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## AN ANALYSIS OF RELATIONSHIP BETWEEN EXCHANGE RATE AND FOREIGN DIRECT INVESTMENT IN DEVELOPING AND DEVELOPED COUNTRIES: A LITERATURE REVIEW APPROACH TO EXPLORE

*This paper aims to investigate the relationship between exchange rate and foreign direct investment inflows in developing and developed countries. Comparative data analysis technique is used in order to answer the research questions of this study which are: "What is the relationship between exchange rate movements and foreign direct investment inflows in developing countries?" and "What is the relationship between exchange rate movements and foreign direct investment inflows in developed countries?". The study concludes that most of the studies found overall negative relationship between exchange rate fluctuations and foreign direct investment inflows. This study will help policy makers and investors to consider exchange rate impacts classification.*

*Keywords:* exchange rate; foreign direct investment; developed countries; developing countries; literature review approach.

Мухаммад Акрам

## АНАЛІЗ ЗВ'ЯЗКУ ОБМІННОГО КУРСУ ВАЛЮТ І ПРЯМИХ ІНОЗЕМНИХ ІНВЕСТИЦІЙ В РОЗВИНЕНИХ КРАЇНАХ І КРАЇНАХ, ЩО РОЗВИВАЮТЬСЯ: ОГЛЯДОВЕ ДОСЛІДЖЕННЯ

*У статті досліджено зв'язок між обмінним курсом валют і потоками прямих іноземних інвестицій у розвинених країнах і країнах, що розвиваються. Технологія порівняльного аналізу даних використана для відповіді на питання дослідження: "У чому полягає зв'язок між обмінним курсом валют і потоками прямих іноземних інвестицій в країнах, що розвиваються?" і "В чому полягає зв'язок між обмінним курсом валют і потоками прямих іноземних інвестицій в розвинених країнах?". Автор приходить до висновку, що більшість досліджень не знаходить позитивного зв'язку між коливаннями валютних курсів і потоками прямих іноземних інвестицій. Дослідження допоможе політикам і інвесторам у класифікації впливів обмінного курсу валют.*

*Ключові слова:* обмінний курс валют; прямі іноземні інвестиції; розвинені країни; країни, що розвиваються; огляд літератури.

*Табл. 1. Літ. 37.*

Мухаммад Акрам

## АНАЛИЗ СВЯЗИ ОБМЕННОГО КУРСА ВАЛЮТ И ПРЯМЫХ ИНОСТРАННЫХ ИНВЕСТИЦИЙ В РАЗВИТЫХ И РАЗВИВАЮЩИХСЯ СТРАНАХ: ОБЗОРНОЕ ИССЛЕДОВАНИЕ

*В статье исследована связь между обменным курсом валют и потоками прямых иностранных инвестиций в развитых и развивающихся странах. Технология сравнительного анализа данных использована для ответа на вопросы исследования: "В чем заключается связь между обменным курсом валют и потоками прямых иностранных инвестиций в развивающихся странах?" и "В чем заключается связь между обменным курсом валют и потоками прямых иностранных инвестиций в развитых странах?". Автор*

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*приходит к выводу, что большинство исследований не находят позитивной связи между колебаниями валютных курсов и потоками прямых иностранных инвестиций. Исследование поможет политикам и инвесторам в классификации влияния обменного курса валют.*

*Ключевые слова:* обменный курс валют; прямые иностранные инвестиции; развитые страны; развивающиеся страны; обзор литературы.

**1. Introduction.** Foreign direct investment (FDI) plays a vital role in economies of both developed and developing countries. Meyer (2003) stated that FDI grew twice over the last decade as compared to trade. Although, FDI serves as mutual benefit at international level for both countries but most investors like to invest their capital in developed countries because they seek high rate of return on their investments, whereas developing countries require the amount of foreign and domestic investments in order to run their development process, but marginal productivity of investment in developing countries is high. Lipsey (1998) reported that FDI provides a route to the flow of resources across national borders and output of overseas branches of multinational corporations (MNCs) extended up to 16% of total world manufacturing in 1990.

Multinational corporations (MNCs) or parent companies get control over foreign affiliates through foreign direct investment because FDI is recognized as international flow of capital. In developing countries, FDI flows doubled in 2001 compared to 1990 and extended up to 82% of overall net investment flows to developing countries. Whereas, FDI extended from 0 to up to 50% of overall gross fixed capital formation in developed countries. In 2005, foreign direct investment inflow (FDII) was \$916 bln. around the world but more than a half of these flows were in developing countries. This fluctuation in FDI flows was due to the fluctuation in exchange rate. Exchange rate is known as "domestic currency price of a foreign currency, both in terms of their levels and their volatility". It can affect both allocation of investment spending across countries and total amount of FDI which takes place. Chakrabarti (2001) reported that due to change in political and economic environment globally, firstly, net inflows of foreign direct investment reached \$315 bln. in 1996 compared to \$53 bln. in 1985. Secondly, foreign direct investment inflows in the United States reached \$58 bln. in 1987 from \$20 bln. in 1985. In this result, the importance of foreign direct investment increased for less developed countries (LDCs) as a reliable source of capital inflows and outflows.

While considering merits of FDI to developing countries, potential drawbacks should also have parallel consideration. Drawbacks costs can be economic or non-economic which depict the shortcomings in domestic policies of a recipient country. Potential drawbacks include lack of positive linkage with local stakeholders, potential environmental effects in case of extractive and heavy industries, deterioration of balance of payments in the form of repatriation of profit, competition at domestic markets, and social disruptions. Moreover, the problem of loss of political sovereignty arises when a recipient country perceives increasing reliance on MNCs. Some expected benefits may not be availed properly in the current state of economic development, for example, gains available due to technologies or know-how transferred due to FDI may not be fully materialized by a host country.

Most of the empirical studies state that FDI inflows contribute to both income growth and factor productivity beyond domestic investment. As large FDI inflows to developing economies occur with remarkable high growth rates triggered by unrelated issues, it becomes rather difficult to estimate the magnitude of such impact. Regardless, the net impact generally remains beneficial to a recipient country (OECD, 2002). Volatility of exchange rate may have attractiveness for foreign investors. Uncertain exchange rate scenario can create opportunities in the shape of appreciation of a host currency which fetches more units of foreign currency, but at the same time investors may have first preference to certain financial environment rather than reaping the benefits of exchange rate risks. Akram et al. (2011); Clegg (1995), Kogut and Kulatilaka (1994), Dewenter (1995), Goldberg and Kolstad (1995), O'Sullivan (1993) and Cushman (1985, 1988) conducted the studies in order to identify the determinants of foreign direct investment, and in some studies exchange rate uncertainty is taken as an important variable which effects investment flows.

The purpose of this study is to investigate the relationship between exchange rate and foreign direct investment inflows in developing and developed countries through comparative data analysis. Implications are provided for policy makers to better understand and control the phenomenon of FDI in favor of economic growth through recognizing research questions. The research questions of this study are:

**RQ 1.** What is the relationship between exchange rate movements and foreign direct investment inflows in developing countries?

**RQ 2.** What is the relationship between exchange rate movements and foreign direct investment inflows in developed countries?

## **2. Empirical literature review**

**2.1. Exchange Rate and FDI Inflows Behaviours in Developed Countries.** Alba et al. (2009) provide empirical evidence by conducting a study in the United States in order to examine the FDI interdependences and impact of exchange rate on the average rate of foreign direct investment inflows during the period of 1982-1994 into US wholesale industries. This study found that foreign direct investment is interdependent over time, and found a significant positive impact of exchange rate on the average rate of foreign direct investment inflows which means that increase in FDI is into US wholesale industries due to increase in USD. These results are different from the previous rule that FDI increases due to depreciation in USD.

Tomlin (2008) examined the relation between FDI into 207 service sector firms of the United States and changes in exchange rate. Most of the studies concluded that a negative relation exists between FDI and exchange rate due to weak USD but this study found a positive relationship between FDI and exchange rate in the US service industry. In general, FDI inflows increased due to the appreciation in USD. This can be due to the special nature of service provided by Japanese firms at the US service market.

Georgopoulos (2008) found a negative relationship between the foreign direct investment flows and exchange rate which means that foreign mergers and acquisitions FDI increase due to the home currency real USD depreciation but only in those industries which have high R&D level.

Zhang (2008) found a significant and positive relationship between foreign direct investment and exchange rate volatility into the European Union from both inside and outside the EU.

A positive link is found by Galgau and Sekkat (2004) for FDI among the European Union nations; they reported that increases in bilateral exchange rates variance deter inflows originating outside of the European Union.

A negative relationship between foreign direct investment and exchange rate volatility is found by the Chakrabarti and Scholnick (2002) from the United States to 20 OECD countries by using panel data technique. The study also found the positive impact of skewness of devaluations on foreign direct investment flows while exchange rate volatility and average devaluation do not.

A study was conducted by Amuedo-Dorantes & Pozo (2001) for the US while examining the effect of exchange rate volatility and exchange rate uncertainty during 1976–1998. They (2001) found no significant relationship exists between exchange rate volatility and FDI in short run which means foreign direct investment increases due to depreciation in currency, but a negative relation exists between exchange rate uncertainty and FDI after the application of a conditional measure to measure the exchange rate uncertainty.

A study conducted by Gopinath et al. (1998) on 10 developed countries (Australia, Belgium, Canada, France, Germany, Italy, Japan, the Netherlands, Spain, UK) in order to analyze the impact of exchange rate on trade and FDI in the United States food-processing industry. The study concludes that exchange rate has a positive impact on the FDI of Australia, Belgium, Canada, Germany and Japan whereas it has negative impact on the FDI of France, Italy, the Netherlands, Spain and UK.

Blonigen (1997) argued in his study that FDI acquisitions may be affected by the exchange rate movements because firms' specific assets were included in the FDI acquisitions and they earned revenues in currency other than through which they were purchased. This study has a main focus on the acquisitions of Japanese in the US during 1975–1992 and a strong correlation depicts that the level of FDI acquisitions of Japanese was higher due to the weak dollar for those firms which had firm specific assets.

Kogut & Chang (1996) examined the relation and impact of exchange rate and platform investments by Japanese firms in the United States in electronics companies. This study found a negative relation. Generally speaking, FDI in the US increases when yen appreciates or USD depreciates.

A study conducted by Goldberg and Kolstad (1995) concluded that exchange rate volatility has a significant impact on the decision of the United States MNEs to locate facilities abroad.

The study of Froot & Stein (1991) provided an empirical proof of increase in inward foreign direct investment in the United States in 1970s and 1980s due to weak USD or depreciation in USD using simple regressions in the existence of imperfect capital market.

**2.2. Exchange Rate and FDI Inflows Behaviours in Developing Countries.** Mughal & Akram (2011) conducted a study on Pakistan while examining the impact of exchange rate on the foreign direct investment inflows during the period of 1984–2008 by using the time series data, and conclude that exchange rate as a determinant of FDI has a significant positive impact on the FDI inflows both in short and long run.

Hakro & Ghumro (2011) found no relationship between exchange rate and FDI in Pakistan while examining the effects of determinants on FDI flows during 1970–

2007. This non-variation was due to the fixed exchange rate controlled by the government up to the 1990s.

A study conducted by Kyereboah-Coleman & Agyire-Tettey (2006) to find the effect of exchange rate on the FDI of Ghana by taking the time series data during the period of 1970-2002 used cointegration and ECM. This study concludes that exchange rate has a negative impact on FDI inflows. Generally, it can be revealed that FDI inflows increase due to Ghana currency depreciation and it is discouraged by exchange rate volatility.

Tsen (2005) conducted a study to find the long-run relationship between location related determinants and foreign direct investment during the period of 1980-2002 in Malaysian manufacturing industry. Tsen (2005) found a negative relationship between exchange rate and FDI which means foreign direct investment increases due to decreases in exchange rate.

An empirical study conducted by Aqeel & Nishat (2004) for Pakistan in order to find the growth determinants in FDI in 1961-2003 and to examine how many different variables attract FDI. A study finds a significant positive relationship between exchange rate and FDI in the context of Pakistan. This positive relationship reflects that FDI increases due to the appreciation in rupee and investors expect high returns and consider it a good sign for economy.

Akhtar (2000), in order to find the impact of FDI determinants on stock of foreign direct investment in the context of Pakistan during the period of 1972-1996, found the negative relationship between exchange rate and FDI which means that FDI increases due to the devaluation of exchange rate (Clegg & Scott-Green, 1999; O'Sullivan, 1993; Froot and Stein, 1991; & Cushman, 1988).

**Table 1. Effects of Exchange Rate on FDI inflows**

Positive	Negative	Insignificant
1. Edwards (1990)	1. Caves (1989)	1. Calderon-Rossell (1985)
2. Goldberg and Kolstad (1995)	2. Contractor (1990)	2. Tuman and Emmert (1999)
3. Zhang (2008)	3. Froot & Stein (1991)	3. Hakro & Ghumro (2011)
4. Galgau and Sekkat (2004)	4. Kogut & Chang (1996)	
5. Aqeel & Nishat (2004)	5. Blonigen & Feenstra (1996)	
6. Tomlin (2008)	6. Blonigen (1997)	
7. Alba et al. (2009)	7. Gopinath et al. (1998)	
8. Mughal & Akram (2011)	8. Love and Hidalgo (2000)	
	9. Akhtar (2000)	
	10. Amuedo-Dorantes & Pozo (2001)	
	11. Chakrabarti (2001)	
	12. Chakrabarti and Scholnick (2002)	
	13. Cheng and Kwan (2002)	
	14. Tsen (2005)	
	15. Kyereboah-Coleman & Agyire-Tettey (2006)	
	16. Georgopoulos (2008)	

Source: The table was developed by taking a part from A. Chakrabarti (2001) study.

**3. Conclusions.** This study found different relationships of exchange rate volatility with inward foreign direct investment in developing and developed countries.

Overall most of the studies reported in Table 1 clarify negative relationship between inward foreign direct investment and exchange rate volatility. Individually, on the base of the above stated literature, most of the studies with reference to developed countries found significant positive relationship between foreign exchange rate volatility and inward foreign direct investment, whereas, only one study found no significant relationship between exchange rate volatility and inward foreign direct investment in developed countries. On the other hand, most of the studies found negative relationship between exchange rate volatility and inward foreign direct investment with reference to developing countries, and only one study found no relationship between exchange rate volatility and inward foreign direct investment in developing countries.

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