

Foreign direct investment and economic growth

Christopher Gresh | University of Maryland

Abstract

This presentation provides evidence of a causal relationship between foreign direct investment (FDI) inflows and economic development as measured by real, per capita GDP growth in recipient countries. I conduct a cross-country empirical analysis using a fixed effects and instrumental variables approach to determine the effect of exogenous changes in FDI inflows on recipient country

growth. I use a dataset constructed by Silvia Miranda-Agrippino that contains non-systematic (random) movements in US monetary policy to generate a novel instrument for FDI flows. These results broadly validate the findings of previous literature and open the door for further research into the precise mechanisms that generate this relationship.

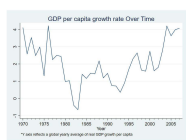
Introduction

Foreign direct investment (FDI) describes an economic relationship in which an individual or entity holds significant control over an enterprise in a foreign economy. An example of this would be an American firm coming a diamond mine in Mexico. The salience of FDI has greatly increased since the 1970s.



This graph depicts the global average of net FDI inflows as a percentage of recipient country GDP from 1970 until 2007. The increase over time is dramatic; in 1970, net FDI inflows to the average country constituted 0.52% of GDP, and by 2007, this number had risen to 8.10% of GDP. These trends, in part, reflect the world's increasingly globalized economy and neoliberal hegemony.

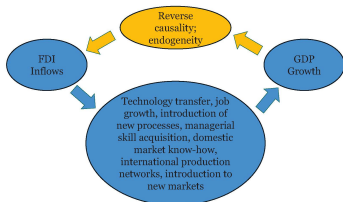
A natural question, with strong policy implications, arises: what is the effect of increased FDI inflows on recipient economies? To evaluate this empirically, past research has investigated the effect of FDI inflows on GDP growth.



When considering global trends in average GDP growth over time, there appears to be a moderate correlation between FDI and growth. Also, the existing literature broadly suggests a growth-inducing causal effect of FDI inflows on recipient countries, conditional on certain local conditions. However, these findings are limited by their ability to isolate changes in FDI flows that are exogenous to the conditions of recipient economies.

My research contributes to the literature by introducing a novel instrumental variable and fixed effects, multivariate regression to isolate exogenous shifts in FDI flows, ultimately revealing a positive causal effect of FDI flows on growth.

Theoretical Framework



This graphic depicts the underlying theoretical framework that motivates the research question. As FDI flows from country A to country B, the investing firm brings several, potentially growth-inducing, factors to country B. For instance, Bornstein et al. (1998) suggest that investing firms bring with them new physical technology and industry know-how. Alfaro et al. (2004) expand upon this, adding that FDI brings along with it skill transfers, introductions to new markets, and exposure to international production networks.

Increased FDI inflows stimulate growth via the goods and services generated directly by foreign firms. Additionally, the factors described (know-how, physical technology, etc.) serve as positive spillovers, which can improve production efficiency by local firms. For instance, a domestic firm in the recipient country may become more productive because of new technology or processes introduced by the foreign firm. Increased productivity of domestic firms then promotes domestic growth in the recipient economy.

Dataset

For the empirical analysis, data has been collected for the independent variable, instrumental variable, and several control variables.

Variable	Units	Source	Country	Year	Start Year	End Year	Min	Max	Std. Dev.	Mean	Std. Dev.	Min	Max
GDP Growth	%	WDI	172	1970	2007	2.00	14.00	1.77	6.24	1.52	2.00	14.00	
Net FDI Inflow (Real)	\$Bn	WDI	172	1970	2007	0.00	1.00	0.18	0.18	0.18	0.00	1.00	
Net FDI Inflow (Real)	%	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
Constant	Country	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
Trade Openness	%	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
Population Growth	%	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
India	Yes/No	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
Trade Openness	%	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
Pop. Growth	%	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
India	Yes/No	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
Trade Openness	%	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
Pop. Growth	%	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
India	Yes/No	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
Trade Openness	%	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
Pop. Growth	%	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
India	Yes/No	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
Trade Openness	%	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
Pop. Growth	%	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
India	Yes/No	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
Trade Openness	%	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
Pop. Growth	%	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
India	Yes/No	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
Trade Openness	%	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
Pop. Growth	%	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
India	Yes/No	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
Trade Openness	%	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
Pop. Growth	%	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
India	Yes/No	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
Trade Openness	%	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
Pop. Growth	%	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
India	Yes/No	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
Trade Openness	%	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
Pop. Growth	%	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
India	Yes/No	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
Trade Openness	%	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
Pop. Growth	%	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
India	Yes/No	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
Trade Openness	%	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
Pop. Growth	%	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
India	Yes/No	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
Trade Openness	%	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
Pop. Growth	%	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
India	Yes/No	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
Trade Openness	%	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
Pop. Growth	%	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
India	Yes/No	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
Trade Openness	%	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
Pop. Growth	%	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
India	Yes/No	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
Trade Openness	%	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
Pop. Growth	%	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
India	Yes/No	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
Trade Openness	%	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
Pop. Growth	%	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
India	Yes/No	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
Trade Openness	%	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
Pop. Growth	%	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
India	Yes/No	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
Trade Openness	%	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
Pop. Growth	%	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
India	Yes/No	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
Trade Openness	%	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
Pop. Growth	%	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
India	Yes/No	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
Trade Openness	%	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
Pop. Growth	%	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
India	Yes/No	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
Trade Openness	%	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
Pop. Growth	%	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
India	Yes/No	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
Trade Openness	%	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
Pop. Growth	%	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
India	Yes/No	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
Trade Openness	%	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
Pop. Growth	%	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
India	Yes/No	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
Trade Openness	%	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
Pop. Growth	%	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
India	Yes/No	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
Trade Openness	%	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
Pop. Growth	%	WDI	172	1970	2007	0.00	14.00	1.77	6.24	1.52	0.00	14.00	
India	Yes/No	WDI	172	1970									