

# THE EFFECT OF GREENFIELD INVESTMENT AND MERGERS AND ACQUISITIONS ON DOMESTIC INVESTMENT AND ECONOMIC GROWTH: PANEL IV-GMM ESTIMATION

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**Abstract:** *In the globalised and open market economy, foreign direct investment is crucial for economic growth. The FDI in the form of greenfield investment and mergers and acquisitions not only influences domestic economic growth but also the domestic investment which in turn affects the economic growth of the host country. This paper estimates the effects of greenfield investment and mergers and acquisitions on gross fixed capital formation and growth rate developing countries. Empirically, on a panel data from 16 countries for the period 2003-2015, the panel fixed and random effects regressions, 2SLS and panel instrumental variable generalised method of moments estimation are applied. The estimated results show that greenfield investment has a significant positive effect and mergers and acquisitions have no significant impact both on domestic investment and growth rate of the host economies. The greenfield investment also has a marginal crowding out effect, less than capital inflow, on domestic investments and mergers and acquisitions does not contribute to capital accumulation in developing countries.*

**Keywords:** *FDI, greenfield investment, mergers and acquisitions, domestic investment, growth, panel IV-GMM estimation*

## INTRODUCTION

Increasing GDP or per capita income has been viewed as synonymous with economic growth. Therefore, enhancing per capita income through increasing current output level has been the primary objectives of almost all economies. It has also been widely accepted that domestic savings, capital stock and investments are the key determinants of output and therefore economic growth. In the globalised and open market economy, the foreign direct investment (FDI) is vital and all developing economies vie to attract the FDI. The developing countries have outlined various regulatory and investment promotion policies aimed at creating stronger incentives that are capable of attracting FDI flows such as subsidies, tax breaks, incentives in employment and labour regulations. The FDI refers to net inflows of investment in an economy, usually as participation in a joint venture, acquisitions, technology transfer and experience, and mainly

through multinational enterprises. The FDI fills the gap in domestic investments. FDI is now considered as the main source of catching up and the technological development of economies. In addition to fill the traditional investment and foreign exchange gaps, the FDI can stimulate domestic investment and generate externalities and knowledge spillovers, transfer of technology to domestic firms, provide employment and access to international markets.

Generally, investing firms will look to improve and enhance the returns to investment, domestic or in foreign countries. When business firms decide to expand their operations, one of the main problems they face is whether it is beneficial to have the business take matters into its hand and create a new site of operations in a foreign country – a greenfield investment (GI) - or merge with or acquire an existing company - merger and acquisition (M&A). Therefore, it is crucial to identify the advantages for multinational enterprises to invest in foreign countries. It has been suggested that there are three conditions needed to find incentives for foreign direct investment: ownership advantage, location advantage and internalisation advantage. Ownership advantages refer to the competitive advantage of the enterprises seeking to FDI. The greater the competitive advantage of the investing firms, the more they are likely to engage in foreign production. The internalisation advantage refers to advantages by own production rather than producing through a partnership arrangement such as licensing or joint venture. A business firm may also opt for greenfield investment if there is no suitable target in the foreign country to acquire. This is favourable in situations where business can gain government-related benefits by starting up from scratch in a new country, as countries provide subsidies, tax breaks or other benefits to promote the country as a good location for FDI. At firm-level, the FDI can provide better advantages for the multinational enterprises.

**Table 1**  
**Growth Rates of Global GDP, GFCF, Trade, Employment and FDI**

(percent)

<i>Variable</i>	<i>2008</i>	<i>2009</i>	<i>2010</i>	<i>2011</i>	<i>2012</i>	<i>2013</i>	<i>2014</i>	<i>2015</i>	<i>2016</i>
GDP	1.5	-2.0	4.1	2.9	2.4	2.5	2.6	2.8	3.1
Trade	3.0	-10.6	12.6	6.8	2.8	3.5	3.4	3.7	4.7
GFGF	3.0	-3.5	5.7	5.5	3.9	3.2	2.9	3.0	4.7
Employment	1.2	1.1	1.2	1.4	1.4	1.4	1.2	1.3	1.2
FDI flows	-20.4	-20.4	11.9	17.7	-10.3	4.6	-16.3	11.4	8.4

The growth rates presented in Table 1 show that global FDI flows has declined over the years since the financial crisis of 2008 because of the fragility of the global economy, policy uncertainty for investors and elevated geopolitical

risks. The decline in FDI flows is in contrast to the positive growth rates of other factors like GDP growth, trade, gross fixed capital formation (GFCF) and employment. Global GDP is expanding and in developing countries GDP growth rate is 3.8 percent because of low commodity prices and cheap labour. Moreover, the FDI flows fluctuate more often, reaching a peak in 2007 at around US\$ 2 trillion, dropping to US\$ 1.2 trillion by 2009 as a result of the international financial crisis. The FDI flows represent a relative share of about 10 percent of GFCF in individual countries, in some countries higher than domestic investment. However, international investment has been lagging behind other broad measures of economic activity. As Figure 1 reveals, while foreign direct investment flows are 36 percent below their 2007 levels, trade flows have grown by 36 percent over the same period.

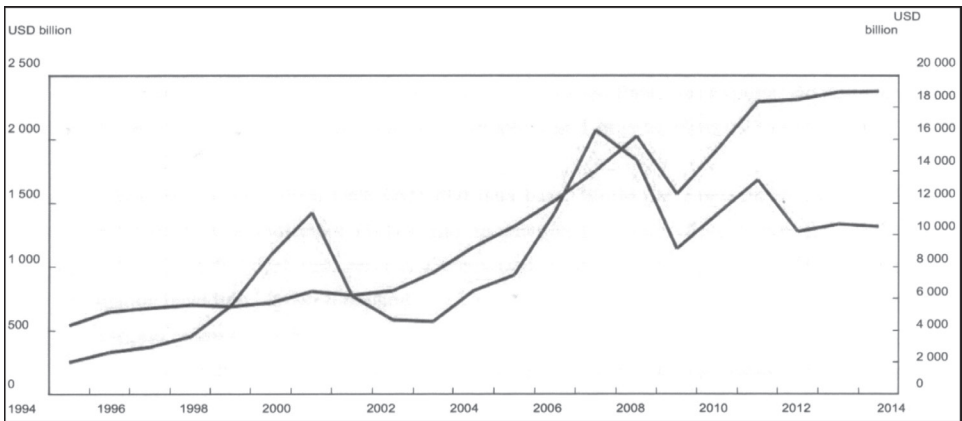


Figure 1: Trends in Global FDI Flows and Trade Flows

Note: Global FDI flow on left axis and global trade flow on right axis.

Given the significance of FDI flows to investment and growth of economies, this study examines the effects of FDI, specifically greenfield investment and mergers and acquisitions, on domestic investment and economic growth in developing countries. In the empirical analysis, the study uses panel data for 16 developing countries for the period 2003 to 2015 and employs the 2SLS and the instrumental variable generalised method of moments (IV-GMM) methods of estimation.

## REVIEW OF LITERATURE

Neary (2007) examines cross border M&As using a model of oligopoly in a general equilibrium framework. Theoretically, a key prediction of mergers

is cost differences between firms. International differences in technology generate incentives for bilateral mergers in which low-cost firms located in one country acquire high-cost firms located in the other. As a corollary, the model predicts that cross-border mergers and exports are rather complements than substitutes, as the exporting sectors tend to be sources rather than hosts for FDI. As a result, cross border serves as instruments of comparative advantage facilitating more specialisation and moving production and trade patterns closer to a competitive Ricardian world. Cross border M&As also have implications for aggregate welfare and income distribution, putting downward pressure on wages and so tilting distribution of income towards profits at the expense of wages in both countries. The fall in wages puts downward pressure on prices in all sectors which tends to increase the gains from trade in both countries. Also, the model suggests a very different normative interpretation: reduction in employment through takeovers of existing firms may be a means of realising gains from trade liberalisation, just like firm closures in traditional firm theory.

Harrison and Mcmilan (2003), using firm-level data in Ivory Coast, analyse whether incoming FDI in developing countries plays an important role in alleviating credit constraints of domestic firms. The study finds a difference between credit constraints faced by foreign and domestic firms. While investment of public firms are not sensitive to debt ratios and foreign borrowing in domestic credit markets, private firms are crowded out by foreign borrowing and are more credit constrained than foreign firms. A major reason behind more credit constraints on domestic enterprises than on foreign firms in the same sector is crowding out by foreign entrants. Hence, foreign firms might be a better investment than domestic firms.

Calderon et al. (2004) analyse the dynamic relationship between GI, M&As, domestic investment and GDP. The VAR estimates show that both GI and M&As influence domestic investment, but they are led by GDP growth. This reflects that economic growth is an effective pull factor for foreign investment, which is an important indicator of domestic investment. Agosin and Machado (2005), using panel data of 36 developing countries, examine the long-term crowding out effect of FDI on domestic investment.

Herzer (2010) analyses the effect of FDI on economic growth in two ways, one based on the long-run relationship between FDI and output and other the cross-country differences in FDI growth effects. The panel estimates show that volatility of FDI is directly related to macroeconomic uncertainty, which in turn affects domestic investment. Another important factor that affects FDI growth is political and economic stability.

Blonigen and Piger (2014), using the Bayesian Model Averaging (BMA) method, examine the determinants of three different measures of FDI viz. FDI stock, affiliate sales and cross-M&As. The three specifications used in the paper postulate a role for economic size and trade frictions as driving forces of FDI. While affiliate sale is considered as the appropriate measure of actual multinational firm activity in a host country, M&As is desired as one which dominates over the other two FDI measures. The Bayesian Model Averaging (BMA) analysis indicates that many of the covariates used in prior FDI studies do not have a high probability of inclusion in the true FDI determinants model once a comprehensive set of potential determinants are considered. However, there is no evidence that policy variables controlled by the host country impact the FDI.

Lautier and Moreaub (2012) investigate the impact of domestic investment on FDI in developing countries using a large cross-country sample. The paper observes a bi-directional relationship between FDI and domestic investment and that domestic investment is a strong catalyst for FDI in developing countries. The study also finds a strong influence of previous domestic investment on foreign investors. Al Khatib et al. (2012) estimate of the long-run relationship between real GDP growth rate, FDI, gross domestic investment, the export of goods and services and domestic credit in Jordan shows that real GDP and export of goods and services are the controlling factors of domestic investment.

Harms and Meon (2018) demonstrate the differential effects of GI and M&As on economic growth in developing countries. An important assumption is that FDI in the same sector follows the same regime, but in different sector follows different regime, and hence there is a need for the choice of the regime. The impact of FDI on sectorial outputs depends on whether a sector adapts GI or M&As. This means that the total volume of GI has a stronger effect on aggregate output growth than M&As. The growth effects of GI may weaken if the existing domestic firms are disrupted by new firms. The GMM method is used in the estimation with both the FDI variables, GI and M&As are endogenous, GI is endogenous and M&As is exogenous and vice versa. A key finding is the significant positive effect of GI on aggregate output growth and no effect of M&As. The paper concludes that greenfield investment has a stronger effect on growth than M&As.

Masry (2015) analyse various factors that attract FDI in Egypt during 1961-2012, where two developments, global financial crisis of 2008 and Arab Spring revolutions that had major impacts on the Egyptian economy and

political struggle, have shaken the FDI inflows in Egypt. The study finds that the factors that attract FDI in Egypt are GDP, economic openness, general government expenditure and employment. In general, countries with large trade market potentials and relatively higher contribution of industries to GDP is more likely to be successful in attracting FDI.

In the Indian context, Kumar (2012) studies the impact of FDI on export and growth. FDI is viewed as an accelerator of host country economic growth by promoting host country exports. The empirical estimates indicate that FDI indeed has a positive impact on India's export boom as its effects are much larger than those of domestic capital. Singh *et al.* (2012) examine the role of FDI and FII in India in bridging the gap between savings and investment, improving the quality and availability of goods, and in economic development. It is found that foreign investment flows are supplementing the scare domestic investment in developing countries and these investments meet the financial requirement for building up the basic and essential infrastructure industries of priority sector.

## DATA AND METHODOLOGY

The data used in this study is a panel data for 16 developing countries for 13 years from 2003 to 2015, consisting of 208 observations. The developing countries considered are Argentina, China, Hungary, India, Indonesia, Republic of Korea, Mexico, Philippines, Romania, Russian Federation, Singapore, South Africa, Sri Lanka, Thailand, Ukraine and Vietnam. The FDI, greenfield investment, and mergers and acquisitions data are sourced from UNCTAD. The data on political stability and absence of violence are collected from the World Governance Indicators. The International Country Risk Guide measure of corruption (ICCG) data is sourced from Political Risk Service. The data on net exports, GFCF, GDP, GDP per capita, interest rate, government expenditure, exchange rate and government expenditure are obtained from the World Development Indicators of the World Bank.

## PANEL REGRESSION METHOD

Panel data, a cross-section of a time series, allows for inter-individual differences and intra-individual dynamics in behaviour across observational units. The basic panel regression is specified as:

$$y_{it} = \beta x_{it} + \eta_i + u_{it} \quad (1)$$

where  $\eta$  is the heterogeneity or individual effect containing a set of individual variables which may be observed or unobserved, all of which are taken to

be constant over time. In the presence of unobserved individual effects, the OLS is biased and hence the heterogeneity has to be eliminated. The common estimation methods used to control the presence of individual heterogeneity are the pooled, fixed effects, random effects and random parameters regression methods.

A further complication in the estimation arises when the regressors are correlated with the error term. If estimated as such, the OLS approach produces inconsistent estimates of the unknown coefficients of the regression function. A way out is to add one or more additional variables as a proxy to the correlated variable, known as instrumental variables. Instrumental variables isolate the movements in regressor that are uncorrelated with the error, which in turn permit consistent estimation of the regression coefficients. A valid instrumental variable (IV) such as  $z$  must satisfy two important conditions: instrument relevance,  $\text{corr}(x_i, z_i) \neq 0$ , and instrument exogeneity,  $\text{corr}(z_i, u_i) = 0$ . If the instrument  $z$  satisfies the conditions of instrument relevance and exogeneity, then the coefficients  $\beta$  can be estimated using an IV estimator, the two stage least squares (2SLS). The conventional IV estimators such as 2SLS are special cases of generalised method of moments (GMM) estimator.

## GENERALISED METHOD OF MOMENTS

The starting point of GMM estimation is the assumption that there are a set of  $m$  moment conditions that the  $k$ -dimensional parameters of interest  $\beta$  should satisfy. Often a particular model has more specified moment conditions than parameters to be estimated. The vector of  $m \geq k$  moment conditions is specified as:  $E[m(y_i, \beta)] = 0$ . In most econometric applications, moment conditions impose an orthogonality condition between the residuals  $u$  and the set of instruments  $z$  as:  $E[z_i u(\beta)] = 0$ . The traditional method of moments estimator is defined by replacing the moment conditions with their sample analog and finding the parameter vector  $\beta$  which solves the set of  $m$  equations.

Consider the model:

$$y_i = \beta x_i + u_i \quad (2)$$

$$E(z_i, u_i) = 0 \quad (3)$$

for  $k$  variables in  $x$  and for some set of  $z$  instrumental variables, where  $z \geq k$ . The GMM estimation assumes much less about data generating process, and hence no specific distribution is assumed for the disturbances, conditional or unconditional. The assumption  $E(z_i, u_i) = 0$  implies orthogonality condition:  $\text{cov}(z_i, u_i) = 0$  or  $E[z_i (y_i + \beta x_i)] = 0$ .

The population moment equation is specified as:

$$E\left[\frac{1}{n}\sum z_i(y_i + \beta x_i)\right] = E[\bar{m}(\beta)] = 0 \quad (4)$$

If  $z = x$ , then this is the population counterpart to the least squares normal equation. The empirical moment condition is  $q$  equations (the number of variables in  $z$ ) in  $k$  unknowns (the number of parameters to be estimated). As in 2SLS, the equations may be under identified, exactly identified or over identified.

If there are fewer moment equations than there are parameters ( $q < k$ ), the solution to the under identified equation system is given by:

$$\bar{m}(\beta) = \left[\frac{1}{n}z'y\right] - \left[\frac{1}{n}z'x\right](\beta) \quad (5)$$

For exactly identified equation system,  $q = k$ , the single solution to the equation system is given by:

$$\beta = (z'x)^{-1}z'y \quad (6)$$

which is not an instrumental variable, but a method of moments parameter. For over identified equation system,  $q > k$ , there is no unique solution to the equation system as:

$$\bar{m}(\hat{\beta}) = 0 \quad (7)$$

Therefore, a minimum distance estimator is chosen on the criterion function:

$$\min \beta_q = \bar{m}(\hat{\beta})' \bar{m}(\hat{\beta}) \quad (8)$$

The sample moment converges in probability to its population counterpart:  $plim \bar{m}(\beta) \rightarrow 0$ . The parameters are identified in terms of the moment equations. The GMM estimator is obtained as the solution to:

$$\min \beta_q = \bar{m}(\beta)' [Asy. var \sqrt{n} \bar{m}(\beta)]^{-1} \bar{m}(\beta) \quad (9)$$

which suggest that that the GMM estimator is a function of weighting matrix of the asymptotic covariance of  $\hat{\beta}$ .

The IV-GMM equation is specified as:

$$y = \beta x + u \quad u \sim (0, \Omega) \quad (10)$$



with  $\mathbf{x}$  ( $n \times k$ ) and define a matrix  $\mathbf{z}$  ( $n \times q$ ) where  $q \geq k$ , where  $q$  instruments give rise to a set of  $q$  moments:

$$g_i(\beta) = z_i'u = z_i'(y_i + \beta x_i) \quad i = 1, \dots, n \tag{11}$$

where each  $g_i$  is a  $q$  vector. The method of moments approach considers each of the  $q$  moment equations as a sample moment, which may be estimated by averaging over  $n$ :

$$\bar{g}(\beta) = \frac{1}{n} \sum z_i'(y_i + \beta x_i) = \frac{1}{n} z_i'u \tag{12}$$

The GMM approach chooses an estimate that solves:

$$\bar{g}(\hat{\beta}_{GMM}) = 0 \tag{13}$$

The IV-GMM estimator of an over identified equation provides the regression coefficients as:

$$\hat{\beta}_{GMM} = (x'zWz'x)^{-1} x'zWz'y \tag{14}$$

where the  $W$  is the weighing covariance matrix.

### EMPIRICAL ANALYSIS

The estimating domestic investment, measured by gross fixed capital formation, and growth rate are specified as:

$$GFCF_{it} = \alpha_0 + \alpha_1 GFCF_{it-1} + \alpha_2 GIFDI_{it} + \alpha_3 M \& A_{s_{it}} + \alpha_4 GDP_{it} + \alpha_5 IR_{it} + \alpha_6 PS_{it} + \epsilon_{it} \tag{15}$$

$$\ln \Delta GDP_{it} = \beta_0 + \beta_1 GFCF_{it} + \beta_2 GIFDI_{it} + \beta_3 M \& A_{s_{it}} + \beta_4 IR_{it} + \beta_5 PS_{it} + \epsilon_{it} \tag{16}$$

$$i = 1, 2, \dots, 16$$

$$t = 2003, \dots, 2015$$

The GIFDI and M&As are endogenous variables and are expressed in terms of a set of instrumental variables net exports, exchange rate, government expenditure and political stability:

$$GIFDI_{it} = \gamma_0 + \gamma_1 GIFDI_{it-1} + \gamma_2 NEX_{it} + \gamma_3 FR_{it} + \gamma_4 GE_{it} + \epsilon_{it} \tag{17}$$

$$M \& A_{s_{it}} = \delta_0 + \delta_1 M \& A_{s_{it-1}} + \delta_2 NEX_{it} + \delta_3 ER_{it} + \delta_4 GE_{it} + \epsilon_{it} \tag{18}$$

The Table 2 presents the descriptive statistics of the variables used in the empirical analysis.

**Table 2**  
**Descriptive Statistics of Variables**

<i>Variable</i>	<i>Description</i>	<i>Mean</i>
GIFDI	Greenfield investment - foreign direct investment of a company that builds the entirety of its operations in a foreign market starting from scratch with highest degree of control for the company	18360.36 (24647.45)
M&As	Mergers and acquisitions - consolidation of companies by purchase or exchange assets and shares to create more value compared to being on an individual stand	2710.73 (7405.80)
GFCF	Gross fixed capital formation - net investment and improvements to existing fixed assets that increase their productive capacity	25.82 (7.13)
lnGDP	Gross domestic product - monetary value of all finished goods and services produced within the country	4.67 (3.98)
GDPpc	Per capita income - total output of a country divided by the number of people in the country	8685.70 (10712.87)
NEX	Net exports	1.34 (8.75)
ER	Exchange rate	13.75 (4.37)
GE	Government expenditure	1856.44 (4896.72)
IR	Interest rate	10.16 (4.56)
PS	Political stability - Kaufmann-Kraay-Mastruzzi measure of political stability measured by perceptions of the likelihood that the government will be destabilised or overthrown by unconstitutional or violent means including politically motivated violence and terrorism.	-0.36 (0.79)

*Note:* Standard deviations in parentheses.

The Table 3 presents panel fixed effects and random effects estimates of the impact of greenfield investment and mergers and acquisitions on domestic investment. Both greenfield investment and mergers and acquisitions have statistically significant positive effect on gross fixed capital formation. Net exports influence domestic investment significantly negatively. The effect of political stability on fixed gross capital formation is positive and the coefficients are statistically highly significant. However, GDP, interest rate and government expenditure have no significant effect on gross fixed capital formation. Between the fixed effects and random effects specifications, the Hausman test rejects the null hypothesis and hence the fixed effects is the appropriate specification.

**Table 3**  
**Panel Fixed and Random Effects Estimates of the Effects of GI and M&As on Domestic Investment Dependent variable: GFCF**

<i>Variable</i>	<i>Fixed effects</i>	<i>Random effects</i>
GIFDI	0.00004* (0.00)	0.000057* (0.00)
M&As	0.00005** (0.05)	0.000054** (0.03)
lnGDP	0.048 (0.34)	0.050 (0.33)
NEX	-0.379* (0.00)	-0.365* (0.00)
ER	-0.0002 (0.34)	-0.0001 (0.50)
GE	-0.222 (0.11)	-0.281** (0.02)
IR	-0.095 (0.15)	-0.098 (0.14)
PS	2.392* (0.00)	2.255* (0.00)
Constant	3.607* (0.00)	3.763* (0.00)
R <sup>2</sup> within	0.416	0.410
R <sup>2</sup> between	0.152	0.334
R <sup>2</sup> overall	0.194	0.339
Rho value	0.881	0.813
F value/Wald Chi <sup>2</sup>	16.41* (0.00)	133.39* (0.00)

Note: p-values in parentheses. \*, \*\*, \*\*\* significant at 1, 5, 10 percent levels.

The Table 4 presents the IV-GMM estimates of the effects of greenfield investment and mergers and acquisitions on gross fixed capital formation. Both the coefficients of greenfield investment and its value are positive and statistically significant. Also, the effect of GDP on domestic investment is significantly positive. But the coefficient of mergers and acquisitions is negative and insignificant. The effect of political stability on domestic investment is insignificantly negative. The long-run effect can be calculated by dividing the estimated short-run coefficient by (1- coefficient of lagged dependent variable) and the short-run effect is the estimated coefficient of the variable by the GMM. The calculated long-run effect of greenfield investment is 0.000098 in specification 1 and 0.000215 when merger and acquisitions is also included. The calculated long-run impact of greenfield investment implies crowding out effect of GIFDI on domestic investment, while merger and acquisitions have not statistical effect on domestic investment. The statistically significant p-value of Wald chi-square rejects the null hypothesis and the insignificant Hansen's J statistic accepts the null hypothesis and so the relevance and validity of the instruments are accepted.

**Table 4**  
**GMM Estimates of the Effects of GI and M&As on Domestic Investment**

Dependent variable: GFCF

<i>Variable</i>	<i>Specification 1</i>	<i>Specification 2</i>	<i>Specification 3</i>
GFCF <sub>t-1</sub>	0.796* (0.00)	0.831* (0.00)	0.767* (0.00)
GIFDI	0.0002** (0.03)	-	0.00005** (0.04)
M&As	-	0.00005 (0.63)	-0.00019 (0.31)
lnGDP	0.3007* (0.00)	0.334* (0.00)	0.281* (0.00)
IR	-0.0576 (0.16)	-0.079 (0.11)	-0.081*** (0.06)
PS	-0.098 (0.67)	0.252 (0.33)	-0.085*** (0.08)
Constant	4.017** (0.03)	3.665** (0.02)	5.169* (0.00)
R <sup>2</sup>	0.835	0.812	0.807
Wald Chi <sup>2</sup>	1471.44* (0.00)	1409.18* (0.00)	719.74* (0.00)
Hansen's J statistic	8.067 (0.15)	6.069 (0.11)	5.996 (0.11)

Note: p-values in parentheses. \*, \*\*, \*\*\* significant at 1, 5, 10 percent levels.

The 2SLS estimates of the effects of greenfield investment and mergers and acquisitions on economic growth, reported in Table 5, reveal a statically significant positive effect of greenfield investment on growth, but an insignificant effect of mergers and acquisitions on growth. The effect of domestic investment on growth is positive and significant.

**Table 5**  
**2SLS Estimates of the Effect of FD1 on Growth**

Dependent variable: ln( $\Delta$ GDPpc)

<i>Variable</i>	<i>Specification 1</i>	<i>Specification 2</i>	<i>Specification 3</i>
GIFDI	0.00003** (0.03)	-	0.00006** (0.04)
M&As	-	-0.00002 (0.31)	-0.00002 (0,24)
GFCF	0.131* (0.00)	0.112* (0.00)	0.161* (0.00)
IR	0.008 (0.27)	-0.0013 (0.88)	0.009 (0.27)
PS	-0.011 (0.83)	-0.020 (0.71)	-0.022 (0.69)
Constant	-1.285* (0.00)	-0.917** (0.02)	-1.547* (0.00)
Wald Chi <sup>2</sup>	15.39* (0.00)	11.23** (0.02)	14.80** (0.01)
Durbin-Wu-Hausman Chi <sup>2</sup>	7.128* (0.00)	1.903 (0,17)	8.337** (0.02)

Note: p-values in parentheses. \*, \*\*, \*\*\* significant at 1, 5, 10 percent levels.

## CONCLUSION

This study examines the effect of foreign direct investment, distinguishing FDI between greenfield investment and mergers and acquisitions, on domestic investment and economic growth. Most economies have devised significant

policy and regulatory mechanisms to attract FDI flows, as well as domestic investment in the face of limited own investment and urge for rapid growth. The relationship between foreign direct investment and domestic investment is likely to be complementary or substitute based on whether the investment is in an undeveloped sector or in a sector where domestic investment exists. The investing foreign firms and multinational companies also look for investment climate of the countries. Firm either go for direct investment or look for mergers and acquisitions.

The paper uses panel data on 16 developing countries for the period 2003-2015. Empirically, the effects of FDI on gross fixed capital formation and growth rate have been estimated by the panel fixed and random effects regressions, 2SLS and panel instrumental variable generalised method of moments. The estimated results show that greenfield investment has a significant positive effect both on domestic investment and growth rate. However, mergers and acquisitions have no significant impact on either gross fixed capital formation or growth rate. The estimated results also indicate that greenfield investment has a marginal crowding out effect, i.e. less than capital inflow, on domestic investment. The FDI in the form of mergers and acquisitions does not contribute to capital accumulation in developing countries.

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