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Empirical Analysis of Foreign Direct Investment Inflows on Financial Development of Commercial Banks in Rwanda

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Abstract: *Foreign direct investment (FDI) inflows into the country can help to boost economic growth by supplementing domestic savings for investment. The study examined the influence of foreign direct investment and financial development on commercial banks in Rwanda. The study was anchored on Institutional FDI Fitness theory and secondary data was collected from the annual financial reports of eleven commercial banks between 2010 and 2019. The results revealed that foreign capital equity positively and significantly affects financial development (β = 0.3233, $p<0.05$). Also, reinvested foreign earnings findings exhibits negative and significant association on financial development (β = -0.0564, $p<0.05$). The study recommends that Rwanda, as it aspires to be a financial hub, would continue to encourage companies to increase foreign equity capital and reinvested income so as to increase the access, depth, efficiency and stability of commercial banks in Rwanda.*

Keywords: Financial Development, Foreign Direct Investment, Foreign Capital Equity and Institutional Fitness theory

I. INTRODUCTION

1.1 Background

Foreign direct investment (FDI) inflows have continually increased in many nations during the past three decades, compared to inflows documented prior to the global financial crisis in 2007-2008. Developing countries mostly in Africa rely on Foreign Direct Investment (FDIs) as one of the key sources of finance to boost economic growth while representing a great business opportunity for foreign investors. This crucial role of FDIs in transition economies was emphasized by the new growth theory, which argued that it does contribute to the economic growth not only through capital accumulation, but also by bringing in new technologies, skilled labors, industrialization, reducing trade deficit, etc. Foreign direct investments come with so many benefits such as enhancing job creation, managerial skills, and transfer of technology meant to positively contribute to the economic growth and development (Wafure&Nurudeen, 2010). Foreign capital, particularly FDIs, has been increasing all over the world and it has an important role in promoting the economy of many countries (Duarte *et al.*, 2017). Consequently, many countries have understood the importance of attracting FDIs and adjusted their FDIs policies, and they do so by providing tax breaks, waiving of certain corporate taxes, fast services, government assistance and access to various government tenders (Duarte *et al.*, 2017).

Even though there was a registered increase of FDI stock over the past decade, mainly due to the exceptional political stability and relevant measures in place meant to improve the business environment in the country, FDIs inflows remain weak. The World Investment Report 2020 shows that FDI inflows in Rwanda were USD 382 million in 2018 and increased to USD 420 million in 2019 with the corresponding FDIs stock of USD 2.6 million (UNCTAD, 2020). Financial development and growth has been the subject of research and various studies in developed countries with results indicating a strong positive correlation between the country's growth and the development of the financial sector (GholizadehKeykanloo, 2020). Researchers argue that financial markets can play an important role in determining the FDI inflow in the host country. For the country to take advantage of the amount of FDI inflow into the country, a certain level of financial development is required; thereafter the development of domestic financial systems contribute in mobilizing saving, screen and monitor investment projects, which lead to higher economic growth, thus FDI and domestic financial market are complementary in the role of increasing the rate of economic growth (Islam *et al.*, 2020).

Rwanda has not been left behind in the effort to attract FDIs. The government made significant effort to put in place measures to promote available opportunities for foreign investors in the country. To easily monitor all activities related to such investments, Rwanda Development Board (RDB) was established to bring together all government agencies in charge of local and foreign investments (UNCTAD, 2006). They are in charge of business registration, investment promotion, assisting foreign investors in various untapped sectors, and many more services meant to support investors. This structure helps foreign and local investors to obtain the certificate of incorporation, tax identification number and other documents within 24 hours after online business registration, and undoubtedly, Rwanda is said to have favorable investment conditions compared to many developing countries (UNCTAD, 2006).

FDIs inflows in Rwanda had a mixed trajectory of highs and lows in line with the country's history. The stock of FDIs was estimated to be $ 7.7 million in 1990 and fell to almost zero during the Genocide against Tutsi in 1994. The process of rebuilding the country was characterized by consistent rise of FDIs inflows, but at lower levels compared to many other African countries (UNCTAD, 2006). In the 1990s, Rwanda accounted for less than 2% of all African FDIs inflows on a yearly basis (No, *et al.*, 2008). In the effort to attract FDIs, the Government of Rwanda approved a new Investment strategy aimed at bringing in new foreign investors to exploit so many untapped opportunities. They did so by providing tax breaks, friendly environment, robust governance, access to local and regional markets. In addition to this, Rwanda has no legal laws limiting or restricting foreign investors to invest in any given sector or any official economic or industrial policy that discriminates against foreign investors (UNCTAD, 2020).

Foreign direct investments affect the financial sector development through different angles irrespective of capital inflows in the sector. The reports published by the (RDB, 2020) showed that Rwanda registered investments worth $2.46 Million in 2019, and $1.3 Million in 2020, and this decline is mainly due to the negative consequences of Covid-19. Among the registered investments, FDIs accounted for 37% in 2019 and 51% of all investments in 2020. The evidence indicates that the contribution of capital inflows in various sectors are directly linked with the financial sector such as tourism and hospitality, constructions, manufacturing, technology and international trade (Takyi&Obeng, 2013). The long-term development strategy of Rwanda aims at making the economy a middle-income country with an estimate. Therefore, one of the key pillars of this strategy is increasing regional and international integration by minimizing barriers to trade and creating special economic zones for foreign and local investors (Roberts, 2019). With regards to Rwanda, for the last few decades very few researches have been conducted to assert the effectiveness of foreign direct investment on the economic growth in Rwanda (Roberts, 2019). In order to contribute to the body of knowledge on the relationship between FDIs and financial development, this study sought to examine the effect of foreign direct investment on financial development in Rwanda.

II. Review of Related Literature

2.1 Theoretical Review

The study was anchored on Institutional FDI Fitness theory developed by (Wilhelms& Witter, 1998) with the objective of explaining the term FDI fitness by focusing on a country's ability to attract, absorb and retain FDI. It is explained as the country's ability to adapt and fit within the internal and external expectations of its investors, which gives countries the upper-hand in harnessing FDI inflows. The theory attempts to explain the uneven distribution of FDI flows between countries (Makoni, 2015). The theory tries to clarify the irregular/bumpy circulation of FDI flows between countries. This theory of institutional FDI fitness rests on four fundamental pillars which are Government, market, educational and socio-cultural fitness. The theory of institutional FDI fitness has been previously empirically tested considering the African context. The conducted study investigated FDI determinants in Rwanda for the period 1967-1999. The author found that economic openness, GDP growth rate, level of domestic investment, internal rate of return and availability of credit are all components of Government economic policies to enhance a country's attractiveness to foreign investors (Popovici&Călin, 2014)

On the other hand, Musonera*et al.*, 2010) evaluated the institutional FDI fitness model in the East African Community by considering the cases of Rwanda, Tanzania and Uganda and used the collected data from 1995 to 2007. Their study findings indicated that for Tanzania and Uganda, the FDI inflows were determined by more than single risk factors, such as the country's size and population, size of economy, financial markets, trade openness, infrastructure and other economic, financial and political risks. Their research also further refuted the perception that FDI inflows to Africa are attracted by natural resources Musonera*et al.*, 2010). This study will find evidence that Rwanda is also able to attract

FDI based on conditions identified above in the previous research. Those basic conditions are established macroeconomic and political stability, efficient regulatory framework, and corruption free institutions.

2.2 Empirical review

Foreign direct investments are investments whereby individual investors or multinational corporations set up businesses, merger and acquisitions, invests in capital equity, or any other investment opportunity in an economy other than the home economy of the investors. There is a long term relationship between the investor and the economy they are investing in since the aim is to take advantage of the available business opportunities, make money in the process but also contribute to the economic development of the host country (Roberts, 2019). It involves a long-term relationship characterized by long lasting interest and control by investors from a resident entity in an enterprise located in foreign country. It implies that the investor exercises managerial duties or some sort of control of the business invested in, even though it is located in a foreign country (UNCTAD, 2004).

The empirical researches show that the exports volumes of firms in financially vulnerable sectors are sensitive to financial development in the countries of origin. Amiti and Weinstein (2011) argue that foreign direct investment (FDI) requires even larger upfront fixed costs because a new foreign affiliate must be established or acquired. A considerable financial development can also foster FDIs, with a positive impact mainly on the financially vulnerable sectors (Desbordes& Wei, 2014). Studies examined the correlation between FDIs and financial development in 14 Latin American countries from 1978 to 2007 and found that a matured and developed financial market sector is a trigger for attracting FDI inflows to these economies (Amoh*et al.*, 2019). Conversely, Zakaria (2007) examined the causal relationship between FDI and the level of financial development and found little support for the suggestion that the inflows of FDI can impact the development of the domestic banking sector in developing countries (Amoh*et al.*, 2019).

Omran and Bolbol (2003) investigated the causality relationship between FDIs inflows and the financial development in Arabic countries. They also investigated the minimum threshold levels of banking sector development indicators that have to be reached before Arab countries attract significant FDI inflows. Dutta and Roy (2011) examined the causality between FDI and financial development. They also investigated the minimum threshold level of financial development. FDI net inflow (% of GDP) and the ratio of private credit by deposit money banks to GDP were used as proxies for FDI and financial development respectively (Amoh*et al.*, 2019). They found out that the correlation between the financial development in banking sector and FDI inflows is non-linear, and that FDI inflows were positively influenced by banking sector development only up to maximum level of private credit to GDP ratio of 130% (Tsaurai*et al.,* 2017). The analysis of the relationship between FDIs and financial development was conducted in Latin America by Al Nasser and Soydemir (2010) who employed Granger causality tests between FDI and financial development variables. The findings from this research indicated that there is a significant relationship between FDIs inflows and the financial development of the country.

Based on the assessment conducted in Brazil, India, Russia, China, and South Africa, it was concluded that the FDIs inflows positively influenced the capitalization of the stock market and the growth of the size of banking sector, but had a negative influence on domestic credit (Sekar, 2013). According to Islam *et al.,* (2020) argued that there is a significant correlation between these two variables and theoretically affect each other. Their study indicated that FDI inflows may positively affect the development of financial sectors by increasing available funds in the considered financial system. In some cases, FDIs inflows can also have negative or no influence at all on the development of the concerned financial sector. FDIs are considered as alternative financing instruments, and a direct competitor of the domestic financial market (Levine, 1997) According to GholizadehKeykanloo*et al.,* (2020), there is a correlation between FDIs inflows amd financial development of financial systems. They indicated that developed financial systems contribute in attracting FDIs inflows by ensuring the availability of the external finances for necessary investments. Therefore, a developed financial sector can contribute in increasing the foreign equity flows through more developed financial opportunities (GholizadehKeykanloo*et al.*, 2020). Therefore, the study aimed to fill the gap by examining the contribution of foreign capital equity and reinvested foreign earnings on financial development. The study therefore hypothesized that;

H_1: *Foreign capital equity hassignificant influence on financial development in Rwanda.*

H_2: *Reinvested foreign earnings have significant influence on financial development in Rwanda.*

III. RESEARCH METHODOLOGY

The study employed the vector auto-regressive (VAR) model to analyze the relationship between the independents variables and financial development index as dependent variables (Ployhart& Vandenberg, 2010). The financial development index was made up four indices (depth index, access index, efficient index and stability index). All the indices were constructed using the normalization technique, which helped to adjust values measured on different scales to a notionally common scale between 2010-2019 The VAR approach was preferred to other econometric models because it treats every endogenous variable in the system as a function of the lagged values of all endogenous variables in the system. An index was constructed to summarize the financial development through different indicators so as to eliminate disparity in units of measurement and enables relevant aggregation. The following formula was used for the normalization process:

$$nXit = \frac{Xit - \min(Xi)}{\max(Xi) - \min(Xi)}$$

Where n*Xit*represents the normalized indicator at time *t* and X*it*represents the value of the indicator at time *t*. In addition, max (X*i*) and min (X*i*) represent the respective worst and best values of each indicator respectively.

VAR model was used and expressed as follows:

$$\sum_1^k \ln FD_{t-1} = \alpha_1 + \sum_{i=1}^k \beta_1 \ln FCE_{t-1} + \sum_{i=1}^k \beta_2 \ln RFE_{t-1} + \varepsilon_{1t}$$

Where

$\Delta lnFD_t$ is the financial development index transformed in log form

$\Delta lnCE_t$ is the foreign capital equity transformed in log form

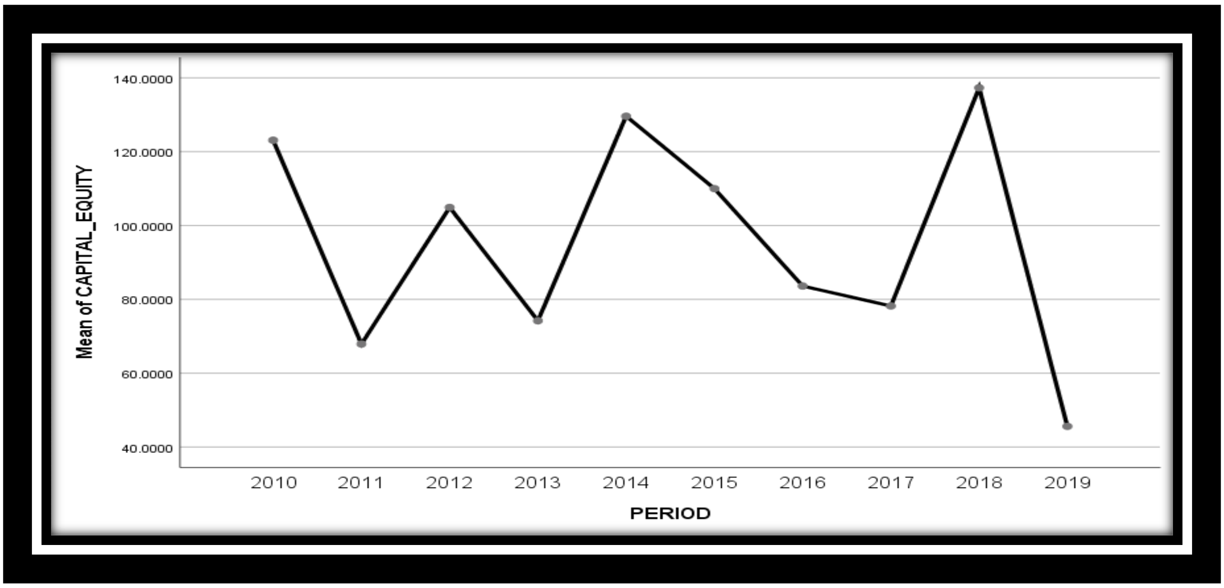
$\Delta lnRE_t$ is the reinvested foreign earnings transformed in log form

IV. DATA ANALYSIS

4.1 Trend Analysis

This section presents the trend analysis for foreign capital equity and reinvested foreign earnings as components of foreign direct investment for commercial banks in Rwanda from 2010 to 2019.Findings in figure 1 revealed that foreign capital equity for the commercial banks has been fluctuating. The average capital equity decreased from 123.1 million dollars in 2010 to 67.9 million dollars in 2011. Then it steadily increased to 104.9 million dollars in 2012. In 2014, average capital equity reached 129 million dollars. However, there is a decrease of foreign capital equity between the periods 2015 to 2017 then increased to maximum 137.9 million dollars in the year 2018 followed by a decrease to minimum 45.6 million dollars in 2019. These findings imply that foreign capital equity among commercial banks in Rwanda had been fluctuating over years.

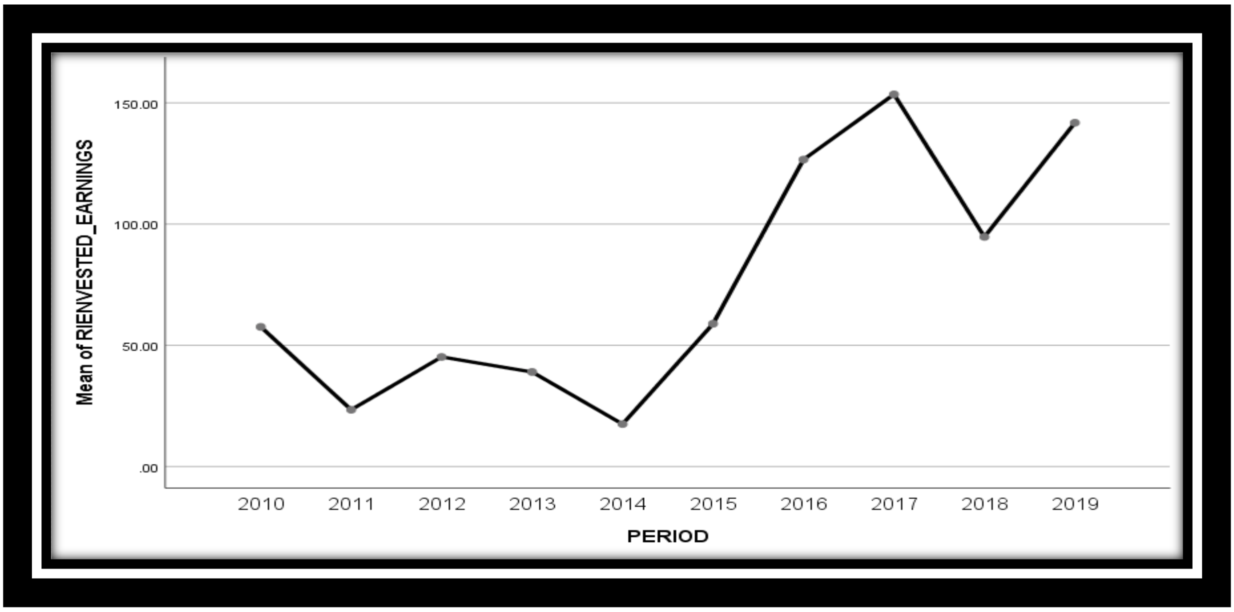
Figure 1: Trend analysis of Foreign Capital Equity



Source: Field Data

Results in figure 2 showed that the average reinvested foreign earnings between the years 2010 to 2014 decreased from 57.6 to 17.5 million dollars. From 2014 to 2017 the mean of reinvested foreign earnings steadily increased from 58.9 to 153.5 million dollars. Further, average reinvested foreign earnings decreased to 94.7 million dollars in 2018 and increased to 141.8 million dollars in 2019. These findings show that the average reinvested foreign earnings between the years 2010 to 2019 had been fluctuating over time.

Figure 4.2: Trend analysis of Reinvested Foreign Earnings



Source: Field Data

4.2 Hypothesis Testing

The first hypothesis stated that foreign capital equity hassignificant influence on financial development in Rwanda. The study findings exhibited that there was a positive and significant effect on foreign capital equity and financial development which was statistically significant ($\beta = 0.3233$; $p<0.05$). This therefore implies that a unit change in foreign capital equity increases financial development by 0.3233 units. The findings are in line with the results of (Saddimbah, 2014; Kirwa and Mutuku, 2014; Githire and Muturi, 2015; Ngeny and Mutuku, 2014) who found positive and significant connection between foreign capital equity and financial development.

The second hypothesis stated that reinvested foreign earnings have significant influence on financial development in Rwanda. Results showed that there was a negative and significant effect on reinvested foreign earnings and financial development (β = -0.0564; $p<0.05$). This implies that a unit change in reinvested foreign earnings reduces financial development by 0.0564units. The findings are in line with the results of (Edwards *et al.*, 2013; Deora& Nguyen, 2013) who found negative and significant relationship between reinvested foreign earnings and financial development.

Table 1: Vector Auto-Regressive (VAR) Model Coefficients

Variable	Coefficient	Std. Error	t-Statistic	Prob.
$\Delta lnFCE_t$	0.3233	0.0463	6.9827	0.0078
$\Delta lnRFE_t$	-0.0564	0.0185	-3.0401	0.0025

Source: Field Data

V. CONCLUSIONAND RECOMMENDATION

The study examines the influence of foreign direct investment on financial development of commercial banks in Rwanda using vector auto-regressive model. The study considered foreign capital equity and reinvested foreign earnings as predictor variables and financial development as outcome variable. The study concludes that foreign capital equity has a significant and positive effect on financial development in Rwanda. This implies that organizations that use equity financing can improve their profitability due to the direct control and due to the monitoring of how the resources are used by the equity holders in a bid to maximize their wealth, thus increasing their transactions in commercial banks which in turn translate to financial development. Additionally, the study found that reinvested foreign earnings have a negative and significant effect on financial development in Rwanda. This implies that a decrease in reinvested foreign earnings negatively affects the financial development of Rwandan banks. The study recommends that Rwanda, as it aspires to be a financial hub, would continue to encourage companies to increase foreign equity capital and reinvested income so as to increase the access, depth, efficiency and stability of commercial banks in Rwanda. The study adds more information to the body of knowledge on the effect of foreign direct investment on financial development in Rwanda. The study therefore suggests further studies on other factors affecting the financial development of commercial banks in Rwanda. The study also suggests further studies on the effect of macroeconomic factors on financial development of commercial banks need to be conducted in other financial institutions such as SACCOs and Capital market in Rwanda.

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