

EXCHANGE RATE AND FOREIGN DIRECT INVESTMENT: HOW CLOSE IS THE RELATIONSHIP ?

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Abstract:

The genesis of the relationship between the foreign direct investment and exchange rate is derived from the nature of FDI itself. This kind of investment is international and occurs across borders. Therefore the investor must take care of the fluctuations and the levels of the exchange rates between the home country and the host ones. Different approaches are presented to explain how the exchange rate exercises an impact on the movement of foreign investment flows. This paper comes to shed light on the theoretical background of the linkage between FDI and exchange rate.

Key words: Foreign Direct Investment, Exchange Rate.

JEL Classification: F21, F31

الملخص:

تحليل العلاقة بين الاستثمار الأجنبي المباشر وسعر الصرف تعود الى طبيعة الاستثمار الأجنبي المباشر نفسه. هذا النوع من الاستثمار دولي ويحدث عبر الحدود، لذلك يجب على المستثمر أن يعتني بالتقلبات ومستويات أسعار الصرف بين البلد الأم والبلدان المضيفة. يتم تقديم أساليب مختلفة لشرح كيفية تأثير سعر الصرف على حركة تدفقات الاستثمار الأجنبي، وتأتي هذه الورقة لتسليط الضوء على الخلفية النظرية للارتباط بين الاستثمار الأجنبي المباشر وسعر الصرف.

الكلمات المفتاحية: الاستثمار الأجنبي المباشر، سعر الصرف.

التصنيف JEL: F21, F31.

-INTRODUCTION :

USA as other countries of the globe experienced a depreciation of the exchange rate and an associated FDI inflows during the mid-to late 1980s, this leads to suggest that exists a relationship between these two variables, but may have squandered.

When we talk about FDI, we deal with a heterogeneous decision in nature as it is settled in a various contexts of national beliefs, considerations, different social institutions and attitudes ...

The FDI heterogeneity nature and its relationship with the exchange rate urged on the emergence of two broad strands in the theoretical literature: the real option and risk aversion approaches.

-THE REAL OPTION APPROACH:

This approach is based on the irreversibility of the investment decisions in general. Dixit and Pindyck (1994) considered that a firm can have an option to invest abroad, this latter value is impacted by the uncertainty of the investment expected return (the option valuation theory of investment) pioneered by Brennan and Schwartz (1985) and Mac Donald and Siegel (1982), i.e. The timing of decision making of various investment problems and investment value can be shown by using real option theory. A firm facing this problem (uncertainty) can be understood as having a financial option by which the firm has the right to buy an asset (the plant in a foreign country) at a future time. The price that the firm has to pay in order to exercise the option is the sunk cost of the investment. This theory is dealt with market equilibrium with no strategic competition, i.e. perfect competition¹ and monopoly². The stylized feature of this theory on the relationship between exchange rate and FDI can be found in Campa (1993), Darby et al (1999), Kogut and Chang (1996) whose suggested that changes in exchange rate levels affect the price of the option (exchange rate uncertainty may increase the value of holding onto the option by no investing) .

¹ Perfect competition is a market situation where all firms are price takers, they sell identical products and the market share has no influence on the products' prices. On the side of buyers, this market allows them to have full information about the qualities, quantities as well as the prices.

² Monopoly is a market structure where we find only one single seller with restriction on other firms to enter the market. In this situation, the monopoly firms influence heavily the prices of the products, and as a consequence, they are price makers not price takers.

Another approach surged in this line called the production flexibility¹ which referred to Aizeman (1992), according to this view exchange rate movements create the option to shift production among facilities in different countries, and this implies that the fixed exchange rate regime is more favorable to FDI.

According to Sung and Lapan (2000), investment will change to the lowest cost after an exchange rate movement, and the value of the option is positively related to uncertainty. In this case, it's more conducive for a MNE to open plants at home and abroad, postponing production decision until after an exchange rate shock occurred.

The power of this approach is that exchange rate movements affect the timing of FDI as the firm's decisions are to invest, wait or not invest at all.

-THE RISK AVERSION APPROACH:

The outstanding of this approach is that firm's investment motive is restricted on their expectation on their returns as:

Expected returns = cost + payment for degree of risk.

This line referred to Cushman (1985) which argued that the exchange rate volatility² can be introduced as a risk composite of the above equation suggesting that the risk adjusted expected real exchange rate appreciation lowers the foreign cost of capital, this leads to an FDI encouragement, however, when the costs of other inputs are also affected, induced productivity changes or output prices changes may offset the direct effect, if so direct investment is reduced. Some salient models in this field referred to Goldberg and Kolstad (1995), Bénassé- Quéré et al (2001) interfering the demand shocks concept link with the exchange rate shocks as follow:

The increase in the foreign money supply increases demand (macroeconomic approach) this leads to raise foreign prices, as a result a short term real appreciation of the foreign currency is showed. While both shocks are positive, the covariance is positive, firms minimize the variance of expected profits and increase expected utility by higher FDI.

Charles D. Kostlad and Linda S .Goldberg (1995) have argued that there are two classes of models that link real exchange variability to international investment activity .The first class of

¹ The production flexibility is a process of the production alteration according to the forecasted variation of the demands.

² Exchange rate volatility is the appreciation and the depreciation of the currency value according to the market mechanisms, thus affecting the profitability of the foreign trades.

model relies on the argument that producer engages in international investment diversification in order to achieve ex post production flexibility and higher profits in response to shocks. The second class suggests that the production flexibility argument is less likely to pertain to short term volatility in exchange rates than to realignments over long intervals.

In this view, exchange rate variability is expected to have real effects on the share of domestic investment resources channeled abroad in a limited set of circumstances. If investors are risk neutral, the model does not predict any statistical relationship between exchange rate volatility and the allocation of production facilities between domestic and foreign markets. But, if there is a risk aversion among producers, exchange rate volatility may expand the share of investment resources located offshore.

R. Barrell , S. D. Gottschalk, S. G. Hall (1995) constructed a model based on the hypothesis that risk-averse firms would attempt to reduce the impact of uncertainty¹ on their investment portfolio by exploiting correlations between exchange rate in alternative locations. They showed that market power reduces the uncertainty risk impact on investment.

Bénassé Quéré (1999) examined the case of FDI by integrating the determinants of multinational firms' locations; he considered the case of a risk-averse multinational firm which contemplates relocating two alternative foreign locations in order to re-export by exhibiting the trade- off between price competitiveness and a stable nominal exchange rate. He showed that that the firm will consider both locations as substitutes or complements depending on whether the two exchange rates against the investing country's currency are correlated (positively or negatively).

The authors identified that real exchange rate affects FDI in various ways depending of the destination of the goods produced. If FDI and trade are substitute (the investor aim to serve the local market) then the appreciation of the local currency increases FDI inflows due to higher purchasing power of the local consumers. Conversely, a depreciation of the real exchange rate of the recipient country increases FDI through reduced cost of capital.

¹ The economic uncertainty is the situation where the future events of the economy are unpredictable. This notion implies generally the negative probable situations that the economy may pass in the future.

-RECENT CONTRIBUTIONS:

The recent contributions that have been made in this field stressed on three major points: The consideration of the effect of FDI heterogeneity motive, the exchange rate endogeneity, and multilateral resistance concept.

Kathryn Niles Russ (2005) and Russ. K (2007) tried to explain the conflicting findings of the previous works in a partial equilibrium framework interfering the endogeneity of the exchange rate by showing that volatility in the exchange rate may or may not deter FDI depending on which underlying variable (shock) is the source of volatility. The extent of the model is about the MNEs worry about exchange rate volatility which is closely related to the presence and magnitude of positive or negative shocks, for example:

Positive shock to the money supply of the host currency depreciates the host currency simultaneously with an increasing income and therefore an increase of sales by both domestic firms and MNEs in the host's markets.

A *contractionary* monetary policy¹ in the host leads to a better exchange rate to convert profits with reducing local sales, but the contractionary monetary shock in the foreign country can adversely affect the value of the host currency without counteracting effect on overseas sales.

Lin et al (2006) proposed a model with heterogeneous firm motives in explaining how the exposure of profit to exchange rate risk might vary with FDI motives .i.e., if firms are an FDI market seeking motives, then the volatility of the exchange rate is responded by delaying FDI decisions whereas the export substituting FDI motives are responded to the volatility more quickly if risk aversion is great enough.

Buch and Kleinert (2006) used a partial equilibrium analysis in a model predicting that the appreciation of the home economy currency increases FDI by both good market frictions and the wealth effect.

Xing and Zhao (2008) presented another mean (reverse imports) through which exchange rates can affect FDI by proposing a two country model with oligopolistic markets to examine these linkages (exchange rate, reverse imports and FDI). They predict that exchange rate changes, wage, capital cost differentials, barriers in brand name recognition contribute positively to

¹ The contractionary monetary policy is when the central bank uses the tool of the monetary policy to fight inflation. This policy is also called the restrictive monetary policy.

Japanese FDI in China and reverse imports (the empirical study was on Japanese FDI in China).

Egger *et al* (2007) tracked two channels for effects of the exchange rate by presenting a three country model of exports and FDI .These channels are the following:

1. Revenue effect channel: the host currency depreciation raises the MNEs profits from affiliates (positive bilateral effect).
2. Competition effect channel: the host currency appreciation induces an increase in relative production costs following the same bilateral appreciation (negative bilateral effect).
3. The third country exchange rate effect: the reverse of the above affect i.e. a negative revenue effect and positive competition effect; this can be explained as follow: as the competition or revenue effects are determined by skilled labor endowments, transport and foreign investment costs, furthermore skilled labor is abundant and transport cost high this predicts that the exchange rate effect will be positive.

In general, it seems reasonable that no single model can encompass FDI behavior. The suggested relationship between exchange rate and FDI varies depending on the several determinants of the heterogeneity FDI decision as: configuration of costs and revenues, FDI types, or source of exchange rate shocks .But the theoretical background remains the strong pillar of the way paving to a more investigation of the relationship by the various and ambiguous empirical studies.

The major feature of the empirical studies is that it has mostly been conducted on aggregated data, this arises the problem of data disaggregating beyond the manufacturing sector level. Furthermore, such FDI data are confidential in nature, hence difficult to access which the major source of this remains the capital flows from the balance of payment.

The paucity of data in this context forms a serious compromise between what is possible given empirically and the most theoretically appropriate approaches, this latter suggests that the response of FDI to exchange rates may differ among industries and by FDI motives, so exchange rates – FDI linkages are likely to be revealed at disaggregated level.

Froot and Stein (1991) found that IFDI¹ to the US was negatively correlated with the US dollar, but disaggregating FDI inflows by industry the coefficient significance varies; this leads to say that aggregate studies may mask important differences among industries.

¹ IFDI: Inwards Foreign Direct Investment

Turning now to the exchange rate level effects, it seems that 64 per cent of the empirical findings support the proposition that a depreciation of the host's country currency encourages FDI inflows (this result is on an aggregate data level), the remainder findings show the insignificance of the exchange rate level as the host appreciation increases IFDI or that results are mixed.

Lin and al (2006) analyzed for firm level data industry and found that this effect could be viewed through two channels: either increased IFDI after a depreciation of the host's currency, or a significant response determined by FDI motives.

Goldberg and Kolstad (1995), Froot and Stein (1991), M Corrison and Sheldon (1998) support all in their empirical studies the proposition that the dollar depreciation increases IFDI.

Campa (1993), Alba et al (2005) found an exception that the dollar appreciation increases IFDI.

Tomlin (2000), Amuedo-Dorantes and Pozo (2001) showed that this effect (US dollar levels and FDI) is insignificant.

In general the empirical studies results differ in their findings between supporting the above propositions (the case of US dollar for example) and both the insignificance, the mix of the results (some Australian empirical studies).

Another matter must be revealed in this context concerning the exchange rate volatility and variability concepts as the former means the risk (variability) and the latter implies that the exchange rate movements are unexpected. From the studies including the variability in their empirical studies models found that the negative significance effect is more than half (IFDI and variability of the host's currency), the remainder is shared between positive effect (less than 15 per cent) and inconclusive effect (mixed result). But the problem here stays on the variability or the uncertainty proxy choices as: what is the appropriate proxy to design the variability or the uncertainty of the exchange rate within the model? Some theoretical suggestions used the GARCH measures to proxy uncertainty and the standard deviation measure to proxy the exchange rate variability, as the choice of the appropriate measure depends largely on the sensitivity results and it's compatibility with the theoretical concept.

Furthermore , one serious question emerges from the use of volatility proxies depending on the researcher interest (variability or uncertainty) and of what this proxies might be picking up i.e. the volatility could be proxying for some other factors (macroeconomic for example).

-HAZARD RATE MODELS:

The essence of these models is to assess the exchange rate volatility impact on the timing of investment. The dependent variable in Hazard rate models is the likelihood of a firm to invest in each period. The conditional probability that investment happens in time $t+\Delta t$ given that it has not occurred at time t is estimated as a function of time varying covariates amongst them an exchange rate measure (Cox's proportional Hazard model¹). The model assumes multiplicative relationship between baseline Hazard and the Covariates as the effect of these latter is log-linear and the baseline Hazard is the same for all firms (the baseline remains unspecified).

Kogut and Chang (1996) found that an appreciation of the Yen increases the likelihood of the FDI, and that earlier investment in the US market as platforms for later entry (using Cox's proportional hazard model to estimate investment delays for the FDI of Japanese companies into the USA).

Lin et al (2006) estimate a Hazard model for Taiwanese FDI into China and find that exchange rate volatility delays market seeking FDI but hastens export substituting FDI.

Altomonte and Pennings (2004) claim that a great understanding of the relationship between investment and uncertainty can be gained by estimating the Baseline because the question remains about the interpretation in the baseline as sufficiently warrant estimation of a parametric form, their basis is the real option theory as firms require high profitability when uncertainty increased, this latter increases the value of the option to delay investment

Other way of thinking cited in Sarkar (2000) suggesting that high exchange rate volatility increases the probability that the threshold of investment is reached i.e. increased uncertainty may not delay investment (non-linearity of the relationship between exchange rate and FDI).

One of the difficulties with the application of this model (Hazard Rate) is the collection of data on investment delays and how to pinpoint an exact starting time for investment opportunities.

Misspecification bias is also another matter (statistical nuisance) as the question posed is about the trade-off between efficiency and biases, information and efficiency.

¹ The Proportional Hazards Models are a class of survival models where the time passing before the occurrence of an event is related to one or more covariates that are associated with that quantity of time. The increase effect respects a hazardous rate.

-QUALITATIVE DEPENDANT VARIABLES AND COUNT DATA MODELS:

These models are used where available data is limited that the possibility of investment data set construction is based on historical events.

Urata and Kawai (2000) used a logit model¹ for the location choice of Japanese manufacturing firms finding a positive relationship between host country depreciation and FDI entry, and a negative effect of exchange rate volatility.

Russ (2007) use single equations and a Poisson model to explore differences between first time and veteran investors for the OECD, finding that the investors behavior vary depending on investor type and the source of volatility.

Campa (1993) used Tobit model to explore the determinants of FDI entries into US industries (the number of FDI entries is the dependent variable) finding that an expected dollar appreciation increases FDI, volatility deters entry and sunk costs are significant.

Tomlin (2000) estimates a count data model (Zero Inflated Poisson) and a Tobit model to analyze the sensitivity of results to specification of the dependent variable , finding that misspecification bias can arise from modeling discrete data with continuous distribution (criticism of Tobit models use of count data) .

Blonigen (1997) used ZIP estimates based on his theoretical model using data for the USA, Buch and Kleinert (2006) distinguished between the explanation of Blonigen, Froot and Stein model and they found evidence of the goods market imperfection (Blonigen assumption).

Iannizzotto and Miller (2005) tested the effects of the exchange rate on FDI to the UK by using firm level data .They concluded that a real appreciation of Sterling reduced UK FDI (statistical testing rejects the ZIP in favor of a standard Poisson model).

Alba et al (2005) introduced the idea of FDI interdependence over time by using a panel data Markov ZIP (MZIP) model for FDI to the USA. The interdependence takes account of immeasurable factors (corporate rivalry, domestic investment conditions, interaction with rivals in other foreign markets ...).

The main characteristic of MZIP interdependence is the existence of both favorable and unfavorable FDI states. Alba et

¹ Logit model is a binomial regression where the indicator variable (dependent variable) has two possible values: 0 and 1, and the value labeled by the value 1 is a linear combination of one or more independent variable.

al major findings are that the favorability of industries to FDI reflects a great exchange rate impact.

-SINGLE EQUATION TIME SERIES AND PANEL DATA MODELS:

The major works of these models were built on the model of Froot and Stein (1991): a regression of aggregate FDI /GDP on exchange rates and a trend variable finding that FDI to USA is negatively correlated with the US dollar; this result varies across industries by disaggregating FDI inflows.

Dewenter (1995), Goldberg and Kolstad (1995), Mc Corrison and Sheldon (1998), Gopinath et al (1998), Kiyota and Urata (2004) found similar results to Froot and Stein (FDI is negatively correlated with the US dollar).

An alternative of time series analysis is a panel data model where the gravity models have been popular. The gravity models include the exchange rate level and volatility, and other variable allowing for distance and country effects. Estimation of these models has generated significant negative (Bénassy – Quéré et al (2001); Gast (2005) and positive (Görg and Wakelin (2002), as well as insignificant coefficients (De Sousa and Lochard (2004), Jeanneret (2005)).

Chakrabati (2001) used extreme bound analysis (EBA) to explore the robustness of coefficients on the determinants of FDI to changes in the conditioning information set i.e. there may be competing regressions for the relationship between FDI and the exchange rates and the estimated sign of the exchange rate coefficient may depend on which set of repressors is included.

McAleer et al (1985) outlined some problems associated with EBA as the inadequacy diagnostics validation presented for the models that produce bounds, showing that coefficient fragility depends on the classifications of variables in the regression as either doubtful or free.

Stevens (1998) used the specification of Froot and Stein to test for stability, finding that the sign and the significance of the estimates changes between sub-samples.

Ihrg and McIntyre (1999) established a business cycle link between FDI and exchange rate showing that a statistically temporally stable relationship between FDI an exchange rate and net worth when they isolate business cycle component of FDI .

Jeanneret (2005) estimates a gravity model for OECD countries and finds that the negative effect of exchange rate volatility declines over time as Görg and Wakelin (2002) in their findings.

-SOME BASIC MODELS:

In this part, we derive an effect model between exchange rate and foreign direct investment. This model is based on a special consideration in which the effect is classified into two distinguished but complementary dimensions: horizontal dimension of the effect exchange rate/ FDI and the vertical effect of exchange rate / FDI. At a further stage of analysis, we move to a recombination of the two dimensions into one general effect.

This effect aims at clarifying the spatial distribution of the exchange rate movements on the flow of foreign direct investment. This distribution examines the extent to which the change elasticity of the exchange rate of both the mother and host countries affects the direction of this kind of investment from the former to the latter. The flow under investigation is also subject to eventual disruptions or reversals in direction according to the behavior of the exchange rate. Let consider the following variables:

Table 1: Some empirical studies on exchange rate –FDI linkages

Study	Major Findings
Cushman (1985)	Level mixed significance , significant reduction of FDI for expected real appreciation of the foreign currency, significant increases FDI associated with risk
Cushman (1988)	Expected \$ US appreciation reduces IFDI , increased exchange rate risk positively correlated with FDI
Froot and Stein (1991)	Host currency depreciation increases IFDI
Baily and Tavlas (1991)	Volatility insignificant
Harris and Ravensraft (1991)	Wealth gains after cross- border take over possibility related to host currency depreciation
Michael W. Rosengren and Eric S. Rosengren (1992)	Host currency depreciation increases IFDI inwards through relative wealth channel.
Clare (1992)	Volatility negatively affects FDI
Campa (1993)	Volatility deters FDI , level effect is

	positive
Swenson (1993)	Host currency depreciation increases IFDI
Klein and Rosengren (1994)	Host depreciation increases IFDI (Relative Wealth effect)
Goldberg and Kolstad (1995)	If demand and exchange rate shocks are correlated, volatility increases FDI
Dewenter (1995)	Host currency depreciation increases absolute IFDI, not FDI relative to domestic investment
Ning and Reed (1995)	US\$ depreciation stimulates OFDI
Kogut and Chang (1996)	Home currency appreciation increases OFDI
Barrell and Pain (1996)	Expected short term exchange rate changes affect timing of investment –expected appreciation of \$US delays OFDI
Grosse and Trevino (1996)	US\$ depreciation increases IFDI
Blonigen (1997)	Host currency depreciation increases IFDI
Tcha (1997)	Negative effect for inbound , positive effect for outbound
Bayoumi and Lipworth (1998)	OFDI to host increases after host currency depreciation
Goldberg and Klein (1998)	Exchange rate significant for SE Asia , not Latin America
Campa et al (1998)	Host currency depreciation increases IFDI
Gopinath et al (1998)	Volatility reduces FDI, appreciation of US \$ increases OFDI and sales
McCorriston and Sheldon (1998)	Host currency depreciation increases aggregate IFDI , results mixed for industry
Ricci (1998)	Volatility promotes agglomeration effects of FDI , except for small countries
Ihrig and McIntyre (1999)	FDI-Exchange rate links exists in filtered not raw data
De Menil (1999)	Volatility has positive effect on FDI
Marchant et al (1999)	Exchange rate insignificant
Urata and Kawai (2000)	Levels and volatility significant –

	signs mixed for different industries
Kosteletou and Liargovas (2000)	For large countries causality runs from exchange rate to FDI, causality is bi-directional for small countries –mixed sign on exchange rate
Chakrabati and Scholnick (2000)	Level and volatility insignificant, skewness significant: relatively large devaluations generate mean reverting expectations, increasing IFDI
Yang et al (2000)	Exchange rate insignificant
Tomlin (2000)	Exchange rate level and volatility insignificant –exchange rate drift – significant and incorrect sign
Bénassé –Quéré et al (2001)	Host currency depreciation FDI , volatility decreases FDI, significant exchange rate interdependence effects
Amuedo-Dorantes and Pozo (2001)	Levels insignificant , volatility affects FDI negatively
Lafrance and Tessier (2001)	Volatility and level insignificant
Halicioglu (2001)	Exchange rate insignificant
Feliciano and Lipsey (2002)	Host currency depreciation increases foreign acquisitions but it's insignificant for new establishments
Matteson and Koo (2002)	Exchange rate level insignificant, volatility effect negative
Görg and Wakelin (2002)	Exchange rate significant, effect differs across locations, volatility has positive effect except for France
Trevino et al (2002)	Exchange rate insignificant
Crowley and Lee (2003)	Volatility effect differs across countries
Pain and Van Welsun (2003)	Host currency depreciation increases IFDI – volatility increases FDI
Becker and Hall (2003)	Volatility negatively affects FDI-exchange rate covariance, significant appreciation of Sterling reduces IFDI

Kiyota and Urata (2004)	Host currency depreciation increases IFDI , volatility affects FDI negatively
Xing and Wang (2004)	If host currency appreciates relative to source country currency more than that of rival host , FDI increases to rival host
De Sousa and Lochard (2004)	Volatility negatively affects FDI , level insignificant
Barrell et al (2004)	Volatility effect negative market power doesn't reduce impact of exchange rate uncertainty – exchange rate correlation affect location choice
Jeanneret (2005)	Volatility effect negative, decreasing over time
Faeth (2005)	Exchange rate effect positive contemporaneously, negative after one lag
Iannizotto and Miller (2005)	Volatility insignificant
Gast (2005)	Exchange rate insignificant
Alba et al (2005)	Volatility insignificant .FDI interdependent: a favorable state for FDI and strong US dollar increase IFDI
Brzowzski (2006)	Volatility and uncertainty negatively affect FDI
Lin et al (2006)	Level-positive for market seeking, negative for export substituting FDI
Buch and Kleinert (2006)	Exchange rate effects operate via goods not capital market frictions
Egger et al (2007)	Exchange rate effects differ between USA and Japan: \$US depreciation increases both Japanese and US OFDI
Russ (2007)	FDI behavior differs between veteran and first time investors, and effects depend on source (domestic or foreign) of interest rate volatility that drives exchange rate risk

Oliver and Manop (2008)	Expectations of local currency appreciation and local currency depreciation may stimulate inward FDI while exchange rate volatility may deter IFDI
Jeanneret (2010)	The effect of low level exchange rate uncertainty is negative on investment decision while high level is positive

-CONCLUDING REMARKS:

Which is remarkable as a major matter in studying such kind of relationships is the unavailability of data, this constraint led to a weakness of body of empirical evidence and a very little firm studies (micro study) .

Other resurgent constraint remains in the heterogeneity of FDI decision itself; this leads to the heterogeneity of studies i.e. that the exchange rate will have an ambiguous and complex effect reflected in both theoretical and empirical studies.

The empirical evidence matter consists of mixed results provided, this is due to model specification problems and data issues as results which are not robust to changes in model specifications. These constraints pave the way for researchers to invest currently efforts to examine the impacts of this macroeconomic variable on FDI decision.

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