multinational production, the authors develop an empirical strategy to distinguish their relative importance, while accounting for the self-selection of multinational firms.

The authors empirically evaluate the predictions using a large, cross-country, panel data set drawn from Orbis that contains comprehensive financial, operating, and ownership information for more than one million public and private manufacturing companies for the 2002–2007 period. The data set's two notable strengths, broad cross-country coverage and detailed ownership (majority and wholly owned) information, enable us to identify multinational production, and explore the heterogeneous effect of foreign investment, across countries.

The empirical analysis suggests that domestic markets experience both knowledge spillover and factor reallocation as a consequence of multinational production. As entry by multinational firms raises the cutoff productivity of domestic firms, the least productive domestic firms exit. New multinational production

12. An emerging literature emphasizes the productivity effect of resource allocation across establishments (see [Hsieh and Klenow \[2009\]](#) and [Alfaro, Charlton, and Kanczuk \[2009\]](#); [Alfaro and Chari \[2014\]](#)). The role of reallocation, although under-emphasized in evaluating gains from multinational production, is well established in determining the productivity gains from trade liberalization (see [Melitz 2003](#); [Melitz and Redding 2014](#)).

also occasions an increase in the minimum revenue of continuing domestic firms, which implies an increase in fixed production cost and capital price. That the estimates show a significant decrease in aggregate price suggests increased competition and market reallocation. These results suggest that sensible policy should aim to facilitate gains from competition and the reallocation of resources by improving domestic conditions including credit access and labor supply (particularly skilled labor), while eliminating regulatory barriers.

Externalities and spillovers are, of course, by their very nature, difficult to measure. Quality upgrades, worker training, and improvements in the business environment and organizational practices are among other factors that can positively affect host economies.¹³ MNEs may also cluster, worldwide, to benefit from interaction with one another.

Regional and urban economists and economic historians have long recognized the agglomeration of economic activity as one of the salient features of economic development. An extensive body of research examines the distribution of population and production across space and economic characteristics and effects of spatial concentrations. Understanding the emerging spatial concentrations of multinational production around the world, and the driving forces behind these new concentrations relative to those of their domestic counterparts, is crucial to designing and improving policies.

Alfaro and Chen's (2014) investigation of the patterns and determinants of the global economic geography of multinational firms suggests that emerging offshore clusters of multinationals are not simply a reflection of domestic industrial clusters. That is, within a host country, multinationals and their domestic counterparts follow different agglomeration patterns. The location decisions of MNEs reflect not only such location fundamentals as market access (to avoid trade costs) and comparative advantage (to acquire abundant factors at lower cost) but also agglomeration economies that emphasize the benefits of geographic proximity between firms including lower transport costs between input suppliers and final good producers (vertical linkages), labor-market and capital-good-market externalities that reflect MNEs' high capital- and innovation-intensity, and technology diffusion. Multinational entrants also exhibit a stronger propensity to cluster with incumbent multinationals than with incumbent local plants, especially in the presence of strong capital-good-market externalities and technology diffusion benefits. In particular, the authors find multinational foreign subsidiaries to be more agglomerative than domestic plants in capital-intensive, skilled-labor-intensive, and R&D-intensive industries.

These results are consistent with increasing segmentation of activities within the boundaries of multinational firms, in particular, the market-seeking and input-sourcing focuses of offshore production and emphasis of headquarters on such knowledge-intensive activities as R&D, management, and services.

13. See Bao and Chen (2013) for evidence of upgrading in anticipation of foreign competition.

V. CONCLUDING COMMENTS

This paper combines macro- and micro-level approaches, informed by theory, to examine the effects of foreign direct investment (FDI) on host (particularly developing) countries' economies. An understanding is sought of the role of complementary local conditions conducive to reaping the benefits of FDI, and of the mechanisms, namely, within- and between-firm selection and market reallocation, by means of which the desired effects can be realized.

Insights gleaned from new research into the role of complementarities and the mechanisms by which FDI induces growth begin to reconcile the ambiguous evidence on FDI's ability to generate growth in host countries. The research on complementarities has shown FDI's positive impacts to not be exogenous but rather conditional on certain local conditions. Research into the mechanisms and channels by which FDI can generate positive externalities goes a step further in illustrating *how* complementarities—a competitive environment that assures that market share is allocated to the most productive firms, or developed financial markets that ensure that vertical supply relations develop into meaningful linkages—can act as “absorptive capacities” to facilitate realization of the benefits of FDI.

If knowledge spillover is the primary source of productivity gains, special treatment for foreign firms, often in the form of tax breaks and financial incentives, may be justified and sufficient. But if productivity gains also arise from market reallocation, improving domestic market conditions including labor supply and credit access, and eliminating barriers to reallocation may also be important. Improving local conditions and accelerating growth are, in turn, likely to attract foreign firms.

What are the policy implications of the “integrated approach”? FDI can play an important role in economic growth, most likely via suppliers. But local conditions matter and can limit the extent to which the benefits of FDI materialize. Sensible policies might eliminate barriers that prevent local firms from establishing adequate linkages; improve local firms' access to inputs, technology, and financing; and streamline the procedures associated with selling inputs. Research suggests that improving domestic conditions as well should have the dual effect of attracting foreign investment and enabling host economies to maximize the benefits of foreign investment.

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