IMPACTS OF FOREIGN CAPITAL INFLOWS AND THE SUSTAINABILITY OF ECONOMIC GROWTH

Madow Nagou, PhD

University of Lome, Togo

managou@tg.refer.org

Kanfitine Lare-Lantone, PhD

University of Lome, Togo

Sheridan College, Ontario, Canada

larelank@shernet.sheridancollege.ca

Emmanuel Anoruo, PhD ✉

Coppin State University, 2500 West North Avenue, Baltimore, MD 21216, USA

eanoruo@coppin.edu

Abstract

We assessed the dynamics of the impacts of remittances, FDI, and ODA on growth and their transmission mechanism disentangled the direct and indirect impacts. The results from testing the model on 63 countries panel and individual data over the period 1970-2022 reveal that the threshold from which the growth generated by remittances was only reached in 8 countries. It was in 12 countries that the FDI-generated growth was sustained and the ODA-generated in 2. For combined flows, the growth generated by remittances-FDI was sustained in 20 countries, the remittances-ODA generated in 5, and the FDI-ODA generated in 3. It emerges from these findings that the growth generated is likely to be sustained if (i) the share of the generating foreign capital in GDP is high and (ii) the receiving country is at least a middle-income country. Besides, foreign capitals exert a stronger effect on growth in the short run individually than when combined. Also, government expenditures enhance their impact on growth.

Keywords: Foreign capitals, direct and indirect impacts, threshold, growth, sustainability

INTRODUCTION

While the literature abounds with analyses of the impacts foreign capital flows exert on receiving countries' economic growth, it still overlooks the dynamics that generate them and the mechanisms that transmit them. Yet, any action aimed at promoting such impacts should account for whether the processes are short-run or long-run, direct or indirect, and threshold constrained or not. In other words, exploring such aspects of the relationships between foreign capitals and growth is worth attempting as it bears both theoretical and policy implications.

Thus, we reacted with the investigation of the mechanism of the relationship between each of remittances, foreign direct investments (FDI) and official donor assistance (ODA) and economic growth. To that aim, we adopted a macro dynamic model [Lare-Lantone (2016)] to disentangle and test the direct and indirect segments of the impact and subsequently assess the thresholds from which their generated growths are sustained. Results from testing the model using GMM on panel data and 3SLS on individual data of 63 countries for the period 1970-2022 reveal that foreign capitals exert a stronger effect on growth in the short-run individually than when combined. Besides, government expenditures enhance the effect of subsequent foreign capital inflows on growth. The derived impact values indicate that the threshold for the remittances-generated growth to be sustained was reached in only 8 countries. It was in 12 countries that the FDI-generated growth was sustained and in 2 that the ODA-generated growth was sustained. For combined flows, the remittances growth was sustained in 20 countries, the remittances-ODA-generated growth in 5, and the FDI-ODA-generated growth in 3. It emerges clearly that the chances for the generated growths to be sustained overtime are higher when the share of the foreign capital in GDP is high and the receiving country is at least a middle-income country.

The rest of the paper is organized in four subsequent sections. Section II reviews the literature, Section III introduces the methodology, Section IV presents the empirical analysis, and Section V discusses findings and concludes.

REVIEW OF LITERATURE

The literature on the relationships between foreign capitals and economic growth focuses extensively on their correlations (positive or negative) and, at best, the lengths of the processes (short-run or long-run) leaving out the mechanisms that generates and transmits them. Javaid (2017), for example, studied the short-run and long-run effects of remittances, FDI and ODA flows on GDP growth in Pakistan over the period 1973-2014. He applied autoregressive distributed lag (ARDL) and later Error correction (ECM) estimations to a standard growth model and the results reveal a long-run relationship in the data. Specifically,

FDI and ODA have significant and positive impacts on GDP growth in the short-run and long-run while remittances have non-significant impact. Golitsis et al., (2018) used a vector error correction model (VECM) to examine the impact of remittances and FDI on economic growth, Gross Fixed Capital Formation (GFCF), and inflation in Albania over the period 1996-2014. They also tested for short-run and long-run effects among the variable through Granger-causality tests and found a statically significant negative short-run and long-run relationship between remittances and inflation but no relationship between FDI and economic growth. Minh (2020) applied the Autoregressive Distributed Lag (ARDL) bounds testing approach and a derived ECM to examine the effect of remittances, FDI and imports on economic growth in Vietnam over the period of 2000-2018. The empirical results reveal a long-run relationship among remittances, FDI, imports and economic growth. Similarly, in the short run, the impacts of remittances and FDI are significantly positive while that of imports is negative and insignificant. Likewise, Khatir and Güvenek (2021**)** assessed the effects of FDI and remittances on economic growth in Afghanistan, Bangladesh, India, Sri Lanka, and Pakistan over the period 2008-2020. After establishing the existence of long-run associations between the variables, they applied the Fully Modified OLS and Dynamic OLS regressions to the data to estimate the various impacts. The results suggest a moderate correlation of FDI and remittances with GDP per capita while remittances have a strong correlation with FDI. Besides, FDI and remittances have positive effects on economic growth while the Granger causality evidence a bidirectional causality between remittances and economic growth and no causal relationship between FDI and economic growth. Song et al. (2021) examined the impact of FDI, remittances, and economic growth on income inequality in a sample of 20 major remittance-receiving developing countries over the period 1980-2016. Results from the estimation reveal the presence of a long-run equilibrium relationship among the variables. FDI and remittances, along with financial development and trade openness, have a significant positive impact on income inequality, while economic growth has a negative impact in the long-run. While testing for direction of causality didn't establish any causal relationship between income inequality, FDI inflows, and remittances in the short-run, it did establish a unidirectional causality from economic growth to income inequality.

Along those findings, evidence of the existence of thresholds from which the various capital flows interact to generate growth also emerged. Mallaye and Yogo (2011) tested whether remittances, FDI and ODA are complementary or substitutes in 33 fragile States over the period 1995-2008. They found that FDI and ODA as well as remittances and ODA are complementary while remittances and FDI are substitutes. Yet, the complementary effects between ODA and FDI and between remittances and ODA vanish progressively from a threshold level of GDP per

capita while the substitution effect between remittances and FDI vanishes completely. Garcia-Fuentes et al, (2016) studied the impact of remittances and U.S. FDI on growth in 15 Latin America and Caribbean (LAC) countries over the period 1983-2010 and found that a threshold level of GDP per capita is required for remittances to have a positive effect on U.S. FDI flows. Following Rao and Hassan (2011), Lare-Lantone (2016) disentangled the impact of remittances on growth in direct and indirect impacts and found that the direct one occurs in the short-run and the indirect one in the long-run. The indirect impact cumulated overtime as transitory effects transmuted through consumption, investments, and wages is significant. Finally, there exists a threshold point from which the indirect impact surpasses the direct impact to sustain the generated growth.

Whether these remittances-related findings on the existence of a threshold point from which the generated growth is sustained can be extended to FDI and ODA remains to be investigated. It requires analyzing the mechanisms that generate and transmit the impacts of FDI and ODA on growth also. By doing so, the current paper (i) extends the analysis of the mechanism through which remittances impact growth to FDI and ODA, (ii) disentangles their individual impacts into direct and indirect segments to assess their behavior, and (iii) investigates the existence of thresholds from which their generated positive impacts on growth are sustained.

METHODOLOGY

Research Design and Model Specification

To assess the impact of foreign capitals on output, we adopted a model built on the assumption that it is exerted partly directly and partly indirectly [Lare-Lantone (2016).] The indirect segment cumulates incrementally overtime as a transitory effect channeled partly as a long term effect and partly through household income, household consumption, and investments. Thus, the relationship between the domestic output and any foreign capital is set as:

$$Y_{i,t} = Y_{i,t}\left(F_{i,t-j}, C_{i,t-j}, W_{i,t-j}, I_{i,t-j}, X'\right) \qquad (1)$$

Where, Y is output, *F* is foreign capital, *C* is households' consumption, *W* is households' income, *I* is investments, and *X'* a set of exogenously determined control variables. Assuming a linear functional form, *Y* is determined at time *t* as:

$$Y_{i,t} = \alpha_0 + \alpha_1 F_{i,t-j} + \alpha_2 C_{i,t-j} + \alpha_3 W_{i,t-j} + \alpha_4 I_{i,t-j} + \mu_t + \eta_i + \varepsilon_{i,t} \qquad (2)$$

Where, μ is a time specific factor, η an observed country specific effect, and ε the error term. Taking the first difference of Equations (2) and making some transformations lead to:

$$\Delta Y_{i,t} = \varphi_0 + \varphi_1 \Delta F_{i,t} + \varphi_2[(W_{i,t-1} - F_{i,t-1}) - (I_{i,t-1} - C_{i,t-1})] + \varphi_3 \Delta F_{i,t-2} + \varepsilon_{i,t} \quad (3)$$

Where, $\Delta Y_{i,t}$ is the short term change in output, *$\Delta F_{i,t}$* the short-term change in foreign capital, and *$\Delta F_{i,t-2}$* the long-term change in foreign capital with the initial capital set as *$F_{i,t-2}$*. Thus, the total transitory effect of the foreign capital on output T captures the short-term disequilibrium relationship between received foreign capital, income, investments, and consumption as:

$$T_{i,t-1} = (W_{i,t-1} - F_{i,t-1}) - (I_{i,t-1} - C_{i,t-1}) \quad (4)$$

The variables *F*, *W*, *C*, and *I* are transitory variables determined autoregressively as:

$$W_{i,t-1} = a_0 + a_1 W_{i,t-2} + \varepsilon_{1i,t-1} \quad (5)$$

$$F_{i,t-1} = b_0 + b_1 F_{i,t-2} + \varepsilon_{2i,t-1} \quad (6)$$

$$C_{i,t-1} = c_0 + c_1 C_{i,t-2} + \varepsilon_{3i,t-1} \quad (7)$$

$$I_{i,t-1} = i_0 + i_1 I_{i,t-2} + \varepsilon_{4i,t-1} \quad (8)$$

Substituting Equations (5), (6), (7), and (8) into (4) and making some transformations lead to:

$$T_{i,t-1} = \psi_0 + \psi_1 W_{i,t-2} + \psi_2 F_{i,t-2} + \psi_3 C_{i,t-2} + \psi_4 I_{i,t-2} + v_{i,t} \quad (9)$$

Substituting equations 9 into equation 3 leads to:

$$\Delta Y_{i,t} = (\varphi_0 + \varphi_2 \psi_0) + \varphi_1 \Delta F_{i,t} + \varphi_2 \psi_1 W_{i,t-2} + \varphi_2 \psi_2 F_{i,t-2} + \varphi_2 \psi_3 C_{i,t-2} + \varphi_2 \psi_4 I_{i,t-2} + \varphi_3 \Delta F_{i,t-2}$$
$$+ X'(\varepsilon_{i,t} + \varphi_2 v_{i,t}) \quad (10)$$

Or $\Delta Y_{i,t} = \delta_0 + \delta_1 \Delta F_{i,t} + \delta_2 W_{i,t-2} + \delta_3 F_{i,t-2} + \delta_4 C_{i,t-2} + \delta_5 I_{i,t-2} + \delta_6 \Delta F_{i,t-2} + X' \quad (11)$

The total impact of foreign capitals on output is obtained by differentiating *Y* with respect to *F*:

$$\overbrace{\frac{\delta Y_{i,t}}{\delta F_{i,t-2}}}^{A} = \overbrace{\frac{dY_{i,t}}{d\Delta F_{i,t-2}}}^{B} + \overbrace{\frac{dY_{i,t}}{dT_{i,t-1}}}^{C} \cdot \overbrace{\frac{dT_{i,t-1}}{dF_{i,t-2}}}^{D} = 0 \quad (12)$$

Segment A measures the total impact of foreign capital flows received in period t-2 on output in period t, segment B captures the direct impact of the change in foreign capital flows in period t-2 on output in period t, segment C captures the transitory impact of foreign capital flows cumulated in period t-1 on output in period t, and segment D captures the effect of foreign capital flows received in period t-2 cumulated and channeled through transitory variables in period t-1. Equation (12) leads to the equilibrium relation:

$$\overbrace{\frac{dY_{i,t}}{d\Delta F_{i,t-2}}}^{B} = -\overbrace{\frac{dY_{i,t}}{dT_{i,t-1}}}^{C} \cdot \overbrace{\frac{dT_{i,t-1}}{dF_{i,t-2}}}^{D} \quad (13)$$

Substituting with the values leads to:

$$\delta_6 = \Phi \quad (14)$$

with $\Phi = -(\delta_2 + \delta_3 + \delta_4 + \delta_5)$

δ_6 captures the direct impact from (*t-2*) to *t*, Φ captures the indirect impact from (*t-2*) to *t*, transmitted as transitory effects from (*t-2*) to (*t-1*) and subsequently to *t*. The equilibrium point

between the direct and indirect impacts is therefore the threshold point from which the change in output generated by received foreign capital flows is sustained. Specifically, the change in output is sustained when the indirect impact Φ outweighs the direct impact δ_6. Thus, a receiving country can only be at one of the following three phases: (i) its direct impact is strongest ($\Phi < \delta_6$) while the indirect impact cumulates incrementally as a transitory effect, (ii) the cumulated transitory effects start transmuting into an indirect impact ($\Phi \approx \delta_6$) on output, (iii) the generated change in output is sustained when the indirect impact is strongest ($\Phi > \delta_6$).

Data

For estimations purposes, we introduced combined flows as REMFDI (remittances-FDI), REMODA (remittances-ODA), and FDIODA (FDI-ODA.) We measured economic growth with GDP growth, consumption with Household Final Consumption Expenditures, income with Total Wage and Salaried Workers as a percentage of total employment, investments with GFCF, remittances with Personal Remittances Received to GDP ratio, FDI with FDI to GDP ratio, and ODA with ODA to GDP ratio. The control variables are financial development measured with Domestic Credit to Private Sector to GDP ratio, openness with Export plus Import to GDP ratio, and inflation. We estimated the model on annual data of a sample of 63 countries for the period 1970-2021 obtained from the World Development Indicators (WDIs) of the World Bank.

EMPIRICAL ESTIMATIONS

The definitions and specifications of the variables lead to rewrite Equation (11) as:

$$\Delta OUT_{i,t} = \delta_0 + \delta_1 \Delta FLOW_{i,t} + \delta_2 CONS_{i,t-2} + \delta_3 FLOW_{i,t-2} + \delta_4 INCOME_{i,t-2} + \delta_5 INVEST_{i,t-2}$$
$$+ \delta_6 \Delta FLOW_{i,t-2} + \delta_7 EXCH_{i,t-1} + \delta_8 GOV_{i,t-1} + \delta_9 OPEN_{i,t-1} + \delta_{10} FDEV_{i,t-1}$$
$$+ \delta_{11} INF_{i,t-1} + \omega_{i,t} \quad (15)$$

FLOW is REM, FDI, ODA, REMFDI, REMODA, or FDIODA. We estimated Equation (15) with panel GMM on the panel data and 3SLS method on individual country data. The results of the estimations on the panel data are compiled in Table 1.

Estimation of the impacts of foreign capitals on output growth

Results from testing the model on the sample panel data suggest that the effect on output growth due to the short-run or contemporaneous change in remittances flows is very significant but negative. The direct impact of subsequent remittances inflows is positive and significant to contradict some previous findings [Barajas, A. et al. (2009), Ziesemer, T. (2010).] While the segment of the indirect impact cumulated overtime as a transitory effect but

transmitted directly to growth is positive, the other segments transmitted through consumption, investment, and income are negative with only those transmitted through income and investments significant. The fact that the coefficients of both income and investment are negative doesn't support the findings that remittances increase wages through investments in education and labor participation [Edwards, A. et al. (2003), Gupta, S. (2009), Jidoud, A. (2015)]. The control variables exchange rate, government expenditures, and inflation are positive determinants, but openness and financial development are negative ones. Only government expenditures, openness, and financial development are significant.

The effect on output growth due to the contemporaneous change in FDI is very significant and positive. The direct impact of subsequent FDI inflows is also very significant but negative. The segment of the indirect impact transmitted directly is very significant but negative while those transmitted through consumption, investment, and income are negative. They are all non-significant except income which is weakly significant. The control variables government expenditures and openness are positive with the first one significant. But, financial development is weakly significant but negative.

The effect on output growth due to the contemporaneous change in ODA is very significant but negative. The direct impact of subsequent ODA inflows is also very significant but positive. The segment of the indirect impact transmitted directly is significant and positive but those transmitted through consumption and investment are significant but through income non-significant. However, they are all negative. All the control variables are non-significant except financial development which is weakly significant. While government expenditures and inflation are positive, exchange rate, openness, and financial development are negative.

The effect on output growth due to the contemporaneous change in remittances-FDI is very significant and positive. The direct impact of subsequent remittances-FDI inflows is non-significant and negative. The segment of the indirect impact cumulated overtime as a transitory effect and transmitted directly to growth is positive and significant. Those transmitted through investments and income are significant but through consumption non-significant. However, they are all negative. Control variables government expenditures and financial development are significant with the first one positive and the second one negative.

The effect on output growth due to the contemporaneous change in remittances-ODA is very significant but negative. The direct impact of subsequent remittances-ODA inflows is significant but negative. Only the segment of the indirect impact transmitted through investment is significant but negative. The control variables exchange rate and financial development are significant but negative while government expenditures is significant and positive.

The effect on output growth due to the contemporaneous change in FDI-ODA is positive but non-significant. The direct impact of subsequent FDI-ODA inflows is also non-significant but negative. The segments of the indirect impact transmitted directly and through income and investments are negative with the first two very significant and the last one weakly significant. Among the control variables, government expenditures, financial development, and inflation are all significant with the first one positive and the others negative.

Cross-analyzing the results, it emerges that the effects on output growth due to contemporaneous changes in all foreign capital types, except the combined FDI-ODA flows, are very significant. They are mostly positive when generated by subsequent FDI inflows individually or combined with other foreign capital flows. Likewise, the direct impact is very significant for all foreign capital types, except FDIODA. They are also mostly positive when generated by subsequent FDI inflows individually or combined with remittances inflows. The segment of the indirect impact cumulated overtime as a transitory effect but transmitted directly seems to be significant when generated by subsequent FDI inflows or ODA inflows individually or combined with other foreign capital flows. Comparatively, government expenditures and financial development are the most significant control variables across foreign capital types.

Table 1. Estimates of the impact of foreign capital flows on output growth

	REM	FDI	ODA	REMFDI	REMODA	FDIODA
Δ FLOWS	-0.50	0.24	-23.91	0.03	-7.55	1.37
	(-5.51)	(7.80)	(-5.82)	(5.69)	(-6.04)	(1.24)
ΔFLOWS (-1)	0.60	-0.30	61.87	-0.02	-34.32	-11.68
	(2.60)	(-4.85)	(5.60)	(-0.66)	(-2.85)	(-0.89)
FLOWS (-2)	0.01	-0.43	44.42	0.01	0.93	-2.91
	(0.09)	(-8.09)	(4.71)	(3.50)	(1.05)	(-2.12)
Consumption (-2)	0.00	-0.01	-0.07	-0.01	-0.02	-0.03
	(-0.12)	(-0.45)	(-2.20)	(-0.27)	(-0.98)	(-1.34)
Income	-0.09	-0.06	-0.02	-0.08	-0.05	-0.16
	(-1.89)	(-1.62)	(-0.40)	(-1.92)	(-1.24)	(-3.30)
Investment (-2)	-0.13	0.00	-0.19	-0.15	-0.10	-0.08
	(-5.73)	(-0.06)	(-5.06)	(-3.68)	(-4.44)	(-1.67)
Exchange (-1)	0.00	0.00	0.00	0.00	0.00	0.00
	(0.38)	(-0.35)	(-0.14)	(0.10)	(-2.02)	(-0.43)
Government (-1)	0.00	0.34	0.11	0.26	0.26	0.33
	(2.45)	(5.76)	(1.56)	(3.95)	(5.91)	(4.72)

Openness (-1)	-0.02	0.01	-0.02	0.01	-0.02	-0.02
	(-1.63)	(1.18)	(-1.25)	(0.46)	(-1.45)	(-1.11)
Financial development (-1)	-0.04	-0.03	-0.03	-0.03	-0.06	-0.06
	(-2.42)	(-1.82)	(-1.54)	(-2.60)	(-5.18)	(-3.59)
Inflation (-1)	0.00	-0.01	0.00	0.00	0.02	-0.02
	(0.65)	(-1.43)	(0.10)	(1.26)	(1.70)	(-2.03)
Sargan test:	56.5	56.4	52.3	54.4	54.4	54.2
Autocorrelation (1)	-4.72	4.75	-4.70	-4.82	-4.68	-4.67
Autocorrelation (2)	1.53	0.17	-2.07	0.06	-1.29	-1.59
Wald test:	213.1	439.7	255.6	147.2	1312.4	307.2

Estimates from authors' own computations using WDI data; Values in italics are t-statistic

Table 1…

The direct and indirect impacts and the sustainability of output growth

We derived the values of the direct and indirect impacts of the foreign capitals on output growth, substituting the values of the estimated coefficients in Equation (15) to conclude on whether, given the theoretical assumption, the generated impact was sustained or not. The values obtained (Table 2) indicate that the direct impact of remittances inflows was positive in 32 countries. The indirect impact, transmuted as a cumulated transitory effect channeled to output growth partly directly and partly through consumption, income and investments was positive in 42 countries. Both the direct and indirect impacts were positive in 16 countries. But it is only in 8 of these countries (Burundi, Jamaica, Jordan, Kenya, Malaysia, South Africa, Togo, and Tunisia) that the threshold, from which the generated growth is sustained, was reached. The direct impact of FDI inflows was positive in 41 countries, the indirect in 33 countries, both in 18 countries, and the generated growth sustained in 12 (Barbados, Brazil, Burundi, Chile, Ghana, Indonesia, Iran, Jordan, Madagascar, Mexico, Mongolia, and Pakistan). The direct impact of ODA inflows was positive in 24 countries, the indirect in 34, both in 3, and the generated growth sustained in 2 (Gambia and Rwanda). The direct impact of the remittances-FDI inflows (Table 3) was positive in 38 countries, the indirect in 40, both in 22, and the generated growth sustained in 20 (Benin, Burundi, Chile, DR Congo, El Salvador, Guatemala, Jamaica, Jordan, Madagascar, Malaysia, Mauritius, Mongolia, Morocco, Nepal, Pakistan, Philippines, Rwanda, Senegal, and Uganda). The direct impact of remittances-ODA inflows was positive in 27 countries, the indirect in 32, both in 8, and the generated growth sustained in 5 (Argentina, Croatia, Jordan, Mongolia, and Rwanda). The direct impact of FDI-ODA inflows was positive in 33 countries, the indirect in 25, both in 11, and the generated growth sustained in 3 (Congo, Sudan, and Thailand).

Table 2. Threshold of the impact of foreign capitals on output growth

	REM	FDI	ODA		REM	FDI	ODA
All				Iran		TR	
Algeria				Iraq			
Argentina				Jamaica	TR		
Bangladesh				Jordan	TR	TR	
Barbados		TR		Kenya	TR		
Belarus				Madagascar		TR	
Benin				Malaysia	TR		
Bolivia				Mali			
Botswana				Mauritius			
Brazil		TR		Mexico		TR	
Burkina Faso				Mongolia		TR	
Burundi	TR	TR		Morocco			
Cameroon				Nepal			
Chile		TR		Niger			
Colombia				Nigeria			
DR Congo				Pakistan		TR	
Congo				Paraguay			
Costa Rica				Peru			
Croatia				Philippines			
Dominican				Rwanda			TR
Ecuador				Senegal			
Egypt				Sierra Leone			
El Salvador				South Africa	TR		
Eswatini				Sudan			
Gabon				Syria			
Gambia			TR	Tanzania			
Ghana		TR		Thailand			
Guatemala				Togo	TR		
Guinea-Bissau				Tunisia	TR		
Honduras				Türkiye			
India				Uganda			
Indonesia		TR		Vietnam			

TR= threshold reached

Source: Authors' own computation based on data from the WDI

Table 3. Threshold of the impact of combined foreign capitals on output growth

	REMFDI	REMODA	FDIODA		REMFDI	REMODA	FDIODA
All				Iran			
Algeria				Iraq			
Argentina		TR		Jamaica	TR		
Bangladesh				Jordan	TR		TR
Barbados				Kenya			
Belarus				Madagascar	TR		
Benin	TR			Malaysia	TR		
Bolivia				Mali			
Botswana				Mauritius	TR		
Brazil				Mexico			

Table 3....

Country				Country				
Burkina Faso				Mongolia	TR	TR		
Burundi	TR			Morocco	TR			
Cameroon				Nepal	TR			
Chile	TR			Niger				
Colombia				Nigeria				
DR Congo	TR			Pakistan	TR			
Congo		TR		Paraguay				
Costa Rica				Peru				
Croatia		TR		Philippines	TR			
Dominican				Rwanda	TR	TR		
Ecuador				Senegal	TR			
Egypt				Sierra Leone				
El Salvador	TR			South Africa				
Eswatini				Sudan				TR
Gabon				Syria				
Gambia				Tanzania				
Ghana				Thailand				TR
Guatemala	TR			Togo				
Guinea-Bissau				Tunisia				
Honduras				Türkiye				
India				Uganda	TR			
Indonesia				Vietnam				

TR= threshold reached
Source: Authors' own computation based on data from the WDI

DISCUSSIONS

The empirical results suggest that the effects on growth due to contemporaneous changes in foreign capital flows are very significant and mostly positive when generated by FDI flows individually or combined. The direct impacts on growth are also very significant, except for remittances-FDI and FDI-ODA flows, but only positive for remittances-FDI flows. These results suggest that, in the short-run, foreign capitals exert a stronger effect on growth individually than combined. The indirect impact transmitted to growth as a long-run transitory effect is significant for almost all foreign capital types, but, only positive for ODA and remittances-FDI flows. This translates to the fact that, when combined remittances and FDI interact to exert a rather positive long-run influence on growth [Bunduchi et al., (2018).] As for ODA, it can only be assumed that, when allocated to the targeted populations and used for productive purpose, its long-run effect is positive. The indirect impact channeled through consumption is negative but only significant for ODA. The indirect impact of remittances channeled through consumption is negative for probably being counter-cyclical to production [Sayan (2006)] or due to the fact that receiving households spent more on investment goods than on food items [Coon and Neumann (2018), Adams Jr. & Cuecuecha (2010).] The indirect impact channeled through income is negative but weakly significant for remittances, FDI, remittances-FDI, and FDI-ODA due to the fact that,

under unfavourable market conditions, remittances and FDI can affect income negatively and, overtime, exacerbate income inequality [Song et al (2021).] Counter-intuitive is that, the indirect impact transmitted through investment is only significant for FDI but negative, a fact also attributable to unfavourable market conditions [Garcia-Fuentes et al, (2016).]

Among control variables, government expenditures and financial development are the most significant determinants of the impact of the foreign capitals on growth. Unfortunately, the impact of financial development is negative across and that of government expenditures positive, a sign that adapted government policies enhance the impact of subsequent flows on growth.

The values of the impacts estimated for the whole sample indicate that the direct impact of remittances and ODA are positive while the indirect impact of remittances, remittances-FDI, and FDI-ODA are positive. Thus, only the remittances-generated growth was sustained for the whole group of countries. The values of the impacts estimated for individual countries indicate that the direct impact of remittances flows was positive in 32 countries, the indirect in 42, both in 16, and the threshold, from which the generated growth is sustained, was reached in 8. Common to these countries, except South Africa, is the fact that their averaged shares of remittances in GDP over the period were higher than their shares of FDI in GDP and ODA in GDP. But, with the exception of Burundi and Togo, they are middle-income countries. The direct impact of FDI flows was positive in 41 countries; the indirect in 33, both in 18, and the generated growth sustained in 12. Likewise, except Burundi and Jordan, these countries' averaged shares of FDI in GDP were the highest relatively to their shares of remittances in GDP and ODA in GDP. Besides, with the exception of Burundi, Madagascar, and Pakistan they are also middle-income countries. The direct impact of ODA flows was positive in 24 countries, the indirect in 34, both in 3, and the generated growth sustained in 2. But, in none of these two countries was the averaged share of ODA in GDP higher than those of remittances and FDI. They are, however, among the countries with the lowest GDP per capita in the sample with their averaged shares of ODA in GDP among the highest. The direct impact of remittances-FDI flows was positive in 38 countries, the indirect in 40, both in 22, and the generated growth sustained in 20. Common to these countries, except Iraq, is that their averaged shares of remittances-FDI in GDP were the highest to those of the other combined flows. The direct impact of remittances-ODA flows was positive in 27 countries, the indirect in 32, both in 8, and the generated growth sustained in 5. The direct impact of FDI-ODA flows was positive in 33 countries, the indirect in 25, both in 11, and the generated growth sustained in 3. But, in none of these countries was the share of remittances-ODA in GDP higher than those of the other combined flows.

CONCLUSION

In this paper, we assessed the mechanisms that generate and transmit the impacts of remittances, FDI, and ODA on growth. The model adopted disentangled the impact in direct and indirect segments to test the existence of thresholds from which the generated growths are sustained. The results from testing the model on a panel and individual data for a sample of 63 countries over the period 1970-2022 reveal that, in the short-run, foreign capitals exert a stronger effect on growth individually than combined. However, when combined, remittances and FDI interact to exert a rather positive long-run influence on growth. Besides, evidence is offered that government expenditures enhance the impact of subsequent foreign capital flows on growth. It is indicated that the threshold from which the remittances-generated growth is sustained was reached in only 8 countries. It was in 12 countries that the FDI-generated growth was sustained and in 2 that the ODA-generated growth was sustained. For combined flows, the remittances-FDI-generated growth was sustained in 20 countries, the remittances-ODA-generated growth in 5, and the FDI-ODA-generated growth in 3. The main conclusion is that the chances for the generated growth to be sustained overtime are higher when the share of the foreign capital in GDP is high and the receiving country is at least a middle-income country.

The main recommendation is that countries should only select to host the foreign capital type which impact on growth can be sustained overtime. Thus, the hosting of more than one foreign capital should depend on the fact that their combined indirect impact on growth will surpass their individual ones. For, it urges for countries to anticipate the direct and indirect impact of each foreign capital received and account for its threshold constraint effect prior to reception. Finally, governments should play a decisive role with measures targeted at enhancing foreign capitals impacts on growth.

REFERENCES

Adams, Richards H. JR. & Cuecuecha, Alfredo (2010). Remittances, Household Expenditure and Investment in Guatemala. World Development, Vol. xx, No. x, pp. xxx–xxx, 2010.

Barajas, Adolfo, Chami, Ralph, Fullenkamp, Connel, Gapen, Michael & Montiel, Peter (2009). Do Workers Remittances Promote Economic Growth? IMF Working Paper WP/09/153.

Bunduchi, Elena, Vasile, Valentina, Comes, Calin-Adrian, and Stefan, Daniel (2018). The Impact of Foreign Direct Investments and Remittances on Economic Growth: A Case Study in Central and Eastern Europe. Sustainability, January 18, 2018.

Coon, M. & Neumann, R. (2018). Follow the Money: Remittance Responses to FDI Inflows. Journal of Globalization and Development, 2018; 20170023, 1-20.

Edwards, A. C. & Ureta, M. (2003). International migration remittances, and schooling: Evidence from El Salvador. Journal of Development Economics, 72 pp. 429–461.

Garcia-Fuentes, P.A., P.L. Kennedy, and G.F. Ferreira (2016). U.S. FDI in Latin America and the Caribbean: A Case of Remittances and Market Size. Applied Economics, 48(51):5008–21.

Golitsis, P., Avdiu, K., & Szamosi, Leslie T. (2018). Remittances and FDI Effects on Economic Growth: A VECM and GIRFs for the Case of Albania. Journal of East-West Business, 24(3), p. 188-211.

Javaid, W. (2017). Impact of Foreign Financial Inflow on Economic Growth of Pakistan. Do Remittances, Foreign Aid, and ODA Behave Similarly? Journal of Behavioural Economics, Finance, Entrepreneurship, Accounting and Transport, 2017, Vol. 5, No. 1, 10-18

Jidoud, Ahmat (2015). Remittances and Macroeconomic Volatility in African Countries. IMF Working Paper 49, March 2015.

Khatir, A., ve Güvenek, B. (2021). The Effects of FDI and Remittances on the Economic Growth of Selected SAARC Countries. Journal of Economic and Administrative Approaches 2021, Vol. 3, No. 2, pp. 66-76.

Lare-Lantone, Kanfitine (2016). Assessing Thresholds of Remittances-Induced Growth: A Macro-Dynamic Analysis. European Journal of Finance and Banking Research, Vol. 6, No. 6.

Minh, Cao Hong (2020). Remittances, FDI, Imports and Economic Growth: Empirical Evidence from Vietnam. Asian Journal of Economic Modeling, Vol. 8, No. 2, 133-140.

Rao B., Bhaskara & Hassan, Gazi (2011). A panel data analysis of the growth effects of remittances. Economic Modelling Vol. 28, Issues 1–2, January–March 2011, 701-709.

Sayan, S. (2006). Business Cycles and Workers' Remittances: How Do Migrant Workers Respond to Cyclical Movements of GDP at Home? IMF Working Paper, WP/06/52.

Song, Y., Ummalla, M., Zakari, A., & Kummitha, H.R. (2021). The Effect of Remittances and FDI Inflows on Income Distribution in Developing Economies. Economic Analysis and Policy, 72, p. 255-265.

Yang, D. (2008). International Migration, Remittances and Household Investment: Evidence from Philippine Migrants' Exchange Rate Shocks. The Economic Journal, 118, pp. 591–630.

Yogo, T. & Mallaye, D. (2011). Remittances, Foreign Direct Investment and Aid in Fragile States: Are They Complements or Substitutes?" SSRN Electronic Journal.

Ziesemer, T. (2010). The Impact of the Credit Crisis on Poor Developing Countries: Growth, Worker Remittances, Accumulation and Migration. Economic Modelling, 27, 1230-1245.