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Foreign direct investment and economic growth: A real relationship or wishful thinking?^{*}

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ABSTRACT

Several theories have been advanced on the beneficial effect of foreign direct investment (FDI) on economic growth. However, mixed empirical findings have resulted in a long-standing debate. This study explores the global FDI–growth relationship through an 'informed' econometric analysis predicated on substantial guidance obtained from a detailed investigation of 880 estimates reported in 108 published studies. With model uncertainties alleviated and the core specification benchmarked against the aforementioned assessment, our econometric analysis, utilising a global sample of 140 countries in the period 1970 to 2009, conclusively documents that FDI positively affects economic growth. Moreover, we find that this association holds globally as strongly as in the developing world. Further, it is regional variation rather than within-country variation, and contemporaneous FDI rather than past FDI, which matters for growth. Finally, appropriate absorptive capacity indicators for positive growth are identified to be trade openness and financial development rather than schooling.

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1. Introduction

Developing countries are generally unable to exploit the benefits from their abundant natural resources due to inadequate human and physical capital and technological knowhow. Many of these countries are also typically constrained by weak protection of property rights, corruption, and severe civil, political and economic instability. Such setbacks hinder their capital accumulation and become obstacles to using already existing resources. Consequently, international sources of growth such as development aid assistance, loans, portfolio flows, and foreign direct investment (FDI), become highly pursued items on their economic agenda. Compared to other sources of international capital, FDI arguably offers significant advantages, principally because it provides the host country with a relatively more stable flow of funds, helps augment productive capacity, and increases employment and trade. It is also argued that FDI generates positive knowledge externalities through labour training and skill acquisition, helps transfer technology and organisational knowhow, introduces new production processes, creates backward and forward linkages across sectors, and provides domestic firms with much-desired access to foreign markets.

E-mail addresses: sasi.iamsiraroj@deakin.edu.au (S. Iamsiraroj), mehmet.ulubasoglu@deakin.edu.au (M.A. Ulubaşoğlu). The host country, in return, offers foreign firms new and relatively unexploited markets, cheap labour, and natural resources.

Globally, FDI has grown from about 0.5% of the world's GDP in 1970 to over 3% in 2008. The World Bank (2010) reports that the overall share of developing countries in global FDI inflows was 37% in 2010, representing more than a three-fold increase since 2000. Thus, the growth effects of FDI and the channels through which these effects operate are of great importance to understand.

Despite a significant body of theoretical and empirical research exploring these connections, extant empirical literature does not offer a clear picture on the central issue of whether FDI has globally any effect on growth. A thorough review of the literature conducted in this study reveals 108 empirical studies using data from around the globe and reporting 880 regression estimates of the effects of FDI on growth. Curiously, the distribution of these estimates is such that 43% are positive and statistically significant, 26% are positive and statistically insignificant, 17% are negative and statistically significant, and 14% are negative and statistically insignificant. That is, fewer than half of the studies have found a positive and statistically significant effect, and nearly one-third report a negative effect of FDI on growth. Further, 40% find a statistically insignificant effect. This mixed distribution could suggest that the theoretical predictions about the beneficial role of FDI for the host country might be very optimistic, and thus, they do not receive full support from the data. Thus, it appears that the theories related to issues such as spillovers, technology diffusion, labour training and skill acquisition, might be merely 'wishful' thinking, rather than pointing towards the 'real' effects of FDI on growth.





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The core of objective of this paper is to present a more informed exploration of FDI-growth relationship by using a two-step approach. The first step conducts a detailed analysis of 880 reported FDI-growth estimates from 108 published studies. This investigation is useful for two reasons. First, covering almost the entire population of published estimates, it permits a better understanding of the research process by providing formal evidence on the manner in which findings vary with respect to factors such as the choice of dependent and independent variables, sample composition, time span, and methodology. This procedure, also known as meta-regression analysis (MRA), has been adopted by a growing number of papers to shed light on several important issues (e.g., Card and Krueger, 1995; Disdier and Head, 2008; Doucouliagos and Ulubasoglu, 2008; Görg and Strobl, 2001; Havranek and Irsova, 2011; Irsova and Havranek, 2013). Second, with accumulated evidence considered in its entirety, variations exhibited by numerous models accounted for, and the effects of sampling error netted out, an econometric specification that can serve as a highly useful benchmark for empirical analysis using cross-country data becomes possible.

Not surprisingly, the first step yields substantially rich information on the sources of different findings on the global FDI–growth relationship and how, in turn, uncertainties related to empirical formulation can be alleviated to obtain a more reliable picture on the said link. Therefore, in the second step, we conduct an econometric investigation of the FDI–growth relationship using data from a sample 140 countries around the world over the period 1970 to 2009, and find new and important results which shed light on the global FDI– growth connection. Our approach contrasts with not only those studies that adopt a simple qualitative assessment of previous findings to formulate their econometric specification, but also many MRA-based studies that do not convey their results to a formal framework for an informed econometric analysis.

Taken together, our analysis documents conclusively that voluntary exchanges reflected in FDI do generate economic growth. Moreover, we find five new and important results on the global FDI-growth linkage. First, the FDI-growth relationship exhibits stronger within-region variation than within-country variation. While this does not mean that there is no within-country variation, a region, as a larger unit, might host sufficiently different types of FDI that in turn demonstrate greater ability to produce growth. Single countries might host a more narrow range or more specific types of FDI that have comparatively lower ability to generate growth. Second, the FDI-growth association holds globally as strongly as in the developing world. This is important because theoretical arguments generally point to the benefits of FDI only for developing countries. Third, absorptive capacity is important, but our evidence suggests that crucial absorptive capacity variables are trade openness and financial development. The latter is consistent with Alfaro et al. (2004). Also, the absorptive capacity effects work nonlinearly in that FDI enhances growth up to a certain level of financial development and trade openness, and the effect tapers off at very high levels of the latter two. Conversely, schooling does not emerge strongly as an absorptive capacity variable as was argued in the previous literature. Fourth, it is current FDI, rather than past (i.e., lagged) FDI that matters for growth. This might be because FDI's effect is encapsulated in other parts of the economy over time such that the effect is observed only contemporaneously. Lastly, government size and inflation play important roles in the manner in which FDI affects growth.

Before proceeding, it is worthwhile to emphasize that Iwasaki and Tokunaga (2014) comes closest to our study. Using 119 published estimates from 23 studies on the transition economies of Central and Eastern Europe and former Soviet Union, Iwasaki and Tokunaga find a non-zero effect of FDI on economic growth. We differ from their study in three major respects. First, we cover the whole world, and use 880 estimates from 108 published studies. Second, we convey our metaanalysis findings to primary data. In particular, we cross-check our MRA findings with cross-country global data, as well as conduct econometric investigation using the benchmark specification suggested by the MRA. Third, given our global focus, our results convey a very different set of findings.

2. A brief review of the theoretical and empirical literature

The aforementioned varied distribution of FDI–growth estimates parallels diverse questions on the connection between FDI and growth. In what follows, we provide a critical overview of the theoretical and empirical literature to shed light on the background of the divergent findings in prior work. The very range of questions that arises demonstrates that it is not entirely surprising to obtain mixed results.

Razin and Sadka (2007) classify the literature on FDI into two broad categories: (i) micro-level studies exploring, with reference to international trade and industrial organisation theories, the market power of foreign firms, firm-specific production and cost advantages, and (ii) macro-finance studies that generally focus on the long-term growth effects of FDI with respect to growth theories.

2.1. Positive effects of FDI on growth

In neoclassical models, long-term growth can only result from exogenously driven technological progress and/or labour force growth. Hence, FDI can only affect economic growth if it enhances technological progress. The mere injection of capital stock would lead to long-term level effects, yet only transitional growth. In endogenous growth theories, FDI contributes to growth directly through higher capital stock and newer technology, and indirectly through improving human capital, infrastructure, institutions, and spillovers. Positive externalities can take the form of managerial skills, organisational knowhow, and labour training. FDI can also assist the host economy with gaining access to world markets. Empirical studies finding a positive effect of FDI on growth include De Gregorio (1992), Zhang (2001), and Baldwin et al. (2005).¹

Although the theoretical predictions are clear, a number of puzzling facts also exist. While the effect of FDI on growth would depend inversely on the technological gap between the investor and the host country (motivated by the neoclassical prediction that capital would flow across countries in search of higher marginal returns), one paradox is that, until recently, approximately three-quarters of global FDI activity took place among developed nations (Razin and Sadka, 2007). Thus, one wonders what the data can deliver in the context of the North–South relationship.

Numerous other questions abound. For example, FDI is often a specific investment into a specific sector.² Hence, for FDI-driven technology transfers and spillovers to be able to create economy-wide growth, a multiplier effect should be initiated across sectors. Does FDI reach the other parts of the economy? What if foreign firms operate in isolated enclaves? Does FDI bring *the* latest technology, or simply more of the existing high technology? Where do foreign firms stand in the host economy relative to leading domestic firms? How do foreign firms manage the domestic labour—by training or by firing?³ What roles do country-specific factors play in these activities?⁴

These are well-known questions that scrutinise the growthgenerating role of FDI in the host country. Divergent effects seem normal if models using cross-country data do not carefully model the factors conducive to growth, including the type of inflows, domestic economic conditions, timing of the effects, and regulatory framework.

¹ Baldwin et al. (2005) use industry-level data from seven OECD countries.

² One reason for the FDI surge in developing nations is the foreign acquisition of domestic firms in privatisation programmes that generally target specific industries (e.g., the sale of telecommunication firms).

³ It is well known that privatised firms (or those acquired by foreign firms) dispose of some labour initially.

⁴ In fact, a number of studies have found heterogeneous FDI–growth effects across countries (e.g., de Mello, 1999; Nair-Reichert and Weinhold, 2001), even within developing countries. See also Durham (2004).

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